THE LOSS PREVENTION
CERTIFICATION BOARD

List of Approved Fire and Security Products and Services

2006

A specifiers' guide

Foreword by Chief Fire Officer Frank Sheehan, West Midlands Fire Service

Dear Specifier

During 2006 the Office of the Deputy Prime Minister (ODPM) will publish a suite of eleven guidance documents in support of the Regulatory Reform (Fire Safety) Order that give advice on carrying out a fire risk assessment for the majority of types of premises. One of the most crucial aspects of fire protection is that you use products, systems and services that work.

You can help ensure that you are protected from fire by selecting products and systems which have been manufactured and installed appropriately, and which are fully and professionally maintained.

By using approved products and services listed in this Red Book, you can help save lives and property, manage your responsibilities under the Regulatory Reform Order (RRO), and protect your security and other risks.



INTRODUCTION TO THE RED BOOK

WHAT IS APPROVAL?

Approval (or certification as it is also known) is independent third party confirmation that products and systems meet **and continue to meet** appropriate standards. It is different from a test, as approval helps ensure, through regular audits, that the product continues to comply with the prevailing standards, which are themselves, subject to revision and up-issue. The auditing process also helps to confirm that the product available on the marketplace is exactly the same as the product which was originally tested and approved.

Approval is beneficial to everyone in the supply chain, from the manufacturer to the end client because it gives peace of mind that the product meets the standard.

THE APPROVAL PROCESS

At its simplest, the LPCB approval process uses existing standards as the basis for listing. However, where no standards exist, we approve innovative products by drawing on the experience of our scientists, engineers and expert groups to devise a suitable assessment regime for the product or service concerned.

Many of our approvals are based on our own Loss Prevention Standards which are subject to peer review and independent scrutiny. These standards are developed by a team of experts including trade bodies, regulators, insurers, designers, manufacturers, installers and LPCB engineers and scientists and are available free of charge on our website at <www.RedBookLive.com> <<http://www.RedBookLive.com>>. Over the years many of these have been incorporated into other British, European and International Standards and nowadays, if our Board is satisfied that these other standards are suitable, then we use them as the basis for approval instead.

The LPCB approval process starts with rigorous assessment and initial type testing of products and services to help ensure that they meet quality standards. Approval of the products listed in the 'Red Book' is usually based on testing undertaken by our world renowned testing laboratories. In addition we carry out regular and rigorous checks of production processing and installation and maintenance requirements as necessary. Together these checks help ensure that the product you select will offer the required level of protection and security. We welcome the comments and involvement of our 'Red Book' users from around the world to help us make sure that the standards we use meet their needs.

RED BOOK LISTING

Once we are satisfied that a product, service or company meets the necessary standards, we issue a certificate and list them in the 'Red Book'. This volume lists approved fire and security products and services. A companion volume lists companies approved to ISO 9001, ISO 14001 and OHSAS 18001, approved construction products and other schemes. Red Books are available in both book and CD ROM format free of charge to specifiers and other users throughout the world. A 'live copy' of the Red Books can also be viewed on our website at <www.RedBookLive.com>. In order to help ensure that the product, service or company meets and continues to meet our approval criteria, we regularly assess processes at sites and factories as appropriate, audit test products in accordance with our standards and investigate failures or complaints.

OUR MARK

The main marks used for approval are:-





As explained before, we approve products and services by checking that they meet the required standards and that companies manage their processes properly. In turn, we are assessed by the United Kingdom Accreditation Service (UKAS) for many of our approval processes. They make sure that we are doing our approval work correctly and, when they are satisfied, issue us with a certificate. Certificates issued under our UKAS Accreditation will show the mark which includes the UKAS crown and tick.

For details of the current scope of our UKAS accreditation, please check our website at <www.RedBookLive.com> or contact UKAS on +44 (0)20 8917 8400, or view the UKAS website at <www.ukas.com>.

It is not always possible to reproduce our mark on small products so you may see also “LPC” or "LPCB" on approved products. Unfortunately, forgeries are very common so always check that the certificate or mark is valid by checking the Red Book on line, by e-mailing enquiries@brecertification.co.uk or by phoning +44 (0)1923 664100.

We believe that our marks stand for something special - they are true ‘quality marks’ and unlike some approval marks, they are recognised across the world. We offer something that no other UK based Product Certification Body offers - transparency. We do this though the ‘Red Book’ and our website. The Red Book is accessed by many thousands of specifiers across the world, either through direct mail, via distribution at exhibitions, events and trade missions or via our ‘live’ list on our website at <www.RedBookLive.com>.

INTERNATIONAL RECOGNITION

LPCB has customers in 36 countries and is recognised in many more worldwide. We are developing our strategies for the Asia Pacific and Middle East region to extend our brand awareness. We will continue to exhibit both nationally and internationally and grow our participation in overseas trade missions. We have a number of Agreements and Partnerships with similar organisations such as VdS in Germany, PSB in Singapore, SBSC in Sweden, etc. Please contact us if you require approvals with these bodies as we may be able to facilitate the approvals process through these agreements.

Over the last few years, many companies have had to review their marketing plans and many have cut their marketing budgets. However, at LPCB, we recognise the value and benefit of the Red Book to specifiers as well as to our listed companies. Our ‘live’ list at <www.RedBookLive.com> is now fully searchable and in an effort to meet specifiers and buyers needs listed companies now have the option of having PDF data sheets associated with each of their listed products/services on <www.RedRedBookLive.com>.

CE MARKING

Within Europe there are a number of legal directives and regulations which manufacturers must meet. These are mainly designed to help eliminate barriers to trade within Europe by setting common standards for those aspects of products that affect health and safety. Suppliers or manufacturers who trade in Europe must demonstrate that their products meet the Essential Requirements of each applicable Directive and are normally expected to affix the CE marking shown below to the product or its packaging:



The CE marking is not a quality mark and whilst LPCB issues CE Certificates of Conformity to manufacturers for the purposes of the CE marking of their products, unless these products also meet LPCB approval requirements, they are not eligible for Red Book listing or to be marked as LPCB approved.

CE Marking under the Construction Products Directive is a very complex subject and unfortunately many buyers and specifiers can be confused by the multiplicity of CE marking for other directives such as the Low Voltage Directive and the EMC Directive.

BRE Certification (which incorporates LPCB as the certification body for fire & security products) is a Notified Body (no. 0832) for the Construction Products Directive (CPD), Pressure Equipment Directive (PED) Marine Equipment Directive (MED) and Transportable Pressure Equipment Directive (TPED). LPCB can therefore act as a ***one stop shop*** for the CE marking requirements of most fire protection products.

ABOUT LPCB

The Loss Prevention Certification Board traces its origins back more than a century to the introduction of engineered fire protection systems in the 1880s. Many years before national building regulations, quality assurance or organised standards-writing activity had begun, fire insurers introduced the concept of third-party approvals for fire sprinkler equipment. This approach was extended to sprinkler system installers and to other systems and equipment over time. The organisation was then a branch of the UK fire insurers' organisation, the Fire Offices' Committee (FOC). In addition to regulating the insurance market, it developed and published technical specifications, codes, rules and standards for manufacturers and end users, and provided a testing and approval service. The forerunner of the 'Red Book', the FOC Lists of Approved Equipment, set out the systems that would be recognised by insurers.

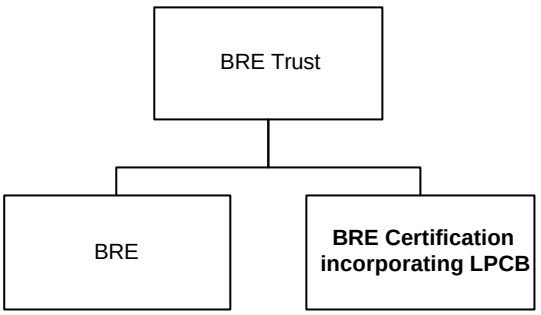
The Loss Prevention Certification Board came into being in the late 1980s following a reorganisation of the insurance trade bodies. The FOC technical documents became Loss Prevention Council (LPC) rules and standards, and the approval scheme standards became Loss Prevention Standards (LPS).

LPCB AND BRE CERTIFICATION

The Loss Prevention Certification Board joined BRE Certification on 31 March 2000. BRE Certification is a wholly owned subsidiary of the BRE Trust which is a registered charity. Any profits are invested in research, education and improvements to our service.

BRE Certification, incorporating LPCB, is a sister company to BRE which, for over eighty years, has carried out research into the safety, regulation and performance of buildings on behalf of the UK Government. Nowadays, whilst it specialises in construction and the built environment, its service is used by customers throughout the world from most sectors of industry - from chemicals to aerospace. For more information visit the BRE website <www.bre.co.uk> or e-mail enquiries@bre.co.uk or phone +44 (0)1923 664000.

Our organisational structure is:



HOW TO USE THIS BOOK

The Red Book is the essential reference for those responsible for the design, specification and purchase of fire and security products and services. It is intended for use in conjunction with the requirements of regulatory bodies, clients and the rules and recommendations of the Association of British Insurers and Lloyd's.

This book is divided into Parts based on the type of product or service. There is an introduction to each Part which explains:

Typical applications for the products/what the products are used for
How to select the right product or service for your application
The technical basis for approval of each product

Parts may be sub-divided into sections for ease of reference. Products are listed in alphabetical order of the manufacturer. To find out whether a product is approved, either search by Part or search by manufacturer. However, whilst it is useful to have a hard copy of the Red Book for reference, if in doubt, always check the Red Book on line at: <www.RedBookLive.com>, e-mailing enquiries@redbooklive.com or by phoning +44 (0)1923 664100.

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Part 1

BUILDING PRODUCTS

PART 1: Building products

INTRODUCTION

Passive fire protection is key to effective management of the risks from fire in buildings. Appropriate levels of both passive and active fire protection need to be defined at the design stage and incorporated in the buildings and fully maintained throughout the life of the building. Guidance on fire protection can be found in the LPC Design Guide for the Fire Protection of Buildings:2000 available from BRE Press at www.BREBookshop.com.

This Part contains details of the following products and services:

Section 1	Installers of passive fire protection products - LPS 1231
Section 2.1	Lining materials - LPS 1181
Section 2.2.1	Cladding products used for the external envelope of buildings - LPS 1181-1
Section 2.2.2	Sandwich panels or built-up panel systems used internally in a building - LPS 1181-2.
Section 2.2.3	Sandwich panels used in pod construction - LPS 1181-3 (Draft)
Section 2.2.4	External thermal insulated or rain screen cladding systems - LPS 1181-4
Section 2.3	Composite wall and roof materials - LPS 1208
Section 2.4	Marine panels
Section 2.5	Non-combustible and Class O products
Section 3	Wall and floor penetration seals - LPS 1132
Section 4	Fire protection of structural steelwork - LPS 1107
Section 5.1	Protective covering materials - sheeting - LPS 1207
Section 5.2	Protective covering materials - pre-formed - LPS 1207
Section 5.3	Scaffold cladding materials - LPS 1215
Section 6	Cavity fire barriers - LPS 1208
Section 7	Recessed lighting fire canopies
Section 8.1	Roofing products: Protection against fire outside of the building
Section 8.2	Roofing products: Protection against fire from inside the building
Section 9	Temporary buildings for use on construction sites - LPS 1195
Section 10	Products assessed for use in surface and sub surface transport applications.

The companies listed in this section have complied with the requirements of LPS 1231 *Requirements for the certification of firms installing or applying passive fire protection Products*. The performance of product designed to protect life and property in the event of a fire can be compromised by poor installation or application and may result in premature failure in the event of a fire.

MMC Building Contractors Limited

Room 11-12, Building 222, Epsom Square, Heathrow Airport, Hounslow, Middlesex TW6 6AZ UK
Tel: +44 (0)20 8897 0271 • Fax: +44 (0)20 8897 0272
E-mail: ammclimited@aol.com

Certificate No. 604a to LPS 1231

Certified installer of:

Firefly Plus 30 and Plus 60 (LPCB Ref. Nos. 387a/01 and 387a/02).

The Products listed in this section are intended to provide an additional, separate internal lining material to improve the thermal insulation of light steel or concrete industrial, agricultural and storage buildings. The listed products are often installed during the refurbishment of such buildings.

The products listed in this Section have been tested to ensure that they do not significantly contribute to a developing fire. The fire properties of these lining materials have been determined from the relevant criteria of the series of fire growth tests described in the LPS 1181 series of standards.

The lining materials are designed to be installed where the fire risk assessment of the building indicates a low to medium risk. Where the fire risk assessment of the building indicates a high fire risk, then products approved to LPS 1181: Part 1 or Part 2 as listed in section 2.2.1 & 2.2.2 should be used.

Celotex Limited

Lady Lane Industrial Estate, Lady Lane, Hadleigh, Suffolk IP7 6BA UK
Tel: +44 (0)1473 822093 • Fax: +44 (0)1473 820880
E-mail: technical@celotex.co.uk • Website: www.celotex.co.uk

Certificate No: 093a to LPS 1181

Product Name	Specification (mm)	Support	Core Material	LPCB Ref. No.
Celotex double-R Hydroform (1)	20-90	Over & Under Purlin	PIR	093a/04
Celotex double-R Lining Grade LG3(1)	20-90	Over & Under Purlin	PIR	093a/05

Note:
1) Approved for use as a lining material only

LPS 1181 *Series of Fire Growth Tests for LPCB Approval and Listing of Construction Product Systems* is the standard for evaluating the performance of sandwich panel or built-up systems and other building products to assess their contribution to fire growth. Products satisfying the requirements of LPS 1181 will not significantly contribute to fire growth.

LPS 1181 is divided into several parts. Elements of a building that form the external envelope are covered by LPS 1181: Part 1. The contribution to fire growth is determined by the results of the testing described in this standard.

The LPS 1181 large scale test comprises building an open-ended enclosure (approximately the size of a large domestic garage) from the sandwich panels or built-up panel system. The structure is then subjected to a timber crib fire located in one corner of the enclosure, this test evaluates the panels, the jointing methods and the supporting system which gives an assessment of the true fire performance of the system which is not available from small scale reaction to fire tests traditionally used, such as surface spread of flame and fire propagation tests.

Fire growth is covered in clause 2.2 of the LPC Design Guide for the Fire Protection of Buildings:2000. This represents the earlier stage of fire before the room or compartment is fully involved in the fire. Products that have passed this test are given the following designation in the LPCB List of Approved Fire and Security Products and Services.

Grade EXT-A: A product that satisfies the requirements for both 'fire resistance' (e.g. LPS 1208) and 'reaction to fire' (i.e. LPS 1181:Part1) to meet the requirements of separating elements used for compartmentation

Grade EXT-B: A product that satisfies the 'reaction to fire' requirements (LPS 1181:Part1) only

Sandwich panels used internally in a building are covered in section 2.2.2.

A Steadman & Son Limited

Warnell, Welton, Carlisle, Cumbria CA5 7HH UK
Tel: +44 (0)16974 78277 • Fax: +44 (0)16974 78530
E-mail: info@steadmans.co.uk • Website: www.steadmans.co.uk

Certificate No: 635a to LPS 1181:Part 1

Composite wall and ceiling panels

Product Name	Specification System Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	Grade	Core Material	LPCB Ref. No.
AS35/1000 PIR (Wall & roof panel)	40, 60, 80 & 100	-	-	EXT-B	HCFC-free PIR	635a/01
AS35/1000 Firefighter (Wall panel)	60, 80 & 100	125	20	EXT-A15	HCFC-free PIR	635a/02
AS35/1000 Firefighter Plus (Wall panel)	100	125	46	EXT-A30	HCFC-free PIR	635a/03

Notes
1) LPCB reference number 635a/01, 635a/02 and 635a/03 Wall panels must be installed vertically.
2) LPCB reference number 635a/01, 635a/02 and 635a/03 Wall panels require external overlap stitching using 6.2mm diameter x 22mm steel screws at 300mm centres.
3) LPCB reference number 635a/01 Roof panels require external stitching at side laps at 450mm centres.

C A Group Limited

Evenwood Industrial Estate, Copeland Road, Evenwood, Co. Durham DL14 9SF UK
Tel: +44 (0)1388 834242 • Fax: +44(0)1388 834881

Certificate No: 443a to LPS 1181

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Twin-Therm Fire Wall	95 - 20	240	30	EXT-A30	Mineral wool	443a/02
Twin-Therm wall	50 - 220	-	-	EXT-B	Glass wool	443a/03
Twin-Therm roof	50 - 220	-	-	EXT-B	Glass wool	443a/04

Notes:
1) Panels can be laid horizontally or vertically. For full details contact C A Group.
2) The base of walls must be supported.
3) Twin-Therm Fire Wall: external sheet may be either CA 32 1000R, CA 32 100W, CA 45 1000W or CA ARC 50 930.
4) Twin-Therm Wall: external sheet may be either CA 32 1000R, CA 32 1000W, CA 45 1000W or CA ARC 50 930.
5) Twin-Therm Roof: external sheet may be CA 32 1000R.
6) Internal sheeting normally CA LT 17 1000S. Twin-Therm roof may be lined with CA 32 1000RL.

Corus Panels and Profiles

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Tel: +44 (0)1269 850691 • Fax: +44 (0)1269 851081
E-mail: sales@coruspanelsandprofiles.co.uk • Website: www.coruspanelsandprofiles.co.uk

Sales Office:

Seven Drive, Tewkesbury Business Park, Tewkesbury, Gloucestershire GL20 8TX UK
Tel: +44 (0)1684 856600 • Fax: +44 (0)1684 856601

Certificate No: 460a to LPS 1181

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Trisomet (roof panel)	40, 60 and 80	-	-	EXT-B	HCFC free PIR	460a/07
Guardian SF (wall panel)	120 and 135	60	60	EXT-A60	Mineral fibre	460a/08
Superdeck (roof panel)	80	-	-	EXT-B	HCFC free PIR	460a/09
Guardian TF (wall panel)	120 and 135	60	60	EXT-A60	Mineral wool	460a/10
Trisomet (wall panel)	40, 60 and 80	-	-	EXT-B	HCFC free PIR	460a/11
	60	60	15	EXT-A15	HCFC free PIR	460a/12
Trimapanel (wall panel)	70 and 90	-	-	EXT-B	HCFC free PIR	460a/13

Notes:
1) Trisomet roof panel (460a/07) requires external side laps to be stitched at maximum 450mm centres with 4.8mm self drilling fasteners.
2) Superdeck roof panel (460a/09) requires profile end laps to be stitched at 50mm centres with steel stitching screws.
3) For Guardian SF and FT - Panels are to be laid horizontally, and are fixed to the supporting steelwork using 5.5mm diameter self drilling fasteners at no more than 3 m centres.
4) Trisomet wall panels (460a/11 are to be laid vertically, and require external side laps to be stitched at maximum 450mm centres.
5) Trisomet wall panels (460a/12 are to be laid vertically, and require external side laps to be stitched at maximum 300mm centres.

EDM Spanwall Limited

Unit 1, Carryduff Business Park, Carryduff, Belfast BT8 8AN UK
Tel: +44 (0)2890 815303 • Fax: +44 (0)2890 815449
E-mail: info@edmspanwall.com • Website: www.edmspanwall.com

Certificate No: 605a to LPS 1181

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Spanwall 2016 PIR cored wall panel	70 - 86	-	-	EXT-B	PIR	605a/01
Spanwall 2016 Xflam wall panel	70 - 110	-	-	EXT-B	EPS/phenolic	605a/02
Spanwall 2016 mineral wool cored wall panel	70 - 86	-		EXT-B	Mineral Wool	605a/03
Spanwall 1016L PIR cored wall panel	86	-	-	EXT-B	PIR	605a/04
Spanwall 1016L Xflam wall panel	110	-	-	EXT-B	EPS/phenolic	605a/05
Spanwall 1016L mineral wool cored wall panel	86	-	-	EXT-B	Mineral wool	605a/06

Notes:
1) LPCB Ref. No. 605a/01, 605a/02 and 605a/03 were tested with and are approved for use with a non-combustible roof system.
2) Approval of LPCB Ref. No. 605a/04, 605a/05 and 605a/06 are based on testing with, and are approved for use with, a non-combustible roof system.

Eurobond Laminates Limited

Wentloog Corporate Park, Cardiff CF3 2ER UK
Tel: +44 (0)29 2077 6677 • Fax: +44 (0)29 2036 9161
E-mail: sales@eurobond.co.uk • Website: www.eurobond.co.uk

Certificate No: 545b to LPS 1181:2003 Part 1

Composite panels

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Europanel Extra (wall panel)	86	60	60	EXT-A60	Mineral fibre	545b/01
	113	90	60	EXT-A60	Mineral fibre	
	125	90	90	EXT-A90	Mineral fibre	
	135	90	90	EXT-A90	Mineral fibre	
	150	120	120	EXT-A120	Mineral fibre	
	160	120	120	EXT-A120	Mineral fibre	
	86, 113, 125, 135, 150 and 160	-	-	EXT-B	Mineral fibre	545b/02
Europanel Lite (wall panel)	86	60	30	EXT-A30	Mineral fibre	545b/03
	113	90	60	EXT-A60	Mineral fibre	

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
	125	90	60	EXT-A60	Mineral fibre	
	135	90	60	EXT-A60	Mineral fibre	
	150	120	90	EXT-A90	Mineral fibre	
	160	120	90	EXT-A90	Mineral fibre	
	86, 113, 125, 135, 150 and 160	-	-	EXT-B	Mineral fibre	
Europanel Premier (wall panel)	86	60	30	EXT-A30	Mineral fibre	545b/04
	113	90	60	EXT-A60	Mineral fibre	
	125	90	60	EXT-A60	Mineral fibre	
	135	90	60	EXT-A60	Mineral fibre	
	150	120	90	EXT-A90	Mineral fibre	
	160	120	90	EXT-A90	Mineral fibre	
	86, 113, 125, 135, 150 and 160	-	-	EXT-B	Mineral fibre	
Rockspan Extra (wall panel)	60	60	30	EXT-A30	Mineral fibre	545b/05
	75	60	60	EXT-A60	Mineral fibre	
	100	120	120	EXT-A120	Mineral fibre	
	125	120	120	EXT-A120	Mineral fibre	
	150	120	120	EXT-A120	Mineral fibre	
	175	120	120	Ext-A120	Mineral fibre	
	60, 70, 100, 125, 150 & 175	-	-	EXT-B	Mineral fibre	
Rockspan Lite (wall panel)	60	60	30	EXT-A30	Mineral fibre	545b/06
	75	60	30	EXT-A30	Mineral fibre	
	100	90	60	EXT-A60	Mineral fibre	
	125	90	60	EXT-A60	Mineral fibre	
	150	120	90	EXT-A90	Mineral fibre	
	175	120	90	EXT-A90	Mineral fibre	
	60, 75, 100, 125, 150 & 175	-	-	EXT-B	Mineral fibre	
Rockspan Ultima (wall panel)	150	240	240	EXT-A240	Mineral fibre	545b/07
	175	240	240	EXT-A240	Mineral fibre	

Note:
1) LPCB Ref No. 545b/01, 545b/02, 545b/03, 545b/04, 545b/05, 545b/06 & 545b/07 - Wall panels can be laid either vertically or horizontally.
2) LPCB Ref No. 545b/07 - Rockspan Ultima wall panel joints to be stitched on both internal and external faces using 4.7mm diameter x 20mm long self-tapping screws at 300mm centres.

Haironville TAC Limited

Abbotsfield Road, Abbotsfield Industrial Estate, St Helens, Merseyside WA9 4HU UK
Tel: +44 (0)1744 818181 • Fax: +44 (0)1744 851555
E-mail: sales@haironvilletac.co.uk • Website: www.haironvilletac.co.uk

Certificate No: 643a to LPS 1181: Part 1

Wall panel

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Promisol Fi4CN Wall Panel	100	-	-	EXT-B	PIR	643a/01

Notes:
1) Panels can be laid vertically or horizontally.
2) Panels can only be used with mineral wool or non-combustible cored roof systems.
3) Panels can be used in conjunction with an internal plasterboard lining (min. 11.5kg/m^2) of a minimum thickness of 15mm.

Hunter Douglas

Industriepark 17, Post Box 128, 9350AC Leek, The Netherlands
Tel: +31 (0) 5945 15333 • Fax: +31 (0) 5945 17851
E-mail: info@hdce.nl • Website: www.luxalon.com

Certificate No: 613a to LPS 1181

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Luxalon HP+ Wall Panel	60, 75 and 100	-	-	EXT-B	PUR	613a/01

Notes:
1) Panels can be laid vertically or horizontally.
2) Panels can only be used with mineral wool or non-combustible cored roof systems.
3) Maximum sheeting rail spacing to be at 2.5m centres and sheeting rails to be used at the end of each panel either side of the joint.

ISOCAB France S.A.

Avenue de la Gironde, Z.I. Petite Synthe, 59640 Dunkerque, France
Tel: +33 328 29 26 30 • Fax: +33 328 60 11 93
E-mail: isocab@isocab.be

Certificate No: 465a to LPS 1181

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
ISOCAB Industrial	40 - 200	-	-	EXT-B	PIR	465a/01

Notes:
1) Wall panels are laid vertically.
2) Both wall and roof panels require internal stitching at 300mm centres using 3.2mm diameter x 25mm screws and internal steel flashings 0.6mm thick x 120mm wide overlaying three beads of Lorient intumescent mastic, stitched at 150mm centres using 3.2mm diameter x 16mm screws.

Kingspan Insulation Limited (Leominster)

Pembridge, Leominster, Herefordshire HR6 9LA UK
Tel: +44 (0)1544 388601 • Fax: +44 (0)1544 388888
E-mail: info.uk@insulation.kingspan.com • Website: www.insulation.kingspan.com

Certificate No: 388b to LPS 1181:Part 1

Thermaroof

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Thermaroof TR26 LPC/FM zero ODP Insulation (also available as thermataper TT46 for cut-to-fall roofing systems)	30 - 120	-	-	EXT-B	HCFC-free PIR	388b/01
Thermaroof TR27 LPC/FM zero ODP Insulation (also available as Thermataper TT47 for cut-to-fall roofing systems)	30 - 120	-	-	EXT-B	HCFR-free PIR	388b/02

Notes:
1) For 388b/01 the insulation was tested as part of a built-up roof system consisting of:
Woven polyester reinforced PVC roof membrane, mechanically fixed and with hot-air welded lap joints;
TR26FM Insulation;
0.7mm gauge, 35mm deep profiled metal deck.
2) For 388b/02 the insulation was tested as part of a built-up roof system consisting of:
PVC single ply waterproofing roof membrane, solvent welded to mechanical fixings and with hot-air welded or solvent welded lap joints;
TR27FM Insulation
0.7mm gauge, 35mm deep profiled metal deck.
3) For 388b/01 and 388b/02 the decking side laps were stitched at 400mm centres.
4) For 388b/01 and 388b/02 the built-up roof system was tested in combination with PIR-cored sandwich wall panels.

Kingspan Limited

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Certificate No: 186a to LPS 1181

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Kingspan KS1000RW/LPC (Wall panel)	40, 50, 60, 70, 80 and 100	125	17	EXT-A15	PIR	186a/01
Kingspan KS1000RW/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	186a/02
Kingspan KS1000BU/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	186a/03
Kingspan KS600/900/1000 MR/LPC, FL-S/LPC, FL/LPC, EB/LPC, WV/LPC, MM/LPC, CX/LPC & Optimo/LPC (Wall panel)	80 and 100	91	27	EXT-A15	PIR	186a/04
Kingspan KS1000LP/LPC (Roof panel)	45, 50, 60, 80 and 100	-	-	EXT-B	PIR	186a/05
Kingspan KS600/900/1000/1200MR/LPC, FL/LPC, FL-S/LPC, EB/LPC, WV/LPC, MM/LPC, CX/LPC & Optimo/LPC (Wall panel)	45, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	186a/06
Kingspan KS1000CR/LPC (Roof panel)	45, 60, 80 and 100	-	-	EXT-B	PIR	186a/07

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Kingspan KS1000SF/LPC (Wall panel)	40, 50, 60, 70, 80 and 100	125	17	EXT-A15	PIR	186a/08
	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	186a/09
Kingspan KS1000LJ/LPC (Wall panel)	60, 70, 80 and 100	-	-	EXT-B	PIR	186a/10
Kingspan KS1000LJ/LPC (Roof Panel)	80 and 100	-	-	EXT-B	PIR	186a/11
Kingspan KS1000RW/HCFC-FREE/LPC (Wall panel)	40, 50, 60, 70, 80 and 100	136	16	EXT-A15	PIR	186a/12
Kingspan KS1000RW/HCFC-FREE/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	186a/13
Kingspan KS1000BU/HCFC-FREE/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	186a/14
Kingspan KS600/900/1000MR/HCFC-FREE/LPC, FL/HCFC-FREE/LPC, FL-S/HCFC-FREE/LPC, EB/HCFC-FREE/LPC, WV/HCFC-FREE/LPC, MM/HCFC-FREE/LPC, CX/HCFC-FREE/LPC & Optimo/HCFC-FREE/LPC (Wall panel)	80 and 100	60	28	EXT-A15	PIR	186a/15
Kingspan KS1000LP/HCFC-FREE/LPC (Roof panel)	45, 60, 80 and 100	-	-	EXT-B	PIR	186a/16
Kingspan KS600/900/1000/1200MR/HCFC-FREE/LPC, FL/HCFC-FREE/LPC, FL-S/HCFC-FREE/LPC, EB/HCFC-FREE/LPC, WV/HCFC-FREE/LPC, MM/HCFC-FREE/LPC, CX/HCFC-FREE/LPC & Optimo/HCFC-FREE/LPC (Wall panel)	45, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	186a/17
Kingspan KS1000CR/HCFC-FREE/LPC (Roof panel)	45, 60, 80 and 100	-	-	EXT-B	PIR	186a/18
Kingspan KS1000SF/HCFC-FREE/LPC (Wall panel)	40, 50, 60, 70, 80 and 100	136	16	EXT-A15	PIR	186a/19
Kingspan KS1000SF/HCFC-FREE/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	186a/20
Kingspan KS1000LJ/HCFC-FREE/LPC (Wall panel)	60, 70, 80 and 100	-	-	EXT-B	PIR	186a/21
Kingspan KS1000LJ/HCFC-FREE/LPC (Roof panel)	80 and 100	-	-	EXT-B	PIR	186a/22
Kingspan KS500Zip & KS1000Zip CFC-FREE/LPC (Roof panel)	45 and 90	-	-	EXT-B	PIR	186a/23
Kingspan KS500Zip & KS1000Zip HCFC-FREE/LPC (Roof panel)	45 and 90	-	-	EXT-B	PIR	186a/24
Kingspan KS600/900/1000LS CFC-FREE/LPC (Wall panel)	80, 100, 120 and 140	-	-	EXT-B	PIR	186a/26
Kingspan KS600/900/1000LS HCFC-FREE/LPC (Wall panel)	80, 100, 120 and 140	-	-	EXT-B	PIR	186a/28
Kingspan KS1000RW/FW 30 (wall panel)	100	132	36	EXT-A30	PIR	186a/29
Kingspan KS1000SF/FW 30 (wall panel)	100	132	36	EXT-A30	PIR	186a/30
Kingspan KS1000TS/HCFC-FREE/LPC (roof panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	186a/31
Rooftile RT1000 (Roof panel)	45, 60 and 80	-	-	EXT-B	PIR	279a/09
Rooftile RT1000 HCFC-free	45 and 80	-	-	EXT-B	PIR	279a/10

Notes:
1) Wall panels can be laid either horizontally or vertically, except 186a/03, 186a/10, 186a/14, and 186a/21.
2) 186a/04, and 186a/15 require internal stitching at 250mm centres, and internal flashings 100mm wide x 0.7mm thick at joint locations.
3) 186a/08 and 186a/19 require end laps to have two stitching screws per valley (minimum crown), 50mm from end lap.
4) 186a/26 and 186a/28 require double fixings at vertical supports.
5) 186a/01, 186a/02, 186a/03, 186a/04, 186a/05, 186a/06, 186a/07, 186a/08, 186a/09, 186a/10 & 186a/11 contain HCFCs and may only be used for exporting to countries where HCFCs are permitted, as allowed by paragraph 5 of article 5 of Regulation (EC) No 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer.
6) 186a/29 and 186a/30 include 'VC' tape applied along both side laps of the panel.
7) 186a/31 roof panels can only be used with non-combustible walls and with roof tiles up to a maximum weight of 54 kg/m^2.

Kingspan Limited

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Certificate No: 260a to LPS 1181

Panel

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Kingspan KS600/900/1000 MR/LPC, FL/LPC, FL-S/LPC, EB/LPC, WV/LPC, MM/LPC, CX/LPC & Optimo/LPC (Wall panel)	80 and 100	91	27	EXT-A	PIR	260a/01
Kingspan KS1000LP/LPC (Roof panel)	45, 60, 80 and 100	-	-	EXT-B	PIR	260a/02
Kingspan KS600/900/1000/1200MR/LPC, FL/LPC, FL-S/LPC, EB/LPC, WV/LPC, MM/LPC, CX/LPC & Optimo/LPC (Wall panel)	45, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	260a/03
Kingspan KS1000CR/LPC (Roof panel)	45, 60, 80 and 100	-	-	EXT-B	PIR	260a/04
Kingspan KS1000RW/LPC (Wall Panel)	40, 50, 60, 70, 80 and 100	125	17	EXT-A15	PIR	260a/05
Kingspan KS1000RW/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	260a/06
Kingspan KS1000BU/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	260a/07
Kingspan KS1000SF/LPC (Wall panel)	40, 50, 60, 70, 80 and 100	125	17	EXT-A15	PIR	260a/08
Kingspan KS1000SF/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	260a/09
Kingspan KS1000LJ/LPC (Roof Panel)	80 and 100	-	-	EXT-B	PIR	260a/11
Kingspan KS600/900/1000 MR/HCFC-FREE/LPC, FL/HCFC-FREE/LPC, FL-S/HCFC-FREE/LPC, EB/HCFC-FREE/LPC, WV/HCFC-FREE/LPC, MM/HCFC-FREE/LPC, CX/HCFC-FREE/LPC & Optimo/HCFC-FREE/LPC (Wall panel)	80 and 100	60	28	EXT-A15	PIR	260a/12
Kingspan KS1000LP/ HCFC-FREE/LPC (Roof panel)	45, 60, 80 and 100	-	-	EXT-B	PIR	260a/13
Kingspan KS600/900/1000/1200MR/HCFC-FREE/LPC, FL/HCFC-FREE/LPC, FL-S/HCFC-FREE/LPC, EB/HCFC-FREE/LPC, WV/HCFC-FREE/LPC, MM/HCFC-FREE/LPC, CX/HCFC-FREE/LPC & Optimo/HCFC-FREE/LPC (Wall panel)	45, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	260a/14
Kingspan KS1000CR/HCFC-FREE/LPC (Roof panel)	45, 60, 80 and 100	-	-	EXT-B	PIR	260a/15
Kingspan KS1000RW/HCFC-FREE/LPC (Wall panel)	40, 50, 60, 70, 80 and 100	136	16	EXT-A15	PIR	260a/16
Kingspan KS1000RW/HCFC-FREE/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	260a/17
Kingspan KS1000BU/ HCFC-FREE/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	260a/18
Kingspan KS1000SF/HCFC-FREE/LPC (Wall panel)	40, 50, 60, 70, 80 and 100	136	16	EXT-A15	PIR	260a/19
Kingspan KS1000SF/HCFC-FREE/LPC (Roof and wall panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	260a/20
Kingspan KS1000LJ/HCFC-FREE/LPC (Wall panel)	60, 70, 80 and 100	-	-	EXT-B	PIR	260a/21
Kingspan KS1000LJ/ HCFC-FREE/LPC (Roof panel)	80 and 100	-	-	EXT-B	PIR	260a/22
Kingspan KS500Zip & KS1000Zip CFC-FREE/LPC (Roof Panel)	45 and 90	-	-	EXT-B	PIR	260a/23
Kingspan KS500 Zip & KS1000Zip HCFC-FREE/LPC (Roof panel)	45 and 90	-	-	EXT-B	PIR	260a/24

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Kingspan KS600/900/1000LS CFC-FREE/LPC (Wall panel)	80, 100, 120 and 140	-	-	EXT-B	PIR	260a/26
Kingspan KS600/900/1000LS HCFC-FREE/LPC (Wall panel)	80, 100, 120 and 140	-	-	EXT-B	PIR	260a/28
Kingspan KS1000RW/FW 30 (wall panel)	100	132	36	EXT-A30	PIR	260a/29
Kingspan KS1000SF/FW 30 (wall panel)	100	132	36	EXT-A30	PIR	260a/30
Kingspan KS1000TS/HCFC-FREE/LPC (roof panel)	30, 40, 50, 60, 70, 80 and 100	-	-	EXT-B	PIR	260a/31
Kingspan KS1000RT Rooftile (Roof panel)	45, 60 and 80	-	-	EXT-B	PIR	279a/09
Kingspan KS1000RT HCFC-free Rooftile (Roof panel)	45 and 80	-	-	EXT-B	PIR	279a/10

Notes:
1) Wall panels can be laid either horizontally or vertically, except 260a/07, 260a/10, 260a/18 and 260a/21.
2) 260a/01 and 260a/12 require internal stitching at 250mm centres, and internal flashings 100mm wide x 0.7mm thick at joint locations.
3) 260a/08 and 260a/19 require end laps to have two stitching screws per valley (minimum crown), 50mm from end lap.
4) 260a/26 and 260a/28 require double fixings at vertical supports.
5) 260a/01, 260a/02, 260a/03, 260a/04, 260a/05, 260a/06, 260a/07, 260a/08, 260a/09, 260a/10 & 260a/11 contain HCFCs and may only be used for exporting to countries where HCFCs are permitted, as allowed by paragraph 5 of article 5 of Regulation (EC) No 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer.
6) 260a/29 and 260a/30 include 'VC' tape applied along both side laps of the panel.
7) 260a/31 roof panels can only be used with non-combustible walls and with roof tiles up to a maximum weight of 54 kg/m^2.

Metalplast Oborniki SP. Z O.O

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Certificate No: 577a to LPS 1181

Product Name	Specification System Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	Grade	Core Material	LPCB Ref. No.
ISOTHERM D140 Roof and Wall Panels) (1),(2),(3)	80,100, 120 and 140	-	-	EXT-B	PIR	577a/01
ISOTHERM PLUS 100 (Wall Panels) (2)	60, 80 and 100	-	-	EXT-B	PIR	577a/02
ISOTHERM SC 100 (Roof Panel) (4)	60, 80 and 100	-	-	EXT-B	PIR	577a/03

Notes:
1) 577a/01 wall and roof panels require external stitching at 300mm centres using 4.8mm diameter x 20mm carbon steel screws.
2) 577a/01 and 02 wall panels can be laid either horizontally or vertically.
3) 577a/01 roof panels can be used with a roof tile system maximum tile weight 78 kg/m^2.
4) 577a/03 roof panels can be used with an aluminium standing seam roof sheeting systems.

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Certificate No: 671a to LPS 1181

Glamet panels

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Glamet wall and roof panel (1)(2)	30, 35, 40, 50, 60, 70 and 80	-	-	EXT B	PIR	671a/01
Glamet wall panel (2)(3)(4)	40,50,60 and 70	132	15	EXT-A15	PIR	671a/02
	80	132	30	EXT-A30	PIR	
Monowall wall and roof panel (4)	30,40,50,60 and 80	-	-	EXT-B	PIR	671a/03
H-Wall 8P wall panels (1)	50 and 80	-	-	EXT-B	PIR	671a/04
Firemet Roof-ceiling panels (2)	40,50,60 and 80			EXT-B	PIR & Mineral wool	671a/05
Firemet Roof-wall panels (2)(3)(4)	80	332	33	EXT-A30	PIR & Mineral wool	671a/06
Hipertec roof wall and ceiling panels (2)	50,80,100,120 and 150			EXT-B	Rock mineral wool	671a/07
Megatec wall panels (1)	70 and 80	-	-	EXT-B	PIR	671a/08
Superwall ML wall panels (1)	50, 60 and 80	-	-	EXT-B	PIR	671a/09
H-Wall 10P wall panels (1)	50 and 80	-	-	EXT-B	PIR	671a/10
Firemet Wall wall panels (1) (2) (3)	40, 50, 60 and 80	-	-	EXT-B	PIR & rock mineral wool	671a/11
Hipertec Wall wall panels (1)	50, 80, 100, 120 and 150	-	-	EXT-B	Rock mineral wool	671a/12
Hipertec Wall HF wall panels (1)	50, 80, 100, 120 and 150	-	-	EXT-B	Rock mineral wool	671a/13
H-Wall 8M wall panels	100	-	-	EXT-B	Rock mineral wool	671a/14
H-Wall 10M wall panels	100	-	-	EXT-B	Rock mineral wool	671a/15

Notes:
1) Wall panels can be laid vertically or horizontally.
2) Wall and roof panels require external stitching at 300mm centres using 4.8mm diameter x 20mm carbon steel screws.
3) Panels require internal stitching at 200mm centres using 4.8mm diameter x 20mm carbon steel screws.
4) Wall panels can only be laid vertically.

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Certificate No: 670a to LPS 1181

Glamet panels

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Glamet wall and roof panel (1)(2)	40, 50, 60 70 and 80	-	-	EXT-B	PIR	670a/01

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Glamet wall panel (2)(3)(4)	40,50,60 and 70 thick	132	15	EXT-A15	PIR	670a/02
	80mm	132	30	EXT-A30	PIR	
Monowall wall and roof panel (4)	30,40,50,60 and 80	-	-	EXT-B	PIR	670a/03
H-Wall 8P wall panels (1)	50 and 80	-	-	EXT-B	PIR	670a/04
Firemet Roof-ceiling panels (2)	40,50,60 and 80			EXT-B	PIR & Mineral wool	670a/05
Firemet Roof-wall panels (2)(3)(4)	80	332	33	EXT-A30	PIR & Mineral wool	670a/06
Hipertec Roof-wall and ceiling panels (2)	50,80,100,120 and 150			EXT-B	Rock mineral wool	670a/07
Superwall ML wall panels (1)	50, 60 and 80	-	-	EXT-B	PIR	670a/08
H-Wall 10P wall panels	50 and 80	-	-	EXT-B	PIR	670a/09
Firemet Wall wall panels (1) (2) (3)	40, 50, 60 and 80	-	-	EXT-B	PIR & rock	670a/10
Hipertec Wall wall panels (1)	50, 80, 100, 120 and 150	-	-	EXT-B	Rock mineral wool	670a/11
Hipertec Wall HF wall panels (1)	50, 80, 100, 120 and 150	-	-	EXT-B	Rock mineral wool	670a/12

Notes:
1) Wall panels can be laid vertically or horizontally.
2) Wall and roof panels require external stitching at 300mm centres using 4.8mm diameter x 20mm carbon steel screws.
3) Panels require internal stitching at 200mm centres using 4.8mm diameter x 20mm carbon steel screws.
4) Wall panels can only be laid vertically.

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Certificate No: 750b to LPS 1181: 2003: Part 1

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
PIR ExoClad (Wall and ceiling panel)	50	-	-	EXT-B	PIR	750b/01

Notes:
1) The joints of the Exoclad panels 750b/01 should be stitched with 6.3mm x 22mm long self tapping screws @ 250mm centres on the external overlap and stitched with 4.8mm dia x 10mm stainless steel rivets @ 250mm centres on the internal face.
2) Wall panels to be orientated vertically only

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Certificate No: 700a to LPS1181: 2003: Part 1: Issue 1

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
JI 1000 Roof (1)(3) (Roof and wall panels)	40 - 100	-	-	EXT-B	PIR	700a/01
JI 1000 Roof (2)(3) (Wall panels)	60	121	15	EXT-A15	PIR	700a/02
JI 1000/900/600 SF (1) (Wall panels)	60 - 100	-	-	EXT B	PIR	700a/03
JI 1100 PAN (Roof panels)	40 - 100	-	-	EXT B	PIR	700a/04
JI 1000/900/600 SF (2) (4) (Wall panel)	80	90	21	EXT A15	PIR	700a/05
Isotherm Built up system (Wall panels)	200	-	-	EXT-B	Glass mineral wool	700a/06
Isotherm Built up system (Roof panels)	220	-	-	EXT-B	Glass mineral wool	700a/07

Notes:
1) LPCB Ref No. 700a/01 & LPCB Ref.No. 700a/03 wall panels can be laid vertically or horizontally.
2) LPCB Ref.No. 700a/02 & LPCB Ref.No. 700a/05 wall panel can only be laid vertically.
3) Both roof and wall panel overlaps to be stitched at 300mm centres.
4) LPCB Ref. No. 700a/05 wall panels require internal stitching at 250mm centres using 3.8mm diameter x 60mm screws and internal steel flashing 2mm thick x 100mm wide stitched at 250mm centres using 4mm diameter x 19mm screws.
5) LPCB Ref. No. 700a/06 internal linings to be horizontal and external linings to be vertical.

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Certificate No: 389a to LPS 1181

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
RF1000 fire wall panel (LPCB approved)	80	74	23	EXT-A15	HCFC-free PIR	389a/01
RF1000 composite panel (LPCB approved)	40, 50, 60 and 80	-	-	EXT-B	HCFC-free PIR	389a/02

Notes:
1) Roof panels require stitching screws located between the crown-fix screws on each side lap at centres not exceeding 250mm.
2) Wall panels require stitching screws located along the full length of each side lap at centres not exceeding 250mm.
3) Wall panels to be orientated vertically only.

SpeedDeck Building Systems Limited

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Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
SpeedDeck double skin roof system	180 - 220 (1)	-	-	EXT-B	Glass wool	738a/01
SpeedZip double skin roof system	180 - 220 (2)	-	-	EXT-B	Glass wool	738a/02
PP32 double skin roof system	180 - 220 (3)	-	-	EXT-B	Glass wool	738a/03

Notes:
1) SpeedDeck double skin roof system: external sheet may be 0.9mm 3004 grade embossed plain aluminium or 0.9mm aluminium coated with a 25 micron PVdF or 30 micron ARS paint finish or 0.6mm or 0.7mm steel with a 200 micron PVC paint finish i.e. Corus HPS200 or Dobel 200XT and Walkliner inner skin.
2) SpeedZip double skin roof system: 0.9mm aluminium with a stucco plain or 25micron PVdF or 30 micron ARS paint finish and Walkliner inner skin.
3) PP32 double skin roof system: 0.7mm steel trapezoidal 32mm profile with a Dobel 200XT 200 micron PVC paint finish and Walkliner inner skin.

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Certificate No: 657a/01 to LPS 1181: Part 1

Isowand Integral (Wall panel)

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Isowand Integral (Wall panel)	60, 80, 100 and 120	-	-	EXT-B	PIR	657a/01

Note:
LPCB Ref. No. 657a/01 - Wall panels can be laid horizontally or vertically.

Trimo d.d

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Certificate No: 650b to LPS 1181: 2003

Product Name	Specification System Thickness (mm) (Wall panel)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core material	LPCB Ref. No.
Trimotherm FTV (wall panel)	100 - 150	95	95	EXT-A90	Mineral wool	650b/01

Product Name	Specification System Thickness (mm) (Wall panel)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core material	LPCB Ref. No.
Trimotherm SNV (Ceiling panel)	100	98	95	EXT-A90	Mineral wool	650b/02

Note:
LPCB Ref. No. 650b/01 wall panels can be laid either horizontally or vertically.

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Certificate No: 186a to LPS 1181
Certificate No: 260a to LPS 1181
Certificate No: 279a to LPS 1181

Product Name	Specification System Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Moduclad IP1000 (Wall panel)	40, 50, 60, 80 and 100	125	17	EXT-A15	PIR	186a/01
Moduclad IP1000 (Roof and Wall panel)	30, 40, 50, 60, 80 and 100	-	-	EXT-B	PIR	186a/02
Moduclad DW600/900/1000 (Wall panel)	80 and 100	91	27	EXT-A15	PIR	260a/01
Moduclad DW600/900/1000/1200 (Wall panel)	45, 50, 60, 80 and 100	-	-	EXT-B	PIR	260a/03
Moduclad DR1000W (Wall panel)	80	69	23	EXT-A15	PIR	279a/01
	40, 50, 60 and 80	-	-	EXT-B	PIR	279a/02
Moduclad DR1000 (Roof panel)	40, 50, 60 and 80	-	-	EXT-B	PIR	279a/03
Topdek (Roof panel)	34, 46, 68, 80 and 100	-	-	EXT-B	PIR	279a/04
Moduclad IP1000 (Wall panel)	40, 50, 60 and 80	125	16	EXT-A15	PIR	279a/05
Moduclad IP1000 (wall and roof panel)	40, 50, 60 and 80	-	-	EXT-B	PIR	279a/06
Moduclad DW1000 (Wall panel)	80 and 100	91	27	EXT-A15	PIR	279a/07
	45, 60, 80 and 100	-	-	EXT-B	PIR	279a/08
IP1000 - HCFC-free (roof and wall panel)	30 - 100	-	-	EXT-B	PIR	279a/11
IP1000 - HCFC-free (wall panel)	40 - 100	125	17	EXT-A15	PIR	279a/12
DW - HCFC-free (wall panel)	80 - 100	91	27	EXT-A15	PIR	279a/13
	45 - 100	-	-	EXT-B	PIR	279a/14
DR1000 - HCFC-free (roof panel)	40 - 80	-	-	EXT-B	PIR	279a/15
DR1000W - HCFC-free (Wall panel)	40 - 80	-	-	EXT-B	PIR	279a/16
DR1000W - HCFD-free (Wall panel)	80	69	23	EXT-A15	PIR	279a/17
Topdek - HCFC-free (Roof panel)	34 - 100	-	-	EXT-B	PIR	279a/18

Notes:
1) LPCB Reference No. 260a/01 requires internal stitching at 250mm centres, and internal flashings 100mm wide x 0.7mm thick at joint locations.
2) LPCB Reference No. 279a/04 requires stitching of the side laps at 500mm centres.
3) Wall panels can be laid either horizontally or vertically.

LPS 1181 Series *of Fire Growth Tests for LPCB Approval and Listing of Construction Product Systems* is the standard for evaluating the performance of sandwich panel or built-up panel systems and other building products to assess their contribution to fire growth. Products satisfying the requirements of LPS 1181 will not significantly contribute to fire growth.

Panel systems used internally in a building are covered by LPS 1181: Part 2. The contribution to fire growth is determined by satisfying all of the test criteria described in the standard.

The panel systems listed in this section are used internally (e.g. food factory clean rooms, cold stores, refrigerated spaces, room separation etc.) and are either self supporting or supported by an external structure. Panel systems used for the external envelope of a building are covered in section 2.2.1.

This large scale test comprises building an open-ended enclosure (approximately the size of a large domestic garage) from the sandwich panels or built-up panel system. The structure is then subjected to a timber crib or gas burner fire located in one corner of the enclosure, this test evaluates the panels, the jointing methods and the supporting system which gives an assessment of the true fire performance of the system which is not available from small scale reaction to fire tests traditionally used, such as surface spread of flame and fire propagation tests.

Fire growth is covered in clause 2.2 of the LPC Design Guide for the Fire Protection of Buildings:2000. This represents the earlier stage of fire before the room or compartment is fully involved in the fire. Products that have passed this test are given the following designation in the LPCB List of Approved Fire and Security Products and Services.

Requirements for internal applications				
GRADE	Fire resistance		Wall and ceiling lining test Thermal exposure	
	Integrity (minutes)	Insulation (minutes)	Level	Source
INT-1	60	60	Enhanced	Gas burner
INT-2	30	30	Standard	Timber crib
INT-3			Standard	Timber crib

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Certificate No: 545c to LPS 1181:2003

FireMaster wall and ceiling panels

Product Name	Specification Thickness (mm)	Maximum Unsupported Panel Length (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Firemaster Wall Lite	60	3.00	60	30	INT-2	Mineral fibre	545c/01
	75	3.00	60	30	INT-2	Mineral fibre	
	100	4.00	90	60	INT-1	Mineral fibre	
	100	4.50	60	60	INT-1	Mineral fibre	
	125	4.00	90	60	INT-1	Mineral fibre	
	125	4.50	60	60	INT-1	Mineral fibre	
	150	5.00	120	90	INT-1	Mineral fibre	
	150	5.50	60	60	INT-1	Mineral fibre	
	175	5.00	120	90	INT-1	Mineral fibre	
	175	5.50	60	60	INT-1	Mineral fibre	
Firemaster Wall Extra	60	3.00	60	30	INT-2	Mineral fibre	545c/02
	75	3.00	60	60	INT-1	Mineral fibre	

Product Name	Specification Thickness (mm)	Maximum Unsupported Panel Length (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
	100	5.50	120	120[3]	INT-1	Mineral fibre	
	100	6.00	60	60	INT-1	Mineral fibre	
	125	5.50	120	120	INT-1	Mineral fibre	
	125	6.00	60	60	INT-1	Mineral fibre	
	150	5.50	120	120	INT-1	Mineral fibre	
	150	6.00	60	60	INT-1	Mineral fibre	
Firemaster Ceiling panel	60	6.00	-	-	INT-3	Mineral fibre	545c/03
	75	6.00	-	-	INT-3	Mineral fibre	
	100	4.20	60	60	INT-1	Mineral fibre	
	100	6.00	-	-	INT-3	Mineral fibre	
	125	4.20	60	60	INT-1	Mineral fibre	
	125	6.00	-	-	INT-3	Mineral fibre	
	150	4.20	60	60	INT-1	Mineral fibre	
	150	6.00	-	-	INT-3	Mineral fibre	
Firemaster Wall Ultima	150	7.50	240	240	INT-1	Mineral fibre	545c/05
	175	7.50	240	240	INT-1	Mineral fibre	
	200	7.50	240	240	INT-1	Mineral fibre	

Notes:
1) Grade INT-1 approved products have equal performance at Grade INT-2 and INT-3.
2) Grade INT-2 approved products have equal performance at Grade INT-3.
3) LPCB Ref No. 545c/02 - Where Eurobond 120 rock fibre insulation core is used in the 100mm thick panel the fire resistance insulation performance is limited to 90 minutes for a maxiumum unsupported panel lengths of 5.5m.
4) LPCB Ref No. 545c/05 - Firemaster Wall Ultima, to be stitched on both internal and external faces using 4.7mm diameter x 20mm long self-tapping screws at 300mm centres.

Excel Industries Ltd

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Certificate No: 721a to LPS 1181: Part 2: Issue 2

Product Name	Specification Thickness (mm)	Maximum Unsupported Panel Length	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Warmcel built-up wall panel system	System thickness - 293 (note 1)	Self supporting system on fixed footplate (note 3)	-	-	INT-3	Warmcel 500 cellulose fibre	721a/01
Warmcel built-up ceiling panel system	System thickness - 329.2 (note 2)	Supported on wall panel system (note 4)	-	-	INT-3	Warmcel 500 cellulose fibre	721a/02

Notes:
1) LPCB Ref. No. 721a/01 wall panel build specification
   Inner layer - 2 off layers (staggered joints) 10mm Sasmox Fire resistant & acoustic panel
   Core - 245mm void created by timber I beams at a maximum of 600mm centres, void filled with Warmcel 500 full fill insulation dry fill at 45-55kg/m^3 density
   Outer layer - 2 off layers (staggered joints) 10mm Sasmox Fire resistant & acoustic panel
   Alternative panel types for outer and inner layers- two layers of 10mm Xella Fermacell or 12.5mm Gyproc Fireline wallboard or 12.5mm Lafarge Firecheck wallboard
2) LPCB Ref. No. 721a/02 ceiling panel build specification
   Inner layer - 2 off layers (staggered joints) 10mm Sasmox Fire resistant & acoustic panel
   Core - 300mm void created by timber I beams at a maximum of 600mm centres, void filled with Warmcel 500 full fill insulation dry fill at 45-55kg/m^3 density
   Outer layer - single layer 9.2mm panel vent board
   Alternative panel types for inner layers - two layers of 10mm Xella Fermacell or 12.5mm Gyproc Fireline wallboard or 12.5mm Lafarge Firecheck wallboard
3) No external supports for wall panel system used during test, maximum spans used during test, 10 metre long x 3 metre high.

4) Ceiling panel system supported around perimeter on wall panel system only, no additional external supports used. Maximum spans used during test, 10 metre long x 4.5 metre wide.

Kingspan Limited

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Certificate No: 260c to LPS 1181

Product Name	Specification Thickness (mm)	Maximum Unsupported Panel Length (m)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	Grade	Core Material	LPCB Ref. No.
Kingspan KS1200CS CFC Free (Wall panel)	80, 100, 125, 150 and 180	3.0	-	-	INT-3	PIR	279c/01
Kingspan KS1200CS CFC Free (Ceiling panel)	80, 100, 125, 150 & 180	2.3[1]	-	-	INT-3	PIR	279c/02
Kingspan KS1200CS HCFC Free (Wall panel)	80, 100, 125, 150 and 180	3.0	-	-	INT-3	PIR	279c/03
Kingspan KS1200CS HCFC Free (Ceiling panel)	80, 100, 125, 150 and 180	2.3[1]	-	-	INT-3	PIR	279c/04
Kingspan KS1100CS CFC Free (Wall Panel)	80, 100, 125, 150 and 180	3.0	-	-	INT-3	PIR	279c/05
Kingspan KS1100CS CFC Free (Ceiling Panel)	80, 100, 125, 150 and 180	2.3[1]	-	-	INT-3	PIR	279c/06
Kingspan KS1100CS HCFC Free (Wall Panel)	80, 100, 125, 150 and 180	3.0	-	-	INT-3	PIR	279c/07
Kingspan KS1100CS HCFC Free (Ceiling Panel)	80, 100, 125, 150 and 180	2.3[1]	-	-	INT-3	PIR	279c/08
Kingspan KS1100CS HCFC Free (wall panel) (3)	100, 125, 150 and 180	3.0	40	33	INT-2	PIR	279c/09
Kingspan KS1100CS HCFC Free (ceiling panel) (2)	100, 125, 150 & 180	3.5	62	42	INT-2	PIR	279c/10
Kingspan KS1200CS HCFC Free (wall panel) (3)	100, 125, 150 & 180	3.0	40	33	INT-2	PIR	279c/11
Kingspan KS1200CS HCFC Free (celing panel) (2)	100, 125, 150 and 180	3.5	62	42	INT-2	PIR	279c/12

Notes:
1) The top-hat section used to support the panels should itself be supported by drop roads at no more than 1.5m centres. Ceiling panels are to be stitched externally at 600mm centres.
2) The joints on the ceiling panels (LPCB Ref. No.279c/10 & 279c/12) should be stitched at 250mm centres on both the internal and external faces.
3) Panel joint stitched at 200mm centres on the internal face only.

N.V. Joris IDE

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Certificate No: 700b to LPS 1181: Part 2: Issue 2

Product Name	Specification Thickness (mm)	Maximum Unsupported Length (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
JI 1160 LT (Wall panels) (1)	30 - 200	3.0	-	-	INT-3	PIR	700b/01
JI 1160 LT (Ceiling panel) (2) (3)	30 - 200	3.0	-	-	INT-3	PIR	700b/02

Notes:
1) LPCB Ref. No. 700b/01 wall panels can only be laid vertically.
2) LPCB Ref. No. 700b/02 The top-hat section used to support the panels at 3m centres should its self be supported by drop rods at no more than 1.2m centres.
3) LPCB Ref. No. 700b/02 Ceiling panels can be used with an aluminium standing seam roof sheeting system or a PVC-P membrane

'PODS' are prefabricated units forming a room containing all structural elements and linings and may include services and fittings. This section covers PODS constructed of sandwich panels walls and/or ceilings.

For units listed in this section, the wall and ceiling construction has been tested to the LPS 1181:Part 3 draft requirements to the maximum width in the product range. The testing does not assess the structural performance of the POD under test nor the affect of doors or windows within the structure.

No assessment has been made of the structural performance of the PODS, or of the inclusion of windows and doors.

Modular Panel Systems Limited

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Certificate No: 750a to LPS 1208 Issue 2

Enviro Panel

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Max Unsupported length (m)	Grade	Core Material	LPCB Ref. No.
Enviro Panel PIR (Wall panel)	100 (1) (2)	43	15	3.0	FR15	PIR	0750a/01
	150 (1) (2)	60	48	3.0	FR30	PIR	
Enviro Panel Mineral wool (Wall panel)	100 (1) (3)	121	44	3.0	FR30	Mineral wool	0750a/02
Enviro Panel Mineral wool (Ceiling panel)	150 (2)	121	68	3.0	FR60	Mineral wool	0750a/03

Notes:
1) Wall panels should be installed vertically
2) The joints of the Enviro panels 750a/01 & 750a/03 should be stitched with 4.8mm dia x 10mm stainless steel rivets @ 300mm centres on both the exposed and internal face.
3) The joints of the Enviro panels 750a/02 should be stitched with 3.2mm dia x 12mm stainless steel rivets @ 300mm centres on both the external and internal face.

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Certificate No: 592a to LPS 1181: Issue 3

Yorkon Room and Building Modules

Product Name	Specification (Sandwich panel thickness only) (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Yorkon Room Module (wall) (1,2,3 & 8)	70	60	15	A	PUR	592a/01
Yorkon Room Module (ceiling) (1,4,5 & 8)	47	60	60	A	PUR	592a/02
Yorkon Building Module (wall) (1,2,6,8 & 9)	76 and 89	60	15	A	PUR	592a/03
Yorkon Building Module (ceiling) (1,7,8 & 9)	47	60	60	A	PUR	592a/04
Yorkon Building Module (roof) (1,7,8 & 9)	110	-	-	B	PUR	592a/05

Notes:
1) Test specimen conformed to LPS1181 size requirements, except width was only 3.6m, the maximum width possible for the module.
2) Wall panels laid vertically.

3) Wall inner surface lining 1 layer 15mm thick Gyproc Fireline Duplex Plasterboard.
4) Ceiling inner surface lining 2 layers 15mm thick Gyproc Fireline Plasterboard 83mm below lower surface of PUR sandwich panel.
5) The test specimen for the ceiling fire resistance test was a combined ceiling and floor construction.
6) Wall inner surface lining 1 layer 12.5mm thick Gyproc Fireline Duplex Plasterboard.
7) Inner surface: interior polyester steel.
8) No assessment has been made of the structural performance of the module, or of the inclusion of windows and doors. Therefore there has been no evaluation of the performance should the fire break through a window or door.
9) Test Specimen short wall was 89mm thick and the long walls were 76mm thick.

LPS1181: Part 4 *Requirements and Tests for External Thermal Insulated cladding systems with rendered finishes (ETICS) or Rain Screen Cladding systems (RSC) applied to the face of a building.* The cladding systems listed in this section are either External Thermal Insulated Cladding systems with rendered or brick slips, or similar finishes (ETICS), or to Rain Screen Cladding systems (RSC), applied to the face of a building constructed of masonry external walls for compliance with the LPC Design Guide for the Fire Protection of Buildings:2000.

The standard is intended to represent the action of a fire exiting a window opening and flames impinging on the external surfaces of the cladding system and where a void exists, in the case of rain-screen cladding systems, the extent of fire spread through the void.

The test method BS 8414-1:2002 *Test method for non-loadbearing external cladding systems applied to the face of the building* is used to determine the performance of these cladding systems.

External thermal insulated cladding systems with rendered finishes (ETICS) are systems that are typically applied to a masonry leaf and comprise insulation, supported mechanically to the leaf, directly covered with an external rendering, pre-formed brick slips, or similar. The render, or brick slips, is normally applied over a metal or plastic mesh that provides a suitable key.

Rain screen cladding systems (RSC) are often used for refurbishment of existing buildings where the insulation component is mechanically fixed to the original masonry face of the building, and where the external layer of the cladding system is fixed to additional supporting rails, so that the cladding layer is spaced away from the insulation layer, to form a ventilated void.

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Certificate No: 770a to LPS 1181: Part 4 Issue 1

Product Name	Rainscreen Material	Cassette Height (mm)	Maximum Single Span (mm)	Maximum Horizontal Firebreak Distance (m)	Grade	Insulated Material	LPCB Ref. No.
Optima Rainscreen	Aluminium 1.5mm	500	1500	2.5	RSC-1	Mineral wool 75mm	770a/01
	Aluminium 1.5mm	600	1500	2.5	RSC-1	Mineral wool 75mm	
	Aluminium 1.5mm	750	1500	2.5	RSC-1	Mineral wool 75mm	
	Aluminium 1.5mm	900	1350	2.5	RSC-1	Mineral wool 75mm	
	Aluminium 1.5mm	1100	1200	2.5	RSC-1	Mineral wool 75mm	
	Aluminium 2.0mm	500	1800	2.5	RSC-1	Mineral wool 75mm	770a/02
	Aluminium 2.0mm	600	1800	2.5	RSC-1	Mineral wool 75mm	
	Aluminium 2.0mm	750	1800	2.5	RSC-1	Mineral wool 75mm	
	Aluminium 2.0mm	900	1500	2.5	RSC-1	Mineral wool 75mm	

Product Name	Rainscreen Material	Cassette Height (mm)	Maximum Single Span (mm)	Maximum Horizontal Firebreak Distance (m)	Grade	Insulated Material	LPCB Ref. No.
	Aluminium 2.0mm	1100	1200	2.5	RSC-1	Mineral wool 75mm	
	Aluminium 3.0mm	500	1800	2.5	RSC-1	Mineral wool 75mm	770a/03
	Aluminium 3.0mm	600	1800	2.5	RSC-1	Mineral wool 75mm	
	Aluminium 3.0mm	750	1800	2.5	RSC-1	Mineral wool 75mm	
	Aluminium 3.0mm	900	1600	2.5	RSC-1	Mineral wool 75mm	
	Aluminium 3.0mm	1200	1500	2.5	RSC-1	Mineral wool 75mm	

Note:
LPCB Ref. No. 770a/01, 770a/02 & 770a/03 - Multiple spans are allowable provided that the intermediate supports are installed at centres not exceeding the maximum single span distances. Maximum depth of cladding zone 200mm

LPS 1208 *LPCB test and performance requirements for walls, cavity barriers, floors and roofs* defines the test and performance requirements to satisfy the fire resistance requirements for compartmentation given in the LPC Design Guide for the Fire Protection of Buildings:2000.

The panel systems listed in this section are used internally (e.g., food factory clean rooms, cold stores, refrigerated spaces, etc.), and are either self-supporting or supported externally. Panels used for the external envelope of a building are covered in Section 2.2.1.

All the products listed meet the requirements of the LPC Design Guide for the Fire Protection of Buildings:2000.

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Certificate No: 562a to LPS 1208

Eurofoam panels

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
HPI Eurofoam (3) PIR (Wall panel)	100	30	30	3.00	FR30	HCFC-free PIR	562a/03
	125	30	30	3.00	FR30	HCFC-free PIR	
	200	60	60	4.00	FR60	HCFC-free PIR	
PI Eurofoam (1) PIR (Wall panel)	150	30	30	3.0	FR30	HCFC-free PIR	562a/04
	175	30	30	3.00	FR30	HCFC-free PIR	
	200	30	30	3.00	FR30	HCFC-free PIR	
PI Eurofoam (2) PIR (Ceiling panel)	100	44	43	4.00	FR30	HCFC-free PIR	562a/05
	125	44	43	4.00	FR30	HCFC-free PIR	
	150	45	39	4.15	FR30	HCFC-free PIR	
	175	45	39	4.15	FR30	HCFC-free PIR	
	200	66	64	4.00	FR60	HCFC-free PIR	

Notes:
1) Wall panels should be installed vertically.
2) The joints on the Eurofoam PIR ceiling panel (LPCB Ref. No. 562a/05) should be stitched at 200mm centres on both the internal and external faces.
3) Panel joint stitched at 200mm centres on internal (ie fire side) face.

Eurobond Laminates Limited

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Certificate No: 545a to LPS 1208: Issue 2

Firemaster Wall Extra

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Firemaster Wall Extra	60	3.0	60	30	FR30	Mineral fibre	545a/01
	75	3.0	60	60	FR60	Mineral fibre	
	100	5.5	120	120	FR120	Mineral fibre	
	100	6.0	60	60	FR60	Mineral fibre	
	100	7.5	30	30	FR30	Mineral fibre	
	125	5.5	120	120	FR120	Mineral fibre	
	125	6.0	60	60	FR60	Mineral fibre	
	125	7.5	30	30	FR30	Mineral fibre	
	150	5.5	120	120	FR120	Mineral fibre	
	150	6.0	60	60	FR60	Mineral fibre	
	150	7.5	30	30	FR30	Mineral fibre	
	175	5.5	120	120	FR120	Mineral fibre	
	175	6.0	60	60	FR60	Mineral fibre	
	175	7.5	30	30	FR30	Mineral fibre	
	200	5.5	120	120	FR120	Mineral fibre	
	200	6.0	60	60	FR60	Mineral fibre	
	200	7.5	30	30	FR30	Mineral fibre	

Notes:
1) LPCB ref 545a/01 - Wall panels can be installed vertically or horizontally.
2) LPCB ref 545a/01 - Where Eurobond 120 rock fibre insulation core is used in the 100mm thick panels, the fire resistance insulation performance is limited to 90 minutes (FR90) for maximum unsupported lengths of 5.5m

Certificate No: 545a to LPS 1208: Issue 2

Firemaster Ceiling Panel

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Firemaster Ceiling Panel	100	4.2	60	60	FR60	Mineral fibre	545a/02
	125	4.2	60	60	FR60	Mineral fibre	

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
	150	4.2	60	60	FR60	Mineral fibre	
	150	30	30	6.0	FR30	Mineral fibre	
	150	60	60	6.0	FR60	Mineral fibre	
	150	90	90	4.8	FR90	Mineral fibre	
	150	146	142	3.6	FR120	Mineral fibre	

Notes:
1) LPCB ref 545a/02 - Ceiling panels to be stitched on both internal and external faces using 3.8mm diameter x 16mm long stainless steel rivets or 4.7mm diameter x 20mm long steel stitching screws at 300mm centres.

Certificate No: 545a to LPS 1208: Issue 2

Firemaster Wall Lite

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Firemaster Wall Lite	60	3.0	60	30	FR30	Mineral fibre	545a/03
	75	3.0	60	30	FR30	Mineral fibre	
	100	4.0	90	60	FR60	Mineral fibre	
	100	4.5	60	60	FR60	Mineral fibre	
	100	5.5	30	30	FR30	Mineral fibre	
	125	4.0	90	60	FR60	Mineral fibre	
	125	4.5	60	60	FR60	Mineral fibre	
	125	5.5	30	30	FR30	Mineral fibre	
	150	5.0	90	90	FR90	Mineral fibre	
	150	5.0	120	90	FR90	Mineral fibre	
	150	5.5	60	60	FR60	Mineral fibre	
	175	5.0	90	90	FR90	Mineral fibre	
	175	5.0	120	90	FR90	Mineral fibre	
	175	5.5	60	60	FR60	Mineral fibre	
	200	5.0	90	90	FR90	Mineral fibre	
	200	5.0	120	90	FR90	Mineral fibre	
	200	5.5	60	60	FR60	Mineral fibre	

Notes:
1) LPCB ref 545a/03 - Wall panels can be installed vertically or horizontally.

Certificate No: 545a to LPS 1208: Issue 2

Europanel Extra (Wall panel)

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Europanel Extra (Wall panel)	86	3.0	60	60	FR60	Mineral fibre	545a/05
	113	5.5	90	60	FR60	Mineral fibre	
	113	6.0	60	60	FR60	Mineral fibre	
	113	7.5	30	30	FR30	Mineral fibre	
	125	5.5	90	90	FR90	Mineral fibre	
	125	6.0	60	60	FR60	Mineral fibre	
	125	7.5	30	30	FR30	Mineral fibre	
	135	5.5	90	90	FR90	Mineral fibre	
	135	6.0	60	60	FR60	Mineral fibre	
	135	7.5	30	30	FR30	Mineral fibre	
	150	5.5	120	120	FR120	Mineral fibre	
	150	6.0	60	60	FR60	Mineral fibre	
	150	7.5	30	30	FR30	Mineral fibre	
	160	5.5	120	120	FR120	Mineral fibre	
	160	6.0	60	60	FR60	Mineral fibre	
	160	7.5	30	30	FR30	Mineral fibre	

Notes:
1) LPCB ref 545a/05 - Wall panels can be installed vertically or horizontally.

Certificate No: 545a to LPS 1208: Issue 2

Europanel Premier (Wall panel)

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Europanel Premier (Wall panel)	86	3.0	60	30	FR30	Mineral fibre	545a/06
	113	4.0	90	60	FR60	Mineral fibre	
	113	4.5	60	60	FR60	Mineral fibre	
	113	5.5	30	30	FR30	Mineral fibre	
	125	1.5	60	60	FR60	Mineral fibre	
	125	4.0	90	60	FR60	Mineral fibre	
	125	5.5	30	30	FR30	Mineral fibre	
	135	4.0	90	60	FR60	Mineral fibre	
	135	4.5	60	60	FR60	Mineral fibre	
	135	5.5	30	30	FR30	Mineral fibre	
	150	5.0	120	90	FR90	Mineral fibre	

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
	150	5.5	30	30	FR30	Mineral fibre	
	150	5.5	60	60	FR60	Mineral fibre	
	160	5.5	30	30	FR30	Mineral fibre	
	160	5.5	60	60	FR60	Mineral fibre	

Notes:
1) LPCB ref 545a/06 - Wall panels can be installed vertically or horizontally.

Certificate No: 545a to LPS 1208: Issue 2

Europanel Lite (Wall panel)

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Europanel Lite (Wall panel)	86	3.0	60	60	FR30	Mineral fibre	545a/07
	113	4.0	90	60	FR60	Mineral fibre	
	113	4.5	60	60	FR60	Mineral fibre	
	113	5.5	30	30	FR30	Mineral fibre	
	125	4.0	90	60	FR60	Mineral fibre	
	125	4.5	60	60	FR60	Mineral fibre	
	125	5.5	30	30	FR30	Mineral fibre	
	135	4.0	90	60	FR60	Mineral fibre	
	135	4.5	60	60	FR60	Mineral fibre	
	135	5.5	30	30	FR30	Mineral fibre	
	150	5.0	120	90	FR90	Mineral fibre	
	150	5.5	30	30	FR30	Mineral fibre	
	150	5.5	60	60	FR60	Mineral fibre	
	160	5.0	120	90	FR90	Mineral fibre	
	160	5.5	30	30	FR30	Mineral fibre	
	160	5.5	60	60	FR60	Mineral fibre	

Notes:
1) LPCB ref 545a/07 - Wall panels can be installed vertically or horizontally.

Certificate No: 545a to LPS 1208: Issue2

Rockspan Extra (Wall panel)

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Rockspan Extra (Wall panel)	60	3.0	60	30	FR30	Mineral fibre	545a/08
	75	3.0	60	60	FR60	Mineral fibre	
	100	5.5	120	120	FR120	Mineral fibre	
	100	6.0	60	60	FR60	Mineral fibre	
	100	7.5	30	30	FR30	Mineral fibre	
	125	5.5	120	120	FR120	Mineral fibre	
	125	6.0	60	60	FR60	Mineral fibre	
	125	7.5	30	30	FR30	Mineral fibre	
	150	5.5	120	120	FR120	Mineral fibre	
	150	6.0	60	60	FR60	Mineral fibre	
	150	7.5	30	30	FR30	Mineral fibre	
	175	5.5	120	120	FR120	Mineral fibre	
	175	6.0	60	60	FR60	Mineral fibre	
	175	7.5	30	30	FR30	Mineral fibre	

Notes:
1) LPCB ref 545a/08 - Wall panels can be installed vertically or horizontally.
2) LPCB ref 545a/08 - Where Eurobond 120 rock fibre insulation core is used in the 100mm thick panels, the fire resistance insulation performance is limited to 90 minutes (FR90) for maximum unsupported lengths of 5.5m

Certificate No: 545a to LPS 1208: Issue 2

Rockspan Lite (Wall panel)

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Rockspan Lite (Wall panel)	60	3.0	60	30	FR30	Mineral fibre	545a/09
	75	3.0	60	30	FR30	Mineral fibre	
	100	4.0	90	60	FR60	Mineral fibre	
	100	4.5	60	60	FR60	Mineral fibre	
	100	5.5	30	30	FR30	Mineral fibre	
	125	4.0	90	60	FR60	Mineral fibre	
	125	4.5	60	60	FR60	Mineral fibre	
	125	5.5	30	30	FR30	Mineral fibre	
	150	5.0	120	90	FR90	Mineral fibre	
	150	5.5	30	30	FR30	Mineral fibre	
	150	5.5	60	60	FR60	Mineral fibre	

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
	175	5.0	120	90	FR90	Mineral fibre	
	175	5.5	30	30	FR30	Mineral fibre	
	175	5.5	60	60	FR60	Mineral fibre	

Notes:
1) LPCB ref 545a/09 - Wall panels can be installed vertically or horizontally.

Certificate No: 545a to LPS 1208: Issue 2

Rockspan Ultima (Wall panel)

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Rockspan Ultima (Wall panel)	150	7.5	240	240	FR240	Mineral fibre	545a/10
	175	7.5	240	240	FR240	Mineral fibre	

Notes:
1) LPCB ref 545a/10 - Wall panels can be installed vertically or horizontally.
2) LPCB ref 545a/10 - Rockspan Ultima wall panel joints to be stitched on both internal and external faces using 4.7mm diameter x 20mm long self-tapping screws at 300mm centres.

Certificate No: 545a to LPS 1208: Issue 2

Firemaster Wall Ultima

Product Name	Specification Thickness (mm)	Maximum Unsupported span (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Core	Core Material	LPCB Ref. No.
Firemaster Wall Ultima	150	7.5	240	240	FR240	Mineral fibre	545a/11
	175	7.5	240	240	FR240	Mineral fibre	
	200	7.5	240	240	FR240	Mineral fibre	

Notes:
1) LPCB ref 545a/11 - Wall panels can be installed vertically or horizontally.
2) LPCB ref 545a/11 - Firemaster Wall Ultima wall panel joints to be stitched on both internal and external faces using 4.7mm diameter x 20mm long self-tapping screws at 300mm centres.

Haironville TAC Limited

Abbotsfield Road, Abbotsfield Industrial Estate, St Helens, Merseyside WA9 4HU UK
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E-mail: sales@haironvilletac.co.uk • Website: www.haironvilletac.co.uk

Certificate No: 737a to LPS 1208: Issue 2

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Promfire Through Fix (Wall panel)	100 (1)(3)	30	30	5.5	FR30	Mineral fibre	737a/01
	100 (1)(3)	60	60	5.5	FR60	Mineral fibre	
	100 (1)(3)	90	60	4.5	FR60	Mineral fibre	
	100 (1)(3)	120	60	3.5	FR60	Mineral fibre	
	120 (1)(2)	30	30	5.5	FR30	Mineral fibre	
	120 (1)(2)	60	60	5.5	FR60	Mineral fibre	
	120 (1)(2)	90	90	5.5	FR90	Mineral fibre	
	120 (1)(2)	120	120	4.0	FR120	Mineral fibre	
	150 (1)(3)	30	30	5.5	FR30	Mineral fibre	
	150 (1)(3)	60	60	5.5	FR60	Mineral fibre	
	150 (1)(3)	90	90	5.5	FR90	Mineral fibre	
	150 (1)(3)	120	120	4.0	FR120	Mineral fibre	
	200 (1)(3)	30	30	5.5	FR30	Mineral fibre	
	200 (1)(3)	90	90	5.5	FR90	Mineral fibre	
	200 (1)(3)	120	120	4.0	FR120	Mineral fibre	
	200 (1)(3)	120	120	4.0	FR120	Mineral fibre	
	80 (1)(3)	30	30	5.5	FR30	Mineral fibre	
	80 (1)(3)	60	60	5.5	FR60	Mineral fibre	
	80 (1)(3)	90	60	4.5	FR60	Mineral fibre	
	80 (1)(3)	120	60	3.5	FR60	Mineral fibre	
Promfire Secret Fix (Wall panel)	120 (2)(3)	30	30	5.5	FR30	Mineral fibre	737a/02
	120 (2)(3)	60	60	4.0	FR60	Mineral fibre	
	150 (2)(3)	30	30	5.5	FR30	Mineral fibre	
	150 (2)(3)	60	60	4.0	FR60	Mineral fibre	
	200 (2)(3)	30	30	5.5	FR30	Mineral fibre	
	200 (2)(3)	60	60	4.0	FR60	Mineral fibre	

Notes:
1) Promfire Through Fix wall panels should be installed vertically.
2) Promfire Secret Fix wall panels should be installed horizontally.
3) Promfie panels available with 0.5 to 0.63mm smooth, ribbed or grooved internal steel facing and 0.5 to 0.75mm smooth, ribbed, micro-ribbed or grooved external steel facing.

Hemsec Manufacturing Limited

Stoney Lane, Rainhill, Prescot, Merseyside L35 9LL UK
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Certificate No: 558a to LPS 1208: Issue 2

Composite panels

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Hemsec PIR Firecheck (Wall panel) (1)(2)	100	35	33	4	FR30	PIR	558a/09
	125	35	33	4	FR30	PIR	
	150	35	33	4	FR30	PIR	
	175	35	33	4	FR30	PIR	
Hemsec PIR Firecheck (Ceilng panel) (3)	150	52	37	3	FR30	PIR	558a/10
Hemsec PIR Firecheck (Celing panel) (3)	125	52	37	3	FR30	PIR	
	125	52	37	3	FR30	PIR	
	175	52	37	3	FR30	PIR	

Notes:
1) Wall panels should be installed vertically
2) The joints on the Firecheck wall panel (558a/09) should be stitched at 300mm centres on the internal and external face.

3) The joints on the Firecheck ceiling panel (558a/10) should be stitched at 300mm centres on the internal and external face.

Insulation Industries Limited

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Certificate No: 678a to LPS 1208: Issue 2

Wall panel

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Isowall	100	98	98	4.0	FR90	Mineral wool	678a/01
	125	120	120	3.0	FR120	Mineral wool	
	150	265	208	3.0	FR120	Mineral wool	
	150	265	208	4.0	FR90	Mineral wool	

Notes:
1) Wall panels to be installed vertically

ISOCAB France S.A.

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Certificate No: 465b to LPS 1208

PIR Panels

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Length (m)	Grade	Core Material	LPCB Ref. No.
IND PIR (Wall panel)	110	37	37	4.5	FR30	PIR	465b/01
	120	37	37	4.5	FR30	PIR	
	140	37	37	4.5	FR30	PIR	
	170	37	37	4.5	FR30	PIR	
	200	68	68	4.5	FR60	PIR	
	220	68	68	4.5	FR60	PIR	
IND 20 PIR (Ceiling panel)	200	42	42	4.4	FR30	PIR	465b/03

Notes:
1) LPCB Ref No. 465b/01 wall panels should be installed vertically.
2) LPCB Ref No. 465b/03 the joints on the ceiling panels should be stitched at 300mm centres on the external face.

Isoclad Limited

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Tel: +44 (0) 191 2585052 • Fax: +44 (0) 191 2595742
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Certificate No: 142a to LPS 1208: Issue 2

Product Name	Specification Thickness (mm)	Maximum Unsupported Panel Length (m)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	Core Material	LPCB Ref. No.
Isoclad MF60W (Wall panel)	100 to 200	3.0	60	60	FR60	Mineral fibre	142a/01
	100 to 200	5.5	30	30	FR30	Mineral fibre	
Isoclad MF120W (Wall panel)	100 to 200	3.0	120	90	FR90	Mineral fibre	142a/02
	100 to 200	4.0	90	90	FR90	Mineral fibre	
	100 to 200	5.5	30	30	FR30	Mineral fibre	
	100 to 200	5.5	60	60	FR60	Mineral fibre	
Isoclad MF60W (Ceiling panel)	100 to 200	3.0	60	60	FR60	Mineral fibre	142a/03
	100 to 200	5.5	30	30	FR30	Mineral fibre	
LPCCP Firestop 1200 (Ceiling panel)	125 to 150	4.0	60	30	FR30	PIR with mineral fibre edge strip	142a/04

Note:
1) The joints on the MF60C ceiling panels LPCB Ref. No. 142a/03 should be stitched with 3mm diameter rivets at 300mm centres on the internal and external face.

Kingspan Controlled Environments Ltd

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Certificate No: 562a to LPS 1208

Product Name	Specification Thickness (mm)	Fire resistance (min) Integrity	Fire resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
KS1150CS(3) (Wall panel)	100	30	30	3.00	FR30	HCFC-free PIR	562a/01
	125	30	30	3.00	FR30	HCFC-free PIR	
	200	60	60	4.00	FR60	HCFC-free PIR	
KS1150CD(1) (Wall panel)	150	30	30	3.00	FR30	HCFC-free PIR	562a/02
	175	30	30	3.00	FR30	HCFC-free PIR	
	200	30	30	3.00	FR30	HCFC-free PIR	
KS1150CS(2) (Ceiling panel)	100	44	43	4.00	FR30	HCFC-free PIR	562a/03
	125	44	43	4.00	FR30	HCFC-free PIR	
	150	45	39	4.15	FR30	HCFC-free PIR	
	175	45	39	4.15	FR30	HCFC-free PIR	
	200	66	64	4.00	FR60	HCFC-free PIR	

Notes:
1) Wall panels should be installed vertically.
2) The joints on the KS1150CS ceiling panel (LPCB Ref. No. 562a/03) should be stitched at 200mm centres on both the internal and external faces.
3) Panel joint stitched at 200mm centres on internal (ie fire side) face.

Kingspan Limited

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Certificate No: 260b to LPS 1208: Issue 1

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Kingspan KS1000RW/LPC (Ceiling panel)	100	60	37	6.0	Normal Risk	PIR	186b/01
Kingspan KS1000RW/LPC (Wall panel)	100	240	31	4.0	Normal Risk	PIR	

Notes:
1) Wall panels are orientated vertically.
2) Both wall and ceiling panels require internal steel flashings 0.7mm thick x 150mm wide, stitched at 200mm centres, to obtain fire resistance.

Kingspan Limited

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Certificate No: 260b to LPS 1208: Issue 2

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Kingspan KS1200CS (Wall panel)	150	48	47	3.00	FR30	PIR	279b/01
	180	54	49	3.00	FR30	PIR	
	100[1]	30	30	3.00	FR30	PIR	
	180[1]	109	69	3.00	FR60	PIR	
Kingspan KS1200CS (Ceiling panel)	100[1]	30	30	3.00	FR30	PIR	279b/02
	150[1]	132	52	3.00	FR30	PIR	
	180[1]	132	52	3.00	FR30	PIR	
Kingspan KS1200CS HCFC Free (Wall panel) (2) (4)	100	40	33	3.0	FR30	PIR	279b/03
Kingspan KS1200CS HCFC Free (Ceiling panel) (3)	100	62	42	3.5	FR30	PIR	279b/04

Notes:
1) The joints on the 100m thick FR30 wall panel, 180mm thick FR60 wall panel and all the ceiling panels should be stitched at 600mm centres on the external face.
2) Wall panels should be installed vertically.
3) The joints on the ceiling panels (LPCB Ref. No.279c/10 & 279c/12) should be stitched at 250mm centres on both the internal and external faces.
4) Panel joint stitched at 200mm centres on the internal face only

Paroc Panel System Oy Ab

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E-mail: panelinfo@paroc.com • Website: www.paroc.com

Certificate No: 381a to LPS 1208: Issue 2

Paroc 50F (Wall panel)

Product Name	Specification Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Paroc 50F (Wall panel)	50	46	46	4.6	FR30	Mineral wool	381a/01
	80	30	30	4.6	FR30	Mineral wool	
	80	60	60	4.0	FR60	Mineral wool	
	80	105	102	4.0	FR90	Mineral wool	
	100	30	30	6.1	FR30	Mineral wool	
	100	60	60	4.0	FR60	Mineral wool	
	100	90	90	4.0	FR90	Mineral wool	
	100	252	164	4.0	FR120	Mineral wool	
	120	30	30	6.1	FR30	Mineral wool	
	120	60	60	4.0	FR60	Mineral wool	
	120	90	90	4.0	FR90	Mineral wool	
	120	252	164	4.0	FR120	Mineral wool	
	150	30	30	8.0	FR30	Mineral wool	
	150	60	60	7.5	FR60	Mineral wool	
	150	90	90	4.0	FR90	Mineral wool	
	150	120	120	4.0	FR120	Mineral wool	
	150	205	198	4.0	FR180	Mineral wool	
	175	30	30	8.0	FR30	Mineral wool	
	175	60	60	7.5	FR60	Mineral wool	
	175	90	90	4.0	FR90	Mineral wool	
	175	120	120	4.0	FR120	Mineral wool	
	175	205	198	4.0	FR180	Mineral wool	
	200	30	30	8.0	FR30	Mineral wool	
	200	60	60	7.5	FR60	Mineral wool	
	200	90	90	7.5	FR90	Mineral wool	
	200	120	120	7.5	FR120	Mineral wool	
	200	180	180	7.5	FR180	Mineral wool	
	200	362	286	6.2	FR240	Mineral wool	
	240	30	30	8.0	FR30	Mineral wool	
	240	60	60	7.5	FR60	Mineral wool	
	240	90	90	7.5	FR90	Mineral wool	
	240	120	120	7.5	FR120	Mineral wool	
	240	180	180	7.5	FR180	Mineral wool	
	240	362	286	6.2	FR240	Mineral wool	

Notes:
1) LPCB Ref 381a/01, Wall panels can be installed vertically or horizontally.
2) LPCB Ref 381a/01, Wall panels approved for use with or without TT-13 mastic sealant and with or without OS-11 'O' ring seal.

Paroc 50C (Wall panel)

Product Name	Specification Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Paroc 50C (Wall panel)	80	30	30	7.5	FR30	Mineral wool	381a/02
	80	60	30	5.3	FR30	Mineral wool	
	80	90	30	4.0	FR30	Mineral wool	
	100	30	30	5.6	FR30	Mineral wool	
	100	84	78	4.0	FR60	Mineral wool	
	120	30	30	5.6	FR30	Mineral wool	
	120	60	60	4.0	FR60	Mineral wool	
	150	30	30	8.0	FR30	Mineral wool	
	150	60	60	6.7	FR60	Mineral wool	

Product Name	Specification Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
	150	90	90	4.0	FR90	Mineral wool	
	175	30	30	8.0	FR30	Mineral wool	
	175	60	60	6.7	FR60	Mineral wool	
	175	90	90	4.0	FR90	Mineral wool	
	200	30	30	8.0	FR30	Mineral wool	
	200	60	60	7.5	FR60	Mineral wool	
	200	90	90	7.5	FR90	Mineral wool	
	200	120	120	4.6	FR120	Mineral wool	
	200	180	180	4.0	FR180	Mineral wool	
	200	265	246	4.0	FR240	Mineral wool	
	240	30	30	8.0	FR30	Mineral wool	
	240	60	60	7.5	FR60	Mineral wool	
	240	90	90	7.5	FR90	Mineral wool	
	240	120	120	4.6	FR120	Mineral wool	
	240	190	187	4.0	FR180	Mineral wool	

Notes:
1) LPCB Ref 381a/02, Wall panels can be installed vertically or horizontally.
2) LPCB Ref 381a/02, Wall panels approved for use with or without TT-13 mastic sealant and with or without OS-11 'O' ring seal.

Paroc 75F (Wall panel)

Product Name	Specification Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Paroc 75F (Wall panel)	80	30	30	4.6	FR30	Mineral wool	381a/03
	80	60	60	4.0	FR60	Mineral wool	
	80	105	102	4.0	FR90	Mineral wool	
	100	30	30	6.1	FR30	Mineral wool	
	100	60	60	4.0	FR60	Mineral wool	
	100	90	90	4.0	FR90	Mineral wool	
	100	252	164	4.0	FR120	Mineral wool	
	120	30	30	6.1	FR30	Mineral wool	
	120	60	60	4.0	FR60	Mineral wool	
	120	90	90	4.0	FR90	Mineral wool	
	120	252	164	4.0	FR120	Mineral wool	
	150	30	30	8.0	FR30	Mineral wool	
	150	60	60	7.5	FR60	Mineral wool	
	150	90	90	4.0	FR90	Mineral wool	
	150	120	120	4.0	FR120	Mineral wool	
	150	205	198	4.0	FR180	Mineral wool	
	175	30	30	8.0	FR30	Mineral wool	
	175	60	60	7.5	FR60	Mineral wool	
	175	90	90	4.0	FR90	Mineral wool	
	175	120	120	4.0	FR120	Mineral wool	
	175	205	198	4.0	FR180	Mineral wool	
	200	30	30	8.0	FR30	Mineral wool	
	200	60	60	7.5	FR60	Mineral wool	
	200	90	90	7.5	FR90	Mineral wool	
	200	120	120	7.5	FR120	Mineral wool	
	200	180	180	7.5	FR180	Mineral wool	
	200	362	286	6.2	FR240	Mineral wool	
	240	30	30	8.0	FR30	Mineral wool	
	240	60	60	7.5	FR60	Mineral wool	
	240	90	90	7.5	FR90	Mineral wool	
	240	120	120	7.5	FR120	Mineral wool	
	240	180	180	7.5	FR180	Mineral wool	
	240	362	286	6.2	FR240	Mineral wool	

Notes:
1) LPCB Ref 381a/03, Wall panels can be installed vertically or horizontally.
3) LPCB Ref 381a/03, Wall panels approved for use with or without TT-13 mastic sealant and with or without OS-11 'O' ring seal.

Paroc 75F (Ceiling panel)

Product Name	Specification Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Paroc 75F (Ceiling panel)	100	30	30	5.0	FR30	Mineral wool	381a/04
	100	60	60	5.0	FR60	Mineral wool	
	100	93	91	5.0	FR90	Mineral wool	
	120	30	30	5.0	FR30	Mineral wool	
	120	60	60	5.0	FR60	Mineral wool	
	120	93	91	5.0	FR90	Mineral wool	
	150	30	30	5.0	FR30	Mineral wool	
	150	60	60	5.0	FR60	Mineral wool	
	150	93	91	5.0	FR90	Mineral wool	
	175	30	30	5.0	FR30	Mineral wool	
	175	60	60	5.0	FR60	Mineral wool	
	175	93	91	5.0	FR90	Mineral wool	
	200	30	30	5.0	FR30	Mineral wool	
	200	60	60	5.0	FR60	Mineral wool	
	200	93	91	5.0	FR90	Mineral wool	
	240	30	30	5.0	FR30	Mineral wool	
	240	60	60	5.0	FR60	Mineral wool	
	240	93	91	5.0	FR90	Mineral wool	

Notes:
1) LPCB Ref. 381a/04, Ceiling panels require external stitching at 500mm centres.

Paroc 35C (Wall panel)

Product Name	Specification Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Paroc 35C (Wall panel)	100	51	51	4.9	FR30	Mineral wool	381a/05
	120	51	51	4.9	FR30	Mineral wool	
	150	51	51	4.9	FR30	Mineral wool	
	175	51	51	4.9	FR30	Mineral wool	
	200	51	51	49	FR30	Mineral wool	
	240	51	51	4.9	FR30	Mineral wool	

Notes:
1) LPCB Ref 381a/05, Wall panels can be installed vertically or horizontally.
2) LPCB Ref 381a/05, Wall panels approved for use with or without TT-13 mastic sealant and with or without OS-11 'O' ring seal.

Promat UK Ltd

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Website: www.promat.co.uk

Certificate No: 545a to LPS 1208: Issue 2

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grading	Core Material	LPCB Ref. No.
Durawall 120	150	120	120	5.50	FR120	Mineral fibre	545a/01
Durawall 90	125	90	90	5.50	FR90	Mineral fibre	
Durawall 60	100	60	60	4.50	FR60	Mineral fibre	545a/03
Durawall 240	150	240	240	7.50	FR240	Mineral fibre	545a/11

Notes:
1) LPCB Ref. No's 545a/01, 545a/03 and 545a/11 - Wall panels can be installed vertically or horizontally.

2) LPCB Ref. No's 545a/11 - wall panel joints to be stitched on both internal and external faces using 4.7mm Diameter x 20mm long self-tapping screws at 300mm centres.

Rautaruukki Oyj

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Certificate No: 660a to LPS 1208

Rannila R50 (Wall panel)

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Rannila R50 (Wall panel)	80[2]	30	30	5.0	FR30	Mineral wool	660a/01
	100[1]	60	60	4.0	FR60	Mineral wool	
	100[1]	60	60	5.0	FR60	Mineral wool	
	100[1]	90	60	3.5	FR60	Mineral wool	
	100[1]	30	30	5.0	FR30	Mineral wool	
	100[3]	30	30	7.5	FR30	Mineral wool	
	100[4]	90	90	4.0	FR90	Mineral wool	
	100[4]	120	120	3.0	FR120	Mineral wool	
	125[1]	30	30	5.0	FR30	Mineral wool	
	125[1]	30	30	7.5	FR30	Mineral wool	
	125[1]	60	60	5.0	FR60	Mineral wool	
	125[1]	60	60	7.5	FR60	Mineral wool	
	125[1]	90	90	7.5	FR90	Mineral wool	
	125[1]	120	120	6.0	FR120	Mineral wool	
	125[1]	180	180	4.0	FR120	Mineral wool	
	125[1]	240	180	3.5	FR120	Mineral wool	
	125[1]	90	90	4.0	FR90	Mineral wool	
	125[1]	120	120	3.0	FR120	Mineral wool	
	150[1]	30	30	7.5	FR30	Mineral wool	
	150[1]	60	60	7.5	FR60	Mineral wool	
	150[1]	90	90	7.5	FR90	Mineral wool	
	150[1]	120	120	6.0	FR120	Mineral wool	
	150[1]	180	180	4.0	FR120	Mineral wool	
	150[1]	240	240	3.0	FR240	Mineral wool	
	200[1]	30	30	7.5	FR30	Mineral wool	
	200[1]	60	60	7.5	FR60	Mineral wool	
	200[1]	90	90	7.5	FR90	Mineral wool	
	200[1]	120	120	6.0	FR120	Mineral wool	
	200[1]	180	180	4.0	FR120	Mineral wool	
	200[1]	240	240	3.0	FR240	Mineral wool	
	80 [1]	60	60	3.5	FR60	Mineral wool	

Notes:
1) Teknosafe 100 applied to panel edges. No stitching.
2) Stitching at 200mm centres.
3) Teknosafe 100 applied to panel edges. Stitching at 500mm centres.
4) Teknosafe 100 applied to panel edges. Stitching at 300mm centres.
5) Teknosafe 100 applied to panel edges. Stitching at 400mm centres.

Rannilla G80 (Wall panel)

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Rannilla G80 (Wall panel)	100[1]	30	30	3.0	FR30	Glass wool	660a/02
	100[1]	30	30	7.5	FR30	Glass wool	
	100[1]	60	60	6.0	FR60	Glass wool	
	100[5]	90	60	4.0	FR60	Glass wool	
	150[1]	30	30	5.0	FR30	Glass wool	
	150[1]	60	60	3.0	FR60	Glass wool	

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
	200[1]	30	30	5.0	FR30	Glass wool	
	200[1]	60	60	3.0	FR60	Glass wool	

Notes:
1) Teknosafe 100 applied to panel edges. No stitching.
2) Stitching at 200mm centres.
3) Teknosafe 100 applied to panel edges. Stitching at 500mm centres.
4) Teknosafe 100 applied to panel edges. Stitching at 300mm centres.
5) Teknosafe 100 applied to panel edges. Stitching at 400mm centres.

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Rockwool Firepro SP Firestop Slabs

Product Name	Cavity Width (mm)	Slab Size (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	LPCB Ref. No.
Rockwool Firepro SP 60 Firestop Slab	50 - 400	900 x 650 x 75	60	60	022b/01
Rockwool Firepro SP 120 Firesop Slab	50 - 400	900 x 650 x 90	120	120	022b/02

Notes:
1) This product is suitable for sealing gaps between a concrete or composite concrete/metal floors and an adjacent masonry, cladding/panel system with non-combustible core or curtain wall, or between the leaves of a masonry cavity wall.
2) For cavity widths of 250mm or more, joints between adjacent lengths of firestops should be sealed on the top surfacewith aluminium foil tape.
3) Refer to manufacturer's technical literature for fixing details.

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Linear and Trapezoidal Firestop Systems

Product Name	Wall Width (mm)	Firestop Width (mm)	Application	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	LPCB Ref. No.
Rockwool Firepro Linear and Trapezoidal Firestop Systems	100	100	Concrete deck over blockwork wall	120	120	022b/03
	100	100	Profiled metal deck over blockwork wall	120	120	
	100	100	Profiled metal deck under lightweight concrete cover over blockwork wall	120	120	
	100	400+[1]	Profiled metal deck over blockwork wall	180	180	
	100	300[1]	Concrete deck over blockwork wall	180	180	
	150	150	Concrete deck over blockwork wall	180	180	
	150	150	Profiled metal deck over blockwork wall	180	180	
	150	150	Profiled metal deck under lightweight concrete cover over blockwork wall	180[2]	180[2]	
	150	400+[1]	Profiled metal deck over blockwork wall	180	180	
	150	300[1]	Concrete deck over blockwork wall	240	240	
	200	200	Concrete deck over blockwork wall	240	240	

Product Name	Wall Width (mm)	Firestop Width (mm)	Application	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	LPCB Ref. No.
	200	200	Profiled metal deck over blockwork wall	240	240	
	200	200	Profiled metal deck under lightweight concrete cover over blockwork wall	240	240	
	200	400+[1]	Profiled metal deck over blockwork wall	240	240	
	200	300[1]	Concrete deck over blockwork wall	240	240	

Notes:
1) Extended firestopping may need to be supported by fire resistant fixings to soffits to avoid edge sag, depending on overhang and soffit flatness. Supports are essential for extensions greater than 100mm.
2) The insulation and integrity ratings may be extended to 240mins where the profiles in the metal deck run along the wall.
3) All systems are made up using Linear Firestop 2, Linear Firestop 3A and/or Trapezoidal Firestop 3B.
4) The systems may also be installed between a profiled metal deck with or without lightweight concrete and a universal beam. The Fire resistance of the Linear and Trapezoidal Firestop will be the same as that achieved by the fire protection used for the beam.
5) The height of the firestop should not exceed the width up to a maximum of 200mm for Linear Firestop 2 and 160mm for Linear Firestop 3A.
6) Where Linear Firestop 2 is used it must be compressed by at least 5%.
7) Refer to manufacturer's technical literature for fixing details.

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Rockwool Firepro Fire Barrier Slab

Product Name	Cavity Width (mm)	Slab Sze (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grade	LPCB Ref. No.
Rockwool Firepro Fire Barrier Slab	Up to 1000	1000 x 600 x 100	240[1]	60	FR60	022c/02

Notes:
1) Where the slab is penetrated by services, the fire resistance is reduced to 90 minutes integrity and 60 minutes insulation. The size of the penetrations should not exceed steel pipes having a diameter of 33.5mm external diameter, or steel cable trays 305mm wide x 50mm high x 0.9mm thick. Rockwool Acoustic and Fire Sealant should also be applied to all butt edges to form a tight bond when a penetration passes through the slab. The Acoustic and Fire Sealant should be tapered from 16mm deep at the face of the slab to nothing at a distance of 40mm on both faces.
2) Refer to manufacturer's technical literature for fixing details.

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Certificate No: 650a to LPS 1208

Trimotherm Panels

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Trimotherm FTV (Wall panel)	100[1]	95	95	3.00	FR90	Mineral wool	650a/01
	120[1]	95	95	3.00	FR90	Mineral wool	
	150[1]	95	95	3.00	FR90	Mineral wool	
	200[1]	95	95	3.00	FR90	Mineral wool	

Product Name	Specification Thickness (mm)	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Maximum Unsupported Length (m)	Grade	Core Material	LPCB Ref. No.
Trimotherm FTV-H (Wall panel)	100[2]	97	95	4.00	FR90	Mineral wool	650a/02
	120[2]	97	95	4.00	FR90	Mineral wool	
	150[2]	97	95	4.00	FR90	Mineral wool	
Trimotherm SNV (Ceiling panel)	100	98	95	2.00	FR90	Mineral wool	650a/03
	120	98	95	2.00	FR90	Mineral wool	
	150	98	95	2.00	FR90	Mineral wool	
	200	98	95	2.00	FR90	Mineral wool	

Notes:
1) LPCB ref. 650a/01 Trimotherm FTV wall panels can be installed vertically or horizontally
2) LPCB ref. 650a/02 Trimotherm FTV-H wall panels can only be installed vertically.

These panels are used for the construction of ship bulkheads and partitions for offshore facilities. They are required to meet the IMO (International Maritime Organisation) requirements for structural integrity and fire resistance in the event of a fire.

The non-combustible products listed in this section are normally used in conjunction with the wall and roofing materials described in 2.2.1 and 2.2.2. The classification of Class O products is described in Approved Document B of the UK Building Regulations.

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Certificate No: 022e to EN 13501-1: 2002

Rockwool Non-combustible Insulation Materials

Product Name	Thickness (mm)	Test/Assessment Standard	Classification	LPCB Ref. No.
Cladding Roll - Aluminium Foil Faced	60 - 180	EN 13501-1: 2002	A1	022e/01
Cladding Roll - Unfaced	60 - 180	EN 13501-1: 2002	A1	
Cladding Roll - White Tissue Faced	60 - 180	EN 13501-1: 2002	A1	
Cavity Batts - Unfaced	50 - 150	EN 13501-1: 2002	A1	022e/02
Rainscreen Duo Slabs - Black Tissue Faced	50 - 125	EN 13501-1: 2002	A1	022e/03
Rainscreen Duo Slabs - Unfaced	50 -125	EN 13501-1: 2002	A1	
Flexi Batts - Unfaced	50 - 150	EN 13501-1: 2002	A1	022e/04
Hardrock Dual Density Roofing Boards - Black Tissue Faced	50 - 155	EN 13501-1: 2002	A1	022e/05
Hardrock Dual Density Roofing Boards - Unfaced	50 - 155	EN 13501-1: 2002	A1	
Hardrock Dual Density Roofing Boards - White Tissue Faced	50 - 155	EN 13501-1: 2002	A1	
DueRock Roofing Boards - Black Tissue Faced	50 - 180	EN 13501-1: 2002	A1	022e/06
DueRock Roofing Boards - Unfaced	50 - 180	EN 13501-1: 2002	A1	
DueRock Roofing Boards - White Tissue Faced	50 - 180	EN 13501-1: 2002	A1	

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Certificate No: 472a to BS476:Part 4

Thermaquilt and Superglass Cladding Mat

Product Name	Thickness (mm)	Test/Assessment Standard	Classification	LPCB Ref. No.
Thermaquilt	50 - 200	BS 476:Part 4	Non-combustible	472a/01
Superglass Cladding Mat	60 - 200	BS 476:Part 4	Non-combustible	472a/02

Fire resisting compartment walls and floors may be compromised by the installation of building services that pass between fire resisting compartments.

The following products have been approved to LPS 1132 *Requirements and tests for LPCB approval of wall & floor penetration & linear gap seals* to help ensure they can maintain the fire resistance of the associated element. The design requirements for these products are described in more detail in Section 4.6 of the LPC Design Guide for the Fire Protection of Buildings:2000.

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CP606 Intumescent mastic - Penetration seals - LPCB Ref No.: 090a/07

Product Name	Element of construction orientation	Configeration: gap size (mm)	Configuration: fire side	Configuration: middle	Configuration: non-fire side	Use	Integrity (minutes)	Insulation (minutes)	LPC Ref No.
CP606	100mm AC wall	N/A	20mm CP606	60mm Rockfibre 100kg/m^3 density	20mm CP606	42mm copper pipe with 1.25mm wall thickness	240	0	090a/
	150mm AC floor	N/A	80mm Rockfibre/m^3 density	N/A	20mm CP606	42mm copper pipe with 1.25mm wall thickness	240	0	
	100mm AC wall with cylindrical steel steel	Max 30mm	70mm Rockfibre 140kg/m^3 density	N/A	15mm CP606	Up to 600mm steel pipe with minimum 3mm wall thickness	240	0	

CP606 Intumescent mastic - Linear gap seals - LPCB Ref No.: 090a/07

Product Name	Element of construction orientation	Configeration: gap size (mm)	Configuration: fire side	Configuration: middle	Configuration: non-fire side	Use	Integrity (minutes)	Insulation (minutes)	LPCB Ref. No.
CP606	150mm AC/AC floor	Up to 15	30mm PE foam rod	N/A	60mm CP606		120	60	090a/07
	150mm AC/AC floor	15 to 300	30mm PE foam rod	N/A	10mm of CP606 for gaps of 15mm. 15mm of CP606 for gaps of 20 to 30mm.		240	120	
	150mm AC/AC floor	Up to 15	135mm of CF125-50	N/A	6mm CP606		120	60	

Product Name	Element of construction orientation	Configeration: gap size (mm)	Configuration: fire side	Configuration: middle	Configuration: non-fire side	Use	Integrity (minutes)	Insulation (minutes)	LPCB Ref. No.
	150mm AC/AC floor	15 to 30	135mm of CF125-50	N/A	10mm of CP606 for gaps of 15mm. 15mm of CP606 for gaps of 20 to 30mm.		240	120	
	150mm AC/AC floor	Up to 15	70mm of Rockfibre 140kg/m^3 density	N/A	100mm CP606		240	240	
	150mm AC/AC floor	20 to 30	70mm of Rockfibre 140kg/m^3 density	N/A	150mm CP606		240	210	
	75mm steel/steel or AC/steel floor	Up to 15	70mm of Rockfibre 140kg/m^3 density	N/A	10mm CP606		240	0	
	75mm steel/steel or AC/steel floor	20 to 30	70mm of Rockfibre 140kg/m^3 density	N/A	15mm CP606		240	30	
	150mm AC/AC floor	6 to 15	144mm of Rockfibre 100kg/m3 density	N/A	6mm CP606		240	240	
	100mm plasterboard partition wall head to corrugated metal decking	Dependant on decking profle	10mm CP606	80mm of Rockfibre 100kg/m^3 density	10mm CP606		120	120	
	100mm plasterboard partition wall head to corrugated metal decking	Dependant on decking profile	5mm CP606	90mm of Rockfibre 100kg/m^3 density	5mm CP606		120	120	
	100mm plasterboard partition wall head to AC block	10	10mm CP606 & 15mm of Rockfibre 100kg/m^3 density	N/A	10mm CP606 & 15mm of Rockfibre 100kg/m^3 density		120	120	
	100mm plasterboard partition wall head to AC block	5	5mm CP606 & 20mm of Rockfibre 100kg/m^3 density	N/A	5mm CP606 & 20mm of Rockfibre 100kg/m^3 density		120	120	
	65mm AC wall with cement board facings and galvanised steel top channel	6 to 15	6mm CP606	N/A	N/A		120	120	
	Steel framed doorset in steel or AC supporting wall	30	Minimum 70mm Rockfibre 140kg/m^3 density	N/A	15mm CP606		240	0	

Product Name	Element of construction orientation	Configeration: gap size (mm)	Configuration: fire side	Configuration: middle	Configuration: non-fire side	Use	Integrity (minutes)	Insulation (minutes)	LPCB Ref. No.
	Timber framed doorset in timber or concrete supporting wall	Up to 6	6mm CP606	Minimum 78mm Rockfibre 140kg/m^3 density	6mm CP606		120	0	
	Timber framed doorset in timber or concrete supporting wall	6 to 30	15mm CP606	Minimum 65mm Rockfibre 140kg/m^3 density	15mm CP606		120	0	

Notes:
AC - Aerated Concrete

Please refer to Hilti installation instructions for further details.

CP 657 blocks with CP611A sealant - LBCB Ref. No. 090a/08

Product Name	Element of construction Orientation	Element of construction Thickness (mm)	Element of construction Material	Use	Fire resistance Integrity (min) (E)	Fire resistance Insulation (min) (I)	LPCB Ref. No.
CP 657 blocks with CP611A sealant	Wall	200	Concrete or masonry	60.3 mm diameter x 2.9 mm wall thickness steel pipe penetration	180	120	090a/08
	Wall	200	Concrete or masonry	22 mm diameter copper pipe	180	120	
	Wall	200	Concrete or masonry	28.9 mm diameter x 2.6mm wall thickness stainless steel pipe	180	180	
	Wall	200	Concrete or masonry	168.3 mm diameter x 4.5 mm wall thickness steel pipe with Autopack 25 mm thick Rockwool and PVC applied insulation	180	90	
	Wall	200	Concrete or masonry	50 mm diameter x 3 mm wall thickness PVC pipe	180	180	
	Wall	200	Concrete or masonry	50 mm diameter x 5 mm wall thickness polyethylene pipe	180	180	
	Wall	200	Concrete or masonry	316 mm wide cable tray supporting 15 off 3x4 mm^2 PVC/copper cables	180	180	
	Wall	200	Concrete or masonry	110 mm wide cable tray supporting 3 off 3x50 mm^2 PVC/copper cables	180	90	
	Wall	200	Concrete or masonry	Cable bundle 40 cables 2x1.5mm^2	180	180	
	Wall	200	Concrete or masonry	316 mm wide cable tray supporting 3 off bundles of 10 cables 20x2x0.6mm^2	180	120	
	Floor	200	Concrete	50 mm diameter x 3 mm wall thickness PVC pipe	180	180	
	Floor	200	Concrete	60.3 mm diameter x 2.9 mm wall thickness steel pipe penetration	180	120	

Product Name	Element of construction Orientation	Element of construction Thickness (mm)	Element of construction Material	Use	Fire resistance Integrity (min) (E)	Fire resistance Insulation (min) (I)	LPCB Ref. No.
	Floor	200	Concrete	50 mm diameter x 5 mm wall thickness polyethylene pipe	180	180	
	Floor	200	Concrete	110 mm wide cable tray supporting 3 off 3x50 mm^2 PVC/copper cables	180	120	
	Floor	200	Concrete	316 mm wide cable tray supporting 30 off PVC/copper cables, 15 3x4 mm^2, 15 4x2.5 mm^2	180	180	

Note:
The CP 657 blocks shall be compress fitted into the aperture with blocks cut, where required, to fit around the services and aperture. CP 611A sealant shall be applied on blocks in direct contact with the aperture and for the full depth of the aperture (200mm) around each penetration element of a thickness nominally 5mm (15mm around pipes). Cable bundles shall be completely filled with CP 611A sealant.

See manufacturers installation/application instruction for full details.

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CP611A - LPCB Ref. No.: 090a/01

Product Name	Element of construction orientation	Element of construction thickness (mm)	Element of construction material	Configuration: fire side	Configuration: middle	Configuration: non-fire side	Use: cables	Use: trays	Fire Resistance (min) Integrity (E)	Fire Resistance (min) Insulation (I)	LPCB Ref. No.
CP611A	Wall	100+	Drywall	25mm CP611A	No filling	30mm CP611A	Yes	No	120	60	090a/01
	Wall / Floor	110+	L W Concrete	50mm CP611A	N/A	60mm rockwool	Yes	Yes	45	30	
	Wall / Floor	150+	L W Concrete	50mm CP611A	50mm rockwool	50mm CP611A	Yes	Yes	90	60	
	Wall / Floor	150+	L W Concrete	10mm CP611A	130mm rockwool	10mm CP611A	Yes	No	240	90	
	Wall / Floor	150+	L W Concrete	30mm CP611A	90mm rockwool	30mm CP611A	Yes	No	240	45	
	Wall / Floor	150+	L W Concrete	20mm CP611A	110mm rockwool	20mm CP611A	Yes	No	240	45	
	Wall / Floor	150+	L W Concrete	110mm rockwool	N/A	40mm CP611A	Yes	Yes	120	90	
	Wall / Floor	150+	Reinforced vermiculite concrete	40mm CP611A	N/A	110mm rockwool	Yes	Yes	120	90	

Note:
Please refer to the manufacturer's installation instructions for more details and maximum aperture sizes..

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CP643N - LPCB Ref. No.: 090a/02

Product Name	Size	Element of construction orientation	Element of construction thickness (mm)	Element of construction material	Mounting	Pipe material	Fire Resistance (min) Integrity (E)	Fire Resistance (min) Insulation (I)	LPCB Ref. No.
CP643N	50/1.5", 63/2", 90/3" & 110/4"	Wall	150+	LW concrete	Surface - both sides	ABS	120	120	090a/02

Product Name	Size	Element of construction orientation	Element of construction thickness (mm)	Element of construction material	Mounting	Pipe material	Fire Resistance (min) Integrity (E)	Fire Resistance (min) Insulation (I)	LPCB Ref. No.
	50/1.5", 63/2", 90/3" & 110/4"	Floor	150+	LW concrete	Surface - fire side	ABS	90	90	
	50/1.5", 63/2", 90/3" & 110/4"	Wall	100+	LW concrete	Surface - both sides	PE	120	120	
	50/1.5", 63/2", 90/3" & 110/4"	Floor	150+	LW concrete	Surface - fire side	PE	120	120	
	50/1.5", 63/2", 90/3" & 110/4"	Wall	100+	LW concrete	Integrated – middle	PE	120	120	
	50/1.5", 63/2", 90/3" & 110/4"	Wall	100+	LW concrete	Integrated – both sides	PE	120	90	
	50/1.5", 63/2", 90/3" & 110/4"	Floor	150+	LW concrete	Integrated – fire side	PE	120	120	
	50/1.5", 63/2", 90/3" & 110/4"	Wall	100+	Drywall	Surface – both sides	PE	120	60	
	50/1.5", 63/2", 90/3" & 110/4"	Wall	100+	LW concrete	Surface – both sides	PVC	120	120	
	50/1.5", 63/2", 90/3" & 110/4"	Floor	150+	LW concrete	Surface – fire side	PVC	120	120	
	50/1.5", 63/2", 90/3" & 110/4"	Wall	100+	LW concrete	Integrated – middle	PVC	120	90	
	50/1.5", 63/2", 90/3" & 110/4"	Wall	150+	LW concrete	Integrated – middle	PVC	120	120	
	50/1.5", 63/2", 90/3" & 110/4"	Wall	100+	LW concrete	Integrated – both sides	PVC	120	90	
	50/1.5", 63/2", 90/3" & 110/4"	Floor	150+	LW concrete	Integrated – fire side	PVC	120	120	
	50/1.5", 63/2", 90/3" & 110/4"	Wall	150+	Reinforced concrete	Surface – both sides	PVC	240	240	
	50/1.5", 63/2", 90/3" & 110/4"	Wall	100	Drywall	Surface – both sides	PVC	60	45	

Note:
Please refer to manufacturer's installation instructions for further information

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CP636 - LPCB Ref. No.: 532a/01

Product Name	Element of construction orientation	Element of construction thickness/material	Configuration: fire side	Configuration: non-fire side	Use: cables	Use: trays	Use: conduit pipes	Aperature size (mm)	Fire Resistance (min) Integrity (E)	Fire Resistance (min) Insulation (I)	LPCB Ref. No.
CP636	Floor	150mm+ Aerated Concrete	N/A	150mm CP636	Yes	Yes	Yes	1000x600	180	90	532a/01
	Floor	150mm+ Aerated Concrete	50mm mineral fibre (140kg/m^3)	75mm CP636	Yes	Yes	No	600x600	240	90	
	Wall	150mm+ Masonry	N/A	150mm CP636	Yes	Yes	Yes	2000x1200	20	120	
	Wall	120mm+ Masonry	N/A	100mm CP636	Yes	Yes	No	600x600	240*	60*	
	Wall	200mm+ Masonry	N/A	185mm CP636	Yes	Yes	Yes	1200x600	240	60	

Note:
* To achieve this fire resistance the penetrations should be coated with a 30mm wide x 0.5mm thick layer of Hilti CP611A where they pass through the wall. The coated section should be positioned centrally within the wall thickness.

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CP601S - LPCB Ref. No.: 520a/01

Product Name	Element of construction orientation	Element of construction thickness (mm)	Element of construction material	Configuration: fire side	Configuration: middle	Configuration: non-fire side	Use	Fire Resistance (min) Integrity (E)	Fire Resistance (min) Insulation (I)	LPCB Ref. No.
CP601S	Floor	150+	L W Concrete	20mm CP601S	110mm mineral fibre (100kg/m^3)	20mm CP601S	Copper pipes 42-200mm dia. 1.25-10.0mm wall	120	0	520a/01
	Floor	150+	L W Concrete	20mm CP601S	110mm mineral fibre (100kg/m^3)	20mm CP601S	Copper pipes 42-200mm dia. 1.25-10.0mm wall	240	0	
	Floor	150+	L W Concrete	20mm CP601S	110mm mineral fibre (100kg/m^3)	20mm CP601S	Copper pipes 42-50mm dia. 1.25-10.0mm wall	240	0	
	Wall	100+	L W Concrete	20mm CP601S	60mm mineral fibre (100kg/m^3)	20mm CP601S	Copper pipes 42-200mm dia. 1.25-10.0mm wall	120	0	
	Wall	100+	L W Concrete	20mm CP601S	60mm mineral fibre (100kg/m^3)	20mm CP601S	Copper pipes 42-200mm dia. 1.25-10.0mm wall	240	0	
	Wall	100+	L W Concrete	20mm CP601S	60mm mineral fibre (100kg/m^3)	20mm CP601S	Copper pipes 42-50mm dia. 1.25-10.0mm wall	240	0	

Note:
Product used as a pipe penetration sealant.

Certificate No: 090a to LPS 1132: Issue 4

CP601S - LPCB Ref. No.: 520a/01

Product Name	Element of construction orientation	Element of construction thickness (mm)	Element of construction material	Dept of CP620 (mm) (notes 2 & 5)	Fire Side	Penetration size (notes 1, 3, 4)	Integrity side	Insulation Resistance (min) Integrity (E)	(I)	LPCB Ref. No.
CP601S	Floor	150+	L W concrete	15	N/A	144mm mineral fibre (100kg/m^3)	6mm CP601S	240	240	520a/01
	Floor	150+	L W concrete	30	N/A	135mm mineral fibre (100kg/m^3)	15mm CP601S	240	240	
	Floor	150+	L W concrete	100	N/A	135mm mineral fibre (100kg/m^3)	15mm CP601S	240	240	
	Wall	100+	L W concrete	30	15mm CP601S	70mm mineral fibre (100kg/m^3)	15mm CP601S	120	120	
	Wall	100+	L W concrete	12	10mm CP601S	12mm dia PE rod	10mm CP601S	120	120	

Note:
Product used as a linear gap seal

Certificate No: 090a to LPS 1132: Issue 4

CP620 Expanding firestop foam - LPCB Ref No.: 090a/03

Product Name	Element of construction orientation	Element of construction thickness (mm)	Element of construction material	Depth of CP620 (mm) (notes 2 & 5)	Penetration type (notes 1, 3, 4)	Penetration size	Integrity	Insulation	LPCB Ref. No.
CP620	Wall	100	concrete, masonry or drywall	145	copper pipe	76mm dia	120	0	090a/03
	Wall	100	concrete, masonry or drywall	200	copper pipe + insulation	76mm dia + insulation thickness	120	120	
	Wall	100	concrete, masonry or drywall	145	steel pipe	76mm dia	120	30	
	Wall	100	concrete, masonry or drywall	145	steel pipe + insulation	114mm dia + insulation thickness	120	120	
	Wall	100	concrete, masonry or drywall	145	PVC pipe	100mm dia	120	120	
	Wall	100	concrete, masonry or drywall	200	PE pipe	50mm dia	120	120	
	Wall	100	concrete, masonry or drywall	200	PE pipe	110mm dia	120	120	
	Wall	100	concrete, masonry or drywall	200	ABS pipe	100mm dia	120	120	
	Wall	100	concrete, masonry or drywall	200	single cable or cable bundle	70mm dia	120	120	
	Wall	100	concrete, masonry or drywall	145	cable bundle	100mm dia	120	60	
	Wall	100	concrete, masonry or drywall	145	cable tray	150 x 25mm	120	120	
	Wall	100	concrete, masonry or drywall	200	cable tray	250 x 25mm	120	120	
	Wall	120	drywall	120	copper pipe + insulation	77mm dia + insulation thickness	120	60	
	Wall	120	drywall	120	cable trunking (Note 6)	100 x 100mm	120	60	
	Wall	120	drywall	120	PVC pipe	100mm dia	120	60	

Product Name	Element of construction orientation	Element of construction thickness (mm)	Element of construction material	Depth of CP620 (mm) (notes 2 & 5)	Penetration type (notes 1, 3, 4)	Penetration size	Integrity	Insulation	LPCB Ref. No.
	Wall	120	drywall	120	cable tray	150 x 25mm 150 x 25mm 150 x 25mm	120	60	
	Floor	150	LW Concrete	200	cable tray	320 x 60mm	150	60	
	Floor	150	LW Concrete	150	copper pipe + insulation	89mm dia + insulation thickness	150	120	
	Floor	150	LW Concrete	200	PVC pipe	50mm dia	150	90	
	Floor	150	LW Concrete	200	PVC pipe	100mm dia	150	90	
	Floor	150	LW Concrete	200	steel pipe + insulation	114mm dia + insulation thickness	150	90	
	Floor	150	LW Concrete	150	cable tray	320 x 60mm	120	30	
	Floor	150	LW Concrete	150	PVC pipe	50mm dia	120	60	
	Floor	150	LW Concrete	150	PVC pipe	100mm dia	120	60	
	Floor	150	LW Concrete	150	steel pipe + insulation	114mm dia + insulation thickness	120	60	

Notes:
1) The penetrating services should be installed with a minimum separation of 100mm from any other penetrating service and a minimum distance of 50mm from the edge of the seal.
2) An additional bead of 25x25mm of CP620 should be applied around each service (except plastic pipes where it penetrates each face of the seal.
3) Plastic pipes (PE, PVC or ABS) must be fitted with Hilti CP643 pipe collars.
4) Please refer to manufacturer's installation instructions for more details.
5) For seals thicker than the supporting wall, a framework should be installed using type 5 plasterboard. Refer to manufacturer's instructions for further details.
6) Cable trunking tested with 30% fill of 12mm diameter cables and packed with CP651 cushions above cables at the location where the service passed through the partition.

Certificate No: 090a to LPS 1132: Issue 4

CF125-50 Penetration Seals - LPCB Ref No.: 090a/04

Product Name	Element of construction orientation	Element of construction thickness (mm)	Configuration: fire side	Configuration: middle	Configuration: non-fire side	Use	Integrity (minutes)	Insulation (minutes)	LPCB Ref. No.
CF125-50	Wall	150	Nominal 1mm coating of CP671	150mm CF 125-50	Nominal 1mm coating of CP671	300 x 300mm aperture in LW blockwork containing: 225 x 26mm steel cable types 5-25mm dia. 50mm galvanised steel pipe with 4.2mm wall thickness	30	30	090a/

Certificate No: 090a to LPS 1132: Issue 4

CF125-50 Linear Gap Seals - LPCB Ref No.: 090a/04

Product Name	Element of construction orientation	Element of construction thickness (mm)	Configuration: fire side	Configuration: middle	Configuration: non-fire side	Use	Integrity (minutes)	Insulation (minutes)	LPCB Ref. No.
CF125-50	Wall	100	900 x 15mm CF125-50	N/A	N/A	seal between softwood and LW blockwork	120	120	090a/0
	Wall	100	900 x 15mm CF125-50	N/A	N/A	seal between softwood and common brickwork	150	120	
	Wall	150	Nominal 1mm coating of CP671	900 x 50mm CF125-50	Nominal 1mm coating of CP671	seal between motar lintel and steel deck	150	120	
	Wall	200	950x 135 x 20 mm CF125-50	N/A	15mm CP606 mastic	seal between concrete faces	240	120	
	Wall	100	950 x 15mm	N/A	N/A	seal between concrete faces	120	120	
	Wall	100	Up to 25mm dia. Holes	N/A	N/a	seal between concrete faces	120	120	
	Floor	150	950 x 135 x 20 mm CF125-50	N/A	15mm CP606 mastic	seal between concrete faces	240	180	

MCT Brattberg AB

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Certificate No: 628a to LPS 1132: Issue 4

Product Name	Use	Element of Construction	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	LPCB Ref. No.
RGB 2, 4, 6, 8 & RGB 180, 240 & 360	Cables	Concrete or masonry Floor	240	120	628a/01
	Steel pipes	Concrete or masonry Floor	240	60	
	Cables	Concrete or masonry Wall	240	60	
	Steel pipes	Concrete or masonry Wall	240	60	
RGBO 2, 4, 6, 8 & RGBO 180, 240 & 360	Cables	Concrete or masonry Floor	240	120	628a/02

Product Name	Use	Element of Construction	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	LPCB Ref. No.
RGP 50, 70, 100, 150, 200 & 300	Steel pipes	Concrete or masonry Floor	240	60	628a/03
	Cables	Concrete or masonry Wall	240	60	
	Steel pipes	Concrete or masonry Wall	240	60	
	Cables	Concrete or masonry Floor	360	120	
	Steel pipes	Concrete or masonry Floor	240	60	
	Cables	Concrete or masonry Wall	360	120	
	Steel pipes	Concrete or masonry Wall	240	60	
RGPO 50, 70, 100, 150, 200 & 300	Cables	Concrete or masonry Floor	360	120	628a/04
	Steel pipes	Concrete or masonry Floor	240	60	
	Cables	Concrete or masonry Wall	360	120	
	Steel pipe	Concrete or masonry Wall	240	60	

Note:
Please refer to manufacture's product data for maximum aperture sizes and installation details.

Rockwool Limited

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Certificate No: 022b to LPS 1132: Issue 4

Product Name	Cavity Width (mm)	Fire Resistance (min) Integrity (E)	Fire Resistance (min) Insulation (I)	LPCB Ref. No.
Rockwool Firepro TCB Cavity Barrier	50 - 140	60	30	022b/04

Notes:
1) This product is designed for use between the leaves of a masonry cavity wall, or between a timber frame inner leaf and masonry outer leaf.
2) Barriers can be installed vertically or horizontally.
3) Refer to manufacturer's technical literature for fixing details.

The protection of the structural integrity of a building is important for life safety of the occupants, fire fighters and for the cost-effective repair of the building post fire. When a building is involved in a fire, structural steelwork can resist the damaging effects of the high temperatures generated if suitably protected
The products listed in this Section have been approved for use for the fire protection of structural steelwork.

British Gypsum Limited

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Certificate No: 162a to LPS 1107: Issue 1

Product Name	Exposure	Board Thickness (mm)	Performance Hp/A 30min	Performance Hp/A 60min	Performance Hp/A 90min	Performance Hp/A 120min	LPCB Ref. No.
Glasroc S	Internal only	15	260	260	105	65	566
	Internal only	20	260	260	180	90	
	Internal only	25	260	260	260	100	
	Internal only	30	260	260	260	250	
	Internal only	35	260	260	260	260	

Glasroc S has been approved jointly with the British Board of Agrement (BBA).

The 30mm and 35mm thickness of protection can be in two separately fixed layers, i.e., 15mm + 15mm and 15mm + 20mm.

Cafco International

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Certificate No: 762a to SD075 - BS476: Parts 20 & 21

Cafco SprayFilm WB3 Intumescent paint, 4 sided protection on Hollow sections 532ºC

Product Name	Section factor (Hp/A)	Intumescent dry film thickness (mm) for protection periods of: 30 minutes	Intumescent dry film thickness (mm) for protection periods of: 60 minutes	Intumescent dry film thickness (mm) for protection periods of: 90 minutes	Intumescent dry film thickness (mm) for protection periods of: 120 minutes	LPCB Ref. No.
SprayFilm WB3	Up to 45	0.61	0.61	1.80	3.51	762a/01
	45-50	0.61	0.61	1.80	3.51	
	51-55	0.61	0.61	1.80	3.51	
	56-60	0.61	0.61	1.80	3.51	
	61-65	0.61	0.61	1.90	3.51	
	66-70	0.61	0.61	2.00	3.51	
	71-75	0.61	0.61	2.10	3.51	
	76-80	0.61	0.61	2.19	3.51	
	81-85	0.61	0.61	2.29	3.51	
	86-90	0.61	0.61	2.39	3.51	
	91-95	0.61	0.69	2.49	3.51	
	96-100	0.61	0.78	2.55	3.59	
	101-105	0.61	0.86	2.62	3.99	
	106-110	0.61	0.94	2.67	4.39	
	111-115	0.61	1.06	2.72	4.80	
	116-120	0.61	1.08	2.77	5.20	
	121-125	0.61	1.11	2.83	5.60	
	126-130	0.61	1.14	2.88	6.00	
	131-135	0.61	1.17	2.93	-	
	136-141	0.61	1.20	2.98	-	
	141-145	0.61	1.23	3.03	-	
	146-150	0.61	1.26	3.08	-	

Product Name	Section factor (Hp/A)	Intumescent dry film thickness (mm) for protection periods of: 30 minutes	Intumescent dry film thickness (mm) for protection periods of: 60 minutes	Intumescent dry film thickness (mm) for protection periods of: 90 minutes	Intumescent dry film thickness (mm) for protection periods of: 120 minutes	LPCB Ref. No.
	151-155	0.61	1.29	3.13	-	
	156-160	0.61	1.32	3.18	-	
	161-165	0.61	1.35	3.25	-	
	166-170	0.61	1.38	3.29	-	
	171-175	0.61	1.41	3.34	-	
	176-180	0.61	1.45	3.39	-	
	181-185	0.61	1.48	3.44	-	
	186-190	0.61	1.51	3.51	-	
	191-195	0.61	1.54	3.61	-	
	196-200	0.61	1.57	3.77	-	
	201-205	0.61	1.60	3.93	-	
	206-210	0.61	1.63	4.08	-	
	211-215	0.61	1.66	4.24	-	
	216-220	0.16	1.69	4.40	-	
	221-225	0.61	1.72	4.56	-	
	226-230	0.61	1.75	4.72	-	
	231-235	0.61	1.78	4.88	-	
	236-240	0.61	1.83	5.04	-	
	241-245	0.61	1.91	5.20	-	
	246-250	0.61	1.99	5.36	-	
	251-255	0.61	2.07	5.52	-	
	256-260	0.61	2.15	5.68	-	
	261-265	0.61	2.23	5.84	-	
	266-270	0.61	2.31	6.00	-	
	271-275	0.61	2.39	-	-	
	276-280	0.61	2.47	-	-	
	281-285	0.61	2.55	-	-	
	286-290	0.61	2.62	-	-	
	291-295	0.61	2.68	-	-	
	296-300	0.61	2.75	-	-	
	301-305	0.61	2.82	-	-	
	306-310	0.61	2.88	-	-	
	311-315	0.61	2.95	-	-	
	316-320	0.61	3.02	-	-	

Cafco SprayFilm WB3 Intumescent paint, 3 sided protection on I section beams (continuous concrete topping) 620ºC

Product Name	Section factor (Hp/A)	Intumescent dry film thickness (mm) for protection periods of: 30 minutes	Intumescent dry film thickness (mm) for protection periods of: 60 minutes	Intumescent dry film thickness (mm) for protection periods of: 90 minutes	Intumescent dry film thickness (mm) for protection periods of: 120 minutes	LPCB Ref. No.
SprayFilm WB3	Up to 45	0.23	0.25	1.20	1.20	762a/01
	45-50	0.23	0.25	1.20	1.20	
	51-55	0.23	0.25	1.20	1.20	
	56-60	0.23	0.25	1.20	1.20	
	61-65	0.23	0.25	1.20	1.20	
	66-70	0.23	0.25	1.20	1.23	
	71-75	0.23	0.25	1.20	1.28	
	76-80	0.23	0.27	1.20	1.33	
	81-85	0.23	0.28	1.20	1.39	
	86-90	0.23	0.30	1.20	1.44	
	91-95	0.23	0.32	1.20	1.49	
	96-100	0.23	0.34	1.20	1.63	
	101-105	0.23	0.36	1.20	1.78	
	106-110	0.23	0.38	1.20	1.94	
	111-115	0.23	0.40	1.20	2.04	
	116-120	0.23	0.42	1.20	2.10	
	121-125	0.23	0.44	1.22	2.17	
	126-130	0.23	0.46	1.25	2.23	
	131-155	0.23	0.48	1.28	2.30	
	136-140	0.23	0.50	1.31	2.36	
	141-145	0.23	0.52	1.34	2.43	
	146-150	0.23	0.54	1.37	2.49	
	151-155	0.23	0.56	1.40	2.56	

Product Name	Section factor (Hp/A)	Intumescent dry film thickness (mm) for protection periods of: 30 minutes	Intumescent dry film thickness (mm) for protection periods of: 60 minutes	Intumescent dry film thickness (mm) for protection periods of: 90 minutes	Intumescent dry film thickness (mm) for protection periods of: 120 minutes	LPCB Ref. No.
	156-160	0.23	0.57	1.43	2.62	
	161-165	0.23	0.57	1.46	2.69	
	166-170	0.23	0.57	1.49	2.75	
	171-175	0.23	0.61	1.54	2.82	
	176-180	0.23	0.64	1.60	2.88	
	181-185	0.23	0.67	1.66	2.95	
	186-190	0.23	0.70	1.72	3.01	
	191-195	0.23	0.73	1.78	3.18	
	196-200	0.23	0.76	1.84	3.33	
	201-205	0.23	0.80	1.90	3.48	
	206-210	0.23	0.83	1.96	3.64	
	211-215	0.24	0.86	2.02	3.79	
	216-220	0.24	0.88	2.07	3.94	
	221-225	0.24	0.89	1.12	4.21	
	226-230	0.24	0.91	2.17	4.57	
	231-235	0.24	0.93	2.22	4.93	
	236-240	0.25	0.94	2.27	5.29	
	241-245	0.25	0.96	2.32	5.64	
	246-250	0.25	0.97	2.37	6.00	
	251-255	0.25	0.99	2.42	-	
	256-260	0.25	1.00	2.47	-	
	261-265	0.26	1.02	2.52	-	
	266-270	0.26	1.04	2.57	-	
	271-275	0.27	1.05	2.62	-	
	276-280	0.28	1.07	2.67	-	
	281-285	0.28	1.08	2.72	-	
	286-290	0.29	1.10	2.77	-	
	291-295	0.29	1.11	2.82	-	
	296-300	0.30	1.13	2.87	-	
	301-305	0.30	1.14	2.92	-	
	306-310	0.31	1.16	2.97	-	
	311-315	0.31	1.18	3.02	-	
	316-320	0.31	1.19	3.22	-	

Cafco SprayFilm WB3 Intumescent paint, 4 sided protection on I section beams 550ºC

Product Name	Section factor (Hp/A)	Intumescent dry film thickness (mm) for protection periods of: 30 minutes	Intumescent dry film thickness (mm) for protection periods of: 60 minutes	Intumescent dry film thickness (mm) for protection periods of: 90 minutes	Intumescent dry film thickness (mm) for protection periods of: 120 minutes	LPCB Ref. No.
SprayFilm WB3	Up to 45	0.23	0.57	1.20	1.20	762a/01
	45-50	0.23	0.57	1.20	1.25	
	51-55	0.23	0.57	1.20	1.31	
	56-60	0.23	0.57	1.20	1.38	
	61-65	0.23	0.57	1.20	1.46	
	66-70	0.23	0.57	1.20	1.53	
	71-75	0.23	0.57	1.20	1.75	
	76-80	0.23	0.57	1.20	1.93	
	81-85	0.23	0.57	1.20	2.05	
	86-90	0.23	0.57	1.20	2.13	
	91-95	0.23	0.57	1.20	2.21	
	96-100	0.23	0.57	1.20	2.29	
	101-105	0.23	0.57	1.25	2.37	
	106-110	0.23	0.57	1.30	2.44	
	111-115	0.23	0.57	1.35	2.52	
	116-120	0.23	0..57	1.40	2.60	
	121-125	0.23	0.57	1.45	2.68	
	126-130	0.23	0.63	1.50	2.76	
	131-135	0.23	0.68	1.60	2.84	
	136-140	0.23	0.74	1.69	2.92	
	141-145	0.23	0.79	1.79	3.00	
	146-150	0.23	0.85	1.88	3.13	
	151-155	0.23	0.88	1.98	3.25	
	156-160	0.23	0.90	2.04	3.38	
	161-165	0.23	0.92	2.08	3.50	

Product Name	Section factor (Hp/A)	Intumescent dry film thickness (mm) for protection periods of: 30 minutes	Intumescent dry film thickness (mm) for protection periods of: 60 minutes	Intumescent dry film thickness (mm) for protection periods of: 90 minutes	Intumescent dry film thickness (mm) for protection periods of: 120 minutes	LPCB Ref. No.
	166-170	0.23	0.94	2.13	3.63	
	171-175	0.24	0.96	2.18	3.75	
	176-180	0.24	0.98	2.22	3.88	
	181-185	0.24	1.00	2.27	4.00	
	186-190	0.24	1.02	2.32	4.31	
	191-195	0.24	1.04	2.36	4.63	
	196-200	0.25	1.05	2.41	4.94	
	201-205	0.25	1.07	2.46	5.25	
	206-210	0.25	1.09	2.50	5.56	
	211-215	0.25	1.11	2.55	5.88	
	216-220	0.26	1.13	2.60	6.19	
	221-225	0.27	1.15	2.64	-	
	226-230	0.27	1.17	2.69	-	
	231-235	0.28	1.19	2.74	-	
	236-240	0.29	1.21	2.79	-	
	241-245	0.30	1.23	2.83	-	
	246-250	0.30	1.25	2.88	-	
	251-255	0.31	1.27	2.93	-	
	256-260	0.32	1.29	2.97	-	
	261-265	0.32	1.31	3.02	-	
	266-270	0.33	1.33	3.23	-	
	271-275	0.34	1.35	3.39	-	
	276-280	0.35	1.37	3.55	-	
	281-285	0.35	1.39	3.71	-	
	286-290	0.36	1.41	3.87	-	
	291-295	0.37	1.43	4.03	-	
	296-300	0.38	1.45	4.31	-	
	301-305	0.38	1.47	4.56	-	
	306-310	0.39	1.49	4.82	-	
	311-315	0.40	1.51	5.08	-	
	316-320	0.40	1.54	5.33	-	

Cafco SprayFilm WB3 Intumescent paint, 4 sided protection on I section columns 550ºC

Product Name	Section factor (Hp/A)	Intumescent dry film thickness (mm) for protection periods of: 30 minutes	Intumescent dry film thickness (mm) for protection periods of: 60 minutes	Intumescent dry film thickness (mm) for protection periods of: 90 minutes	Intumescent dry film thickness (mm) for protection periods of: 120 minutes	LPCB Ref. No.
SprayFilm WB3	Up to 45	0.23	0.60	1.50	1.50	762a/01
	45-50	0.23	0.60	1.50	1.50	
	51-55	0.23	0.60	1.50	1.50	
	56-60	0.23	0.60	1.50	1.50	
	61-65	0.23	0.60	1.50	1.50	
	66-70	0.23	0.60	1.50	1.67	
	71-75	0.23	0.60	1.50	1.83	
	76-80	0.23	0.60	1.50	2.00	
	81-85	0.23	0.60	1.50	2.08	
	86-90	0.23	0.60	1.50	2.15	
	91-95	0.23	0.60	1.50	2.23	
	96-100	0.23	0.60	1.50	2.31	
	101-105	0.23	0.60	1.50	2.38	
	106-110	0.23	0.60	1.50	2.46	
	111-115	0.23	0.60	1.50	2.54	
	116-120	0.23	0.60	1.50	2.62	
	121-125	0.23	0.66	1.57	2.69	
	126-130	0.23	0.71	1.62	2.77	
	131-135	0.23	0.75	1.67	2.85	
	136-140	0.23	0.80	1.72	2.92	
	141-145	0.23	0.85	1.78	3.00	
	146-150	0.23	0.87	1.83	3.11	
	151-155	0.23	0.88	1.88	3.23	
	156-160	0.24	0.89	1.93	3.34	
	161-165	0.24	0.90	1.98	3.45	
	166-170	0.24	0.90	2.03	3.57	
	171-175	0.24	0.91	2.08	3.68	

Product Name	Section factor (Hp/A)	Intumescent dry film thickness (mm) for protection periods of: 30 minutes	Intumescent dry film thickness (mm) for protection periods of: 60 minutes	Intumescent dry film thickness (mm) for protection periods of: 90 minutes	Intumescent dry film thickness (mm) for protection periods of: 120 minutes	LPCB Ref. No.
	176-180	0.24	0.92	2.14	3.80	
	181-185	0.25	0.92	2.19	3.91	
	186-190	0.25	0.93	2.24	4.02	
	191-195	0.25	0.94	2.29	4.43	
	196-200	0.25	0.95	2.34	4.79	
	201-205	0.25	0.95	2.40	5.14	
	206-210	0.26	0.96	2.45	5.50	
	211-215	0.26	0.97	2.50	5.86	
	216-220	0.27	0.97	2.55	6.21	
	221-225	0.27	0.98	2.60	-	
	226-230	0.28	0.99	2.66	-	
	231-235	0.28	1.00	2.71	-	
	236-240	0.29	1.00	2.76	-	
	241-245	0.29	1.04	2.81	-	
	246-250	0.30	1.06	2.86	-	
	251-255	0.30	1.09	2.92	-	
	256-260	0.31	1.12	2.97	-	
	261-265	0.31	1.14	3.02	-	
	266-270	0.32	1.17	3.14	-	
	271-275	0.32	1.19	3.24	-	
	276-280	0.33	1.22	3.34	-	
	281-285	0.33	1.25	3.44	-	
	286-290	0.34	1.27	3.54	-	
	291-295	0.34	1.30	3.64	-	
	296-300	0.35	1.33	3.74	-	
	301-305	0.35	1.35	3.84	-	
	306-310	0.36	1.38	3.94	-	
	311-315	0.36	1.41	4.04	-	
	316-320	0.37	1.43	4.32	-	

Note : Intumescent dry film thickness excludes any primer or top cost film thickness.

Rockwool Limited

Wern Tarw, Pencoed, Bridgend, Mid Glamorgan CF35 6NY UK
Tel: +44 (0)1656 862621 • Fax: +44 (0)1656 862302
E-mail: info@rockwool.co.uk • Website: www.rockwool.co.uk

Certificate No: 022d to LPS 1107: Issue 1

Product Name	Exposure	Additional Information	LPCB Ref. No.
Rockwool FirePro(TM) BeamClad systems	Internal and semi exposed	Thickness range 25mm to 110mm. Fire resistance 30-240min (see tables below). Faced and unfaced boards are available, refer to manufac turer's technical literature for fixing details.	022d/01

3 sided protection of steel beams, supporting concrete/composite decks using the clip fix or stud welded pins/dry joint system (critical failure temperature 620°C)

Product Name	Board Thickness (mm)	Performance Hp/A 30min	Performance Hp/A 60min	Performance Hp/A 90min	Performance Hp/A 120min	LPCB Ref. No.
BeamClad	25	260	260	260	95	022d/01
	30	260	260	260	124	
	35	260	260	260	159	
	40	260	260	260	200	
	45	260	260	260	251	
	50	260	260	260	260	
	55	260	260	260	260	
	60	260	260	260	260	

3 sided protection of steel beams, supporting concrete / composite decks using the bonded noggin / dry joint system (critical failure temperature 620°C)

Product Name	Board Thickness (mm)	Performance Hp/A 30min	Performance Hp/A 60min	Performance Hp/A 90min	Performance Hp/A 120min	LPCB Ref. No.
BeamClad	25	260	260	196	73	022d/01
	30	260	260	260	93	
	35	260	260	260	116	
	40	260	260	260	143	
	45	260	260	260	173	
	50	260	260	260	209	
	55	260	260	260	252	
	60	260	260	260	260	

3 sided protection of steel beams, supporting concrete / composite decks using the bonded noggin or stud welded pins / glued joint system (critical failure temperature 620°C)

Product Name	Board Thickness (mm)	Performance Hp/A 30min	Performance Hp/A 60min	Performance Hp/A 90min	Performance Hp/A 120min	Performance Hp/A 180min	Performance Hp/A 240min	LPCB Ref. No.
BeamClad	25	260	260	260	168	52	-	022d/01
	30	260	260	260	235	65	-	
	35	260	260	260	260	80	45	
	40	260	260	260	260	95	53	
	45	260	260	260	260	113	62	
	50	260	260	260	260	132	70	
	55	260	260	260	260	154	80	
	60	260	260	260	260	178	90	
	65	260	260	260	260	206	100	
	70	260	260	260	260	237	112	
	75	260	260	260	260	260	124	
	80	260	260	260	260	260	136	
	85	260	260	260	260	260	150	
	90	260	260	260	260	260	165	
	95	260	260	260	260	260	181	
	100	260	260	260	260	260	199	
	110	260	260	260	260	260	238	

4 sided protection of steel beams and columns using the clip fix or stud welded pins / dry joint system (critical failure temperature 550°C)

Product Name	Board Thickness (mm)	Performance Hp/A 30min	Performance Hp/A 60min	Performance Hp/A 90min	Performance Hp/A 120min	LPCB Ref. No.
BeamClad	25	260	260	148	65	022d/01
	30	260	260	260	84	
	35	260	260	260	104	
	40	260	260	260	128	
	45	260	260	260	155	
	50	260	260	260	187	
	55	260	260	260	225	
	60	260	260	260	260	

4 sided protection of steel beams and columns using the bonded noggin / dry joint system (critical failure temperature 550°C)

Product Name	Board Thickness (mm)	Performance Hp/A 30min	Performance Hp/A 60min	Performance Hp/A 90min Performance Hp/A 90min	Performance Hp/A 120min	LPCB Ref. No.
BeamClad	25	260	260	146	65	022d/01
	30	260	260	202	83	
	35	260	260	260	103	
	40	260	260	260	126	
	45	260	260	260	153	
	50	260	260	260	184	
	55	260	260	260	221	
	60	260	260	260	260	

4 sided protection of steel beams using the bonded noggin or stud welded pins / glued joint system (critical failure temperature 550°C)

Product Name	Board Thickness (mm)	Performance Hp/A 30min	Performance Hp/A 60min	Performance Hp/A 90min	Performance Hp/A 120min	Performance Hp/A 180min	Performance Hp/A 240min	LPCB Ref. No.
BeamClad	25	260	260	260	98	40	-	022d/01
	30	260	260	260	130	50	-	
	35	260	260	260	168	61	-	
	40	260	260	260	216	73	43	
	45	260	260	260	260	85	50	
	50	260	260	260	260	99	57	
	55	260	260	260	260	114	65	
	65	260	260	260	260	131	73	
	65	260	260	260	260	150	81	
	70	260	260	260	260	170	90	
	75	260	260	260	260	193	99	
	80	260	260	260	260	219	109	
	85	260	260	260	260	248	120	
	90	260	260	260	260	260	131	
	95	260	260	260	260	260	144	
	100	260	260	260	260	260	157	
	110	260	260	260	260	260	186	

4 sided protection of steel columns using the bonded noggin or stud welded pins / glued joint system (critical failure temperature 550°C)

Product Name	Board Thickness (mm)	Performance Hp/A 30min	Performance Hp/A 60min	Performance Hp/A 90min	Performance Hp/A 120min	Performance Hp/A 180min	Performance Hp/A 240min	LPCB Ref. No.
BeamClad	25	260	260	146	65	-	-	022d/01
	30	260	260	207	83	-	-	
	35	260	260	260	104	45	-	
	40	260	260	260	128	54	-	
	45	260	260	260	155	62	-	
	50	260	260	260	187	72	44	
	55	260	260	260	225	82	50	
	60	260	260	260	260	92	55	
	65	260	260	260	260	104	61	
	70	260	260	260	260	116	68	
	75	260	260	260	260	129	74	
	80	260	260	260	260	143	81	
	85	260	260	260	260	159	88	
	90	260	260	260	260	176	96	
	95	260	260	260	260	194	103	
	100	260	260	260	260	214	124	
	110	260	260	260	260	260	129	

During the construction of new buildings and renovation of existing buildings it is common to use sheeting made from plastic or similar materials to provide protection against the weather or, for example, dust and other materials produced by work in adjacent areas. If a material complies with LPS 1207 *Fire requirements for Protective Covering Materials* it will not add significantly to the fire risk. This standard is called up in The Joint Code of Practice on the Protection from Fire of Construction Sites & Buildings Undergoing Renovation, Issue 5.

Alpha Packaging Films Limited

Triumph Trading Park, Speke Hall Road, Liverpool L24 9GQ UK
Tel: +44 (0)151 486 4300 • Fax: +44 (0)151 486 8275
E-mail: info@alphapkg.co.uk • Website: www.alphapkg.co.uk

Certificate No: 590a to LPS 1207: Issue 2

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Flame Retardant Polythene Film	0.065 to 0.250	65 to 250	590a/01

BPI Recyled Products - Greenock

96 Port Glasgow Road, Greenock, Scotland PA15 2UL UK
Tel: +44 (0)1475 501100 • Fax: +44 (0)1475 743256

Certificate No: 521a to LPS 1207

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
MegaFilm Flame Retardant Polythene Protection Films	0.065 to 0.5		521a/01
Portathene WRE50	0.03 to 0.5		521a/02

MegaFilm can be supplied in various flat and textured profiles, and is available in a variety of colours

Britton Merlin Limited

Brackenborough Road, Louth, Lincolnshire LN11 0AX UK
Tel: +44 (0)1507 617800 • Fax: +44 (0)1507 601681
E-mail: tuffreel@britton-group.com

Certificate No: 499a to LPS 1207: Issue 2.1

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Tuffreel Flame Retardant	approx. 0.04 - 0.25	approx. 40 - 250	499a/01

BSK Materials Limited

Commissioners Road, Strood, Rochester, Kent ME2 4ED UK
Tel: +44 (0)1634 292700 • Fax: +44 (0)1634 291029
E-mail: sales@bsk-laminating.com • Website: www.bsk-laminating.com

Certificate No: 280a to LPS 1207

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Seekure 830	0.16 to 0.25	96 to 150	280a/01
Pilloflex FR2500	approx. 3.5	approx. 110	280a/02

Don & Low Ltd, Nonwovens

Glamis Road, Forfar, Angus DD8 1EY UK
Tel: +44 (0)1307 452600 • Fax: +44 (0)1307 452635
E-mail: nonwovens@donlow.co.uk • Website: www.donlow.co.uk

Certificate No: 726a to LPS 1207: Issue 2

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Daltex Flame Retardant Spunbond (A100E5TFR)	0.5 nominal	100 ±6%	726a/01

Envirowrap Limited

Strangford House, Church Road, Ashford, Kent TN23 1RD
Tel: +44 (0)1233 86 00 80 • Fax: +44 (0)1233 86 00 90
E-mail: enquiries@envirowrap.info • Website: www.envirowrap.info

Certificate No: 691a to LPS 1207

Envirowrap 300FR

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
EnviroWrap 300FR	0.30 ± 5%	312 ± 5%	691a/01
EnviroWrap 350FR	0.35 ± 5%	360 ± 5%	
EnviroWrap 400FR	0.40 ± 5%	412 ± 5%	

Florprotec Limited

33 Kellaw Road, Yarm Road Business Park, Darlington, Co Durham DL1 4YA UK
Tel: +44 (0)1325 369800 • Fax: +44 (0)1325 369801
Website: www.floorprotection.co.uk

Certificate No: 459a to LPS 1207: Issue 2

Pyrolay

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Pyrolay	0.05 to 0.30 ± 10%	46 to 279 ± 10%	459a/01
Pyrolay 20	0.25 ± 10%	180 ± 10%	

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Pyrolay 30	0.30 ± 10%	280 ± 10%	
Pyrolay Superstrength Heavy	0.15 t ± 10%	140 ± 10%	
Pyrolay Superstrength Light	0.06 ± 10%	56 ± 10%	
Pyrolay Superstrength Medium	0.10 ± 10%	94 ± 10%	
CPP	0.16 ± 10%	100 ± 10%	459a/02
Pyrolay Foil	0.05 to 0.30 ± 10%	46 to 279 ± 10%	527a/01

LPCB Ref. 459a/01 has an embossed finish.

Goran Plastics

Unit C, 5 Caxton Way, Watford Business Park, Watford, Herts WD18 8UA UK
Tel: +44 (0)1923 255700 • Fax: +44 (0)1923 255698
E-mail: sales@goran.co.uk

Certificate No: 688a to LPS 1207: Issue 2

Polyflute Twinwall Polypropylene

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Polyflute Twinwall Polypropylene	2.0 - 3.0	270 - 450	688a/01

Icopal Plastic Membranes a/s

Marielundvej 39-43, Postboks 510, DK-2730 Herlev, Copenhagen, Denmark
Tel: +44 (0)1886 884747 • Fax: +44 (0)1886 884125
E-mail: enquiries@special-fire.com • Website: www.special-fire.com

Certificate No: 540a to LPS 1207

Product Name	Weight (g/m^2)	LPCB Ref. No.
HD Barrier Film	206 to 252	540a/01
MD Barrier Film	119 to 132	

Industrial Textiles and Plastics

Stillington Road, Easingwold, York YO61 3FA UK
Tel: +44 (0)1347 825200 • Fax: +44 (0)1347 825222
E-mail: info@itpltd.co.uk • Website: www.powerclad.com

Certificate No: 727a to LPS 1207 Issue 2

Powerclad

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Powerclad SDFR	0.40[1]	200 ±5%	727a/01
Powerclad PMFR	0.40[1]	240 ±5%	727a/02

Notes:
1) LPCB ref No. 727a/01 & 727a/02, the material thickness includes the reinforcing mesh.
2) LPCB Ref. No's. 727a/01 and 727a/02 covers printed and non printed Powerclad SDFR and PMFR materials with a printed product marking band as required by LPS 1207: Issue 2 Clause 4.

IPB N.V.

Steenovenstraat 30, B-8790 Waregem, Belgium
Tel: UK Sales +44 (0)800 834704 • Fax: +44 (0)800 834705

Certificate No: 365a to LPS 1207

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Proplex	2.0 to 4.0	250 to 1000	365a/01

Kaysersberg Plastics

Madleaze Industrial Estate, Bristol Road, Gloucester GL1 5SG UK
Tel: +44 (0)1452 316500 • Fax: +44 (0)1452 300436
E-mail: sales@kayplast.com • Website: www.kaysersberg-plastics.com

Certificate No: 227a to LPS 1207 Issue 2

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Correx Twinwall (Black)	2.0 to 3.8	250 to 700	227a/01
	2.0 to 6.0	250 to 1500	
Correx Twinwall (Coloured & translucent)	2.0 to 3.8	250 to 700	227a/02
	2.0 to 6.0	250 to 1500	

Marnic Plc

Marnic House, 37 Shooters Hill Road, Black Heath, London SE3 7HS UK
Tel: +44 (0)20 8858 8100 • Fax: +44 (0)20 8305 1401
E-mail: tapes@marnic.com

Certificate No: 709a to LPS 1207: Issue 2

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
MP70TRA twin wall fluted sheet	2.0	250 ± 10	709a/01
MP70BLA twin wall fluted sheet	2.0	250 ± 10	709a/02
MP70WHI twin wall fluted sheet	2.0	250 ± 10	709a/03

Nields Plastic Company Limited

Foley Works Estate, Hereford HR1 2SF UK
Tel: +44 (0)1432 268341 • Fax: +44 (0)1432 353247
E-mail: sales@nields.co.uk

Certificate No: 342a to LPS 1207

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Antimar	0.05 to 0.3	47 to 280±15%	342a/01

NMC (UK) Limited

Tafarnaubach Industrial Estate, Tredegar, South Wales NP22 3AA, Wales
Tel: +44 (0)800 834 704 • Fax: +44 (0)800 834 705
E-mail: enquiries@protection.co.uk • Website: www.protection.co.uk

Certificate No: 634a to LPS 1207

Product Name	Thickness (mm)	Density (kg/m^3)	LPCB Ref. No.
Protective Foam Tubing (1)	13	43 ±5	634a/01

Note:
1) Protective Foam Tubing internal diameter range 15mm to 114mm.

Northern Ireland Plastics Limited

39 Shrigley Road, Killyleagh, Co. Down, Northern Ireland BT30 9SR UK
Tel: +44 (0)2844 828753/4 • Fax: +44 (0)2844 828809
E-mail: info@niplastics.co.uk

Certificate No: 341a to LPS 1207: Issue 2

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Corriboard Twin Wall (White)	2.3 ± 0.5	200 to 800	341a/01
Corriboard Twin Wall (Black)	2.3 ± 0.5	200 to 800	341a/02

Ondaplast SpA

Via Crocetta, 3310, 47020 Longiano (FC), Italy
Tel: +39 0547 56616 • Fax: +39 0547 54087
E-mail: info@ondaplast.com • Website: www.ondaplast.com

Certificate No: 742a to LPS 1207: Issue 2

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
RE-FLAM twin wall flame retardant sheet, Natural colour	2.0 to 10.0	270 to 2000 ± 10%	742a/01

Sealed Air Limited

Telford Way, Kettering, Northants NN16 8UN UK
Tel: +44 (0)1886 884747 • Fax: +44 (0)1886 884125
Website: www.sealedair.com

Certificate No: 505a to LPS 1207

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Cushion Wrap 1207	approx 3.5	approx 135	505a/01

Sunjüt A.S.

Yukari Dudullu, Organize San, Bölgesi I Cad. No. 29, Umraniye 81230, Istanbul, Turkey
Tel: +44 (0)800 834704 • Fax: +44 (0)800 834705

Certificate No: 495a to LPS 1207

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Promesh 1207 (3)	0.20 to 0.43	100 to 210	495a/01
Proscaff Premium FR (2)	0.60	250	495a/02
Protec Flame Retardant Barrier Sheet (3)	0.45[1]	170	495a/03

Notes:
1) The material thickness of the Protec flame retardant Barrier sheet includes the textured profile.
2) LPCB Ref. No. 495a/02 covers printed and non printed material with a printed product marking band as required by LPS 1207: Issue 2 Clause 4.
3) LPCB Ref. No. 495a/01 & LPCB Ref. No. 495a/03 covers non printed material with a printed product marking band as required by LPS 1207: Issue 2 Clause 4 only.

Total Polyfilm Limited

Armytage Road, The Industrial Estate, Brighouse, West Yorkshire HD6 1PT UK
Tel: +44 (0)1484 714313 • Fax: +44 (0)1484 720452

Certificate No: 527a to LPS 1207

Frapol sheeting

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Frapol HD	0.200 to 0.300 ± 10%	186 to 279 ± 10%	527a/01
Frapol LD	0.50 to 0.99 ± 10%	46 to 92 ± 10%	
Frapol MD	0.100 to 0.199 ± 10%	93 to 185 ± 10%	

Twinplast Limited

Unit 2, Greycaine Road, Watford, Hertfordshire WD24 7GP UK
Tel: +44 (0)1923 230191/817761 • Fax: +44 (0)1923 817756
E-mail: sales@twinplast.co.uk • Website: www.twinplast.co.uk

Certificate No: 375a to LPS 1207

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Antinox (fire retardant)	2.0 to 4.0	250 to 700	375a/01
Twinflute (fire retardant)	2.0 to 4.0	250 to 700	
Twinplast (fire retardant)	2.0 to 4.0	250 to 700	

During the construction or renovation of buildings it is common to use preformed tubing or blocks made from plastic or similar materials to provide protection to hand rails, door handles and door jambs against dust and other materials produced by work in adjacent areas. If a material complies with LPS 1207 *Fire requirements for Protective Covering Materials* it will not add significantly to the fire risk. This standard is also called up in the Joint Code of Practice on the Protection from Fire of Construction Sites & Buildings Undergoing Renovation, Issue 5.

NMC (UK) Limited

Tafarnaubach Industrial Estate, Tredegar, South Wales NP22 3AA, Wales
Tel: +44 (0)800 834 704 • Fax: +44 (0)800 834 705
E-mail: enquiries@protection.co.uk • Website: www.protection.co.uk

Certificate No: 634a to LPS 1207

Product Name	Thickness mm	Density (kg/m^3)	LPCB Ref. No.
Protective Foam Tubing (1)	13	43 ± 5	634a/01

Note:
1) Protective Foam Tubing internal diameter range 15mm to 114mm.

Scaffold cladding materials such as sheeting and netting are often used externally during construction, refurbishment or demolition of buildings to provide protection. Historically, there have been a number of significant losses associated with fires involving scaffolding. Scaffold cladding materials should not add to the fire risk if they comply with LPS 1215 *Requirements for the LPCB Approval and Listing of Scaffold Cladding Materials*.
Note: LPS 1215 does not cover other features required of scaffold materials, such as resistance to wind, rain penetration, resistance to tearing, or impact damage.

Envirowrap Limited

Strangford House, Church Road, Ashford, Kent TR23 1RD
Tel: +44 (0)1233 86 00 80 • Fax: +44 (0)1233 86 00 90
E-mail: enquiries@envirowrap.info • Website: www.envirowrap.ino

Certificate No: 691b to LPS 1215

Envirowrap 300FR, 350FR & 400FR

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
EnviroWrap 300FR	0.30 ± 5%	312 ± 5%	691b/01
EnviroWrap 350FR	0.35 ± 5%	360 ± 5%	
EnviroWrap 400FR	0.40 ± 5%	412 ± 5%	

Icopal Limited

Barton Dock Road, Stretford, Manchester M32 0YL UK
Tel: +44 (0)161 865 4444 • Fax: +44 (0)161 865 8433

Certificate No: 572d to LPS 1215

Firesmart Super T Plus and Super T Plus Flamesafe sheeting

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Firesmart Super T Plus and Firesmart Super T Plus (2)	0.2 to 0.55	275 ± 5%	572c/01
Super T Plus Flamesafe	0.2 to 0.55	233 ± 10%	572d/01

Note:
Firesmart Super T Plus roll size 2.5m x 40m, Firesmart Super T Plus^2 roll size 2m x 45m. Product produced at Icopal Plastic Membranes a/s, Copenhagen.

Industrial Textiles and Plastics

Stillington Road, Easingwold, York YO61 3FA UK
Tel: +44 (0)1347 825200 • Fax: +44 (0)1347 825222
E-mail: info@itpltd.com • Website: www.powerclad.com

Certificate No: 727b to LPS 1215: Issue 3

Powerclad

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Powerclad SDFR	0.40	200 ±5%	727b/01
Powerclad PMFR	0.40	240 ±5%	727b/02

Notes:
1) LPCB Ref. No. 727b/01 & 727b/02, the material thickness includes the reinforcing mesh
2) LPCB Ref. No. 727b/01 cover non-printed Powerclad SDFR material with a printed product marking band as required by LPS 1215: Issue 3 Clause 4 only.
3) LPCB Ref. No. 727b/02 covers printed and non printed Powerclad PMFR material with a printed product marking band as required by LPS 1215: Issue 3 Clause 4.

Sunjüt A.S.

Yukari Dudullu, Organize San, Bölgesi I Cad. No. 29, Umraniye 81230, Istanbul, Turkey
Tel: +44 (0)800 834704 • Fax: +44 (0)800 834705

Certificate No: 495b to LPS 1215

Scaffold sheeting

Product Name	Thickness (mm)	Weight (g/m^2)	LPCB Ref. No.
Proscaff Premium FR	0.60	250	495b/02

Note:
1) LPCB Ref. No. 495b/01 covers printed and non printed material with a printed product marking band as required by LPS 1215: Issue 3 Clause 4.

A fire can spread within a building through hidden voids, such as service shafts, roof and floor spaces. The materials listed in this section can be used to sub-divide such voids and restrict the spread of fire. In the absence of a specific test standard for cavity barriers these products meet the performance requirements of BS 476:Part 22: 1987 *Methods for determination of the fire resistance of non-loadbearing elements of construction* or BS EN 1364-1 *Fire resistance Tests for Non-loadbearing Elements. Walls* or 1364-2 *Fire Resistance Tests for Non-loadbearing Elements. Ceilings* as set down in Approved Document B. The LPC Design Guide for the Fire Protection of Buildings:2000 covers the design issues in section 4.5.

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Certificate No: 552a to LPS 1208: Issue 2

Product Name	Specification	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	LPCB Ref. No.
FireHalt Gold	3.0m long x 1.2m wide	132	38	552a/01

Notes:
1) The barriers can only be installed vertically
2) Joints between individual runs in a barrier must be fixed using 12mm staples at 50mm centres.

Rockwool Limited

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Certificate No: 022c to LPS 1208: Issue 2

Product Name	Product	Specification	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Grading	LPCB Ref. No.
Rockwool Firepro Fire Barrier System	½ hour Cavity Barrier	1 layer 50mm thick	60	15	FR15	022c/01
	½ hour Fire Barrier	1 layer 60mm Fire Barrier foil faced overlapped joints	60	30	FR30	
	1 hour Fire Barrier	2 layers 50mm Fire Barrier staggered vertical joints	60	60	FR60	
	1½ Hour Fire Barrier	2 layers 50mm Fire Barrier staggered vertical joints	90	90	FR90	
	2 hour Fire Barrier	2 layers 60mm Fire Barrier foil faced separated by 40mm air gap	120	120	FR120	

Notes:
1) This product is supplied in 1m widths, with a length of 4m for 50mm thick Fire Barrier and 3.5m for 60mm thick Fire Barrier.
2) The maximum allowable drop is 6m without a support frame. Where the additional section is joined the barrier should be overlapped by at least 100mm and stitched.
3) Refer to manufacturer's technical literature for fixing details.

When a fire resistant ceiling is penetrated to allow the fitting of a lighting unit, the fire resistance of the ceiling may be compromised. The products listed in this Section have been approved to BS 476:Part 21:1987 *Methods for determination of the fire resistance of loadbearing elements of construction* and BS 476:Part 23:1987 *Methods for determination of the contribution of components to the fire resistance of a structure* or BS EN 1364-2 *Fire Resistance Tests for Non-loadbearing Elements. Ceilings* and will maintain the fire resistance of the ceiling.

The products listed in this section are used as roofing systems that offer protection where there is a risk of fire from outside of the building. The products have been tested against either BS 476:Part 3:1958 *Fire tests on building materials & structures. External fire exposure roof test* or ENV 1187:2002 *Test methods for external fire exposure to roofs*., in order to ensure that roof covering and its supporting deck act as a protective barrier against fire from the outside of a building. It should be noted that BS 476:Part 3:1958 has been withdrawn, but is still referred to in Approved Document B of the UK Building Regulations. ENV 1187:2002 has been issued as a Draft for Development publication and is of a provisional nature as agreement could not be reached on the publication of an EN.

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Certificate No: 572a to BS 476: Part 3: 1958

Firesmart

Product Name	Category	LPCB Ref. No.
Firesmart Proflex system	EXT.F.AA	572a/01
Firesmart Infinity system	EXT.F.AA	572a/02
Firesmart Power system	EXT.F.AA	572a/03
Firesmart Tecnotorch system	EXT.F.AA	572a/05
Firesmart Profiles XL system	EXT.F.AA	572a/07
Firesmart Gel	EXT.F.AA	572a/08
Firesmart Single Ply (torch on)	EXT.F.AA	680a/01
Firesmart Single Ply (mechanical fix)	EXT.F.AA	680a/02

Notes:
1) The categories specified are applicable only to roofs having a pitch of 10 degrees or less.
2) All products were tested using a 19mm exterior grade plywood deck.
3) The requirement for BS 476:Part 3:1958 will cease when the UK Building Regulations cease to refer to it.

Certificate No: 572b to ENV 1187: 2002 Test 1

ENV 1187: 2002 Test 1

Product Name	LPCB Ref. No.
Firesmart Proflex system	572b/01
Firesmart Infinity system	572b/02
Firesmart Power system	572b/03
Firesmart Tecnotorch system	572b/05
Firesmart Profiles XL system	572b/07
Firesmart Gel system	572b/08
Firesmart Single Ply (torch on)	680b/01
Firesmart Single Ply (Mechanical fix)	680b/02

Notes:
1) The certification applies to roofs with a pitch of 20 degrees or less.
2) The certification for 572b/01, 572b/02, 572b/03, 572b/04, 572b/06 and 572b/07 covers the systems when applied to any wooden continuous deck with a minimum thickness of 16mm, and with gaps not exceeding 0.5mm, and any non-combustible continuous deck with a minimum thickness of 10mm.
3) The certification for 572b/05, 680b/01 and 680b/02 covers the systems when applied to a 19mm thick exterior grade plywood deck only.
4) The performance of the systems is detailed in the following table.

		Firesmart Single Ply (torch on)				Firesmart Single Ply (mechanical fix)			
Specimen		1	2	3	4	1	2	3	4
External fire spread									
Time taken to travel: (in an upwards direction from upper edge of the brand (min:sec)	10cm	-	-	-	-	-	-	-	-
	30cm	-	-	-	-	-	-	-	-
	50cm	-	-	-	-	-	-	-	-
	70cm	-	-	-	-	-	-	-	-
	to upper edge of measuring zone	-	-	-	-	-	-	-	-
Time taken to travel: (in an upwards direction from lower edge of the brand (min:sec)	10cm	-	-	-	-	-	-	-	-
	30cm	-	-	-	-	-	-	-	-
	50cm	-	-	-	-	-	-	-	-
	to lower edge of measuring zone	-	-	-	-	-	-	-	-
Falling flaming material from surface of roof									
Time of occurrence (min:sec)		-	-	-	-	-	-	-	-
Length of time burning on floor (min: sec)		-	-	-	-	-	-	-	-
Burnt length (external)									
Upwards (cm)		-	-	-	-	-	-	-	-
Downwards (cm)		-	-	-	-	-	-	-	-
Damaged area (cm^2)		856	894	882	865	882	851	897	859

		Firesmart Proflex Firesmart Infinity Firesmart Power Firesmart Tribond E				Firesmart Tecnatorch Firesmart Elastogum				Firesmart Profiles XL			
Specimen		1	2	3	4	1	2	3	4	1	2	3	4
Fire Penetration													
Falling flaming material from underside:	Time of occurrence (min:sec)	-	-	-	-	-	-	-	-	-	-	-	-
	Length of time burning on floor (min:sec)	-	-	-	-	-	-	-	-	-	-	-	-
Openings	Time of occurrence (min:sec)	-	-	-	-	-	-	-	-	-	-	-	-
	Nature	-	-	-	-	-	-	-	-	-	-	-	-
	Max. area of single opening (cm^2)	-	-	-	-	-	-	-	-	-	-	-	-
	Sum of area of all openings (cm^2)	-	-	-	-	-	-	-	-	-	-	-	-
Fire Penetration	Time of occurrence (min:sec)	-	-	-	-	-	-	-	-	-	-	-	-
	Nature	-	-	-	-	-	-	-	-	-	-	-	-

		Firesmart Single Ply (torch on)				Firesmart Single Ply (mechanical fix)			
Specimen		1	2	3	4	1	2	3	4
Fire penetration									
Falling flaming material from underside:	Time of occurrence (min:sec)	-	-	-	-	-	-	-	-
	Length of time burning on floor (min:sec)	-	-	-	-	-	-	-	-
Openings	Time of occurrence (min:sec)	-	-	-	-	-	-	-	-
	Nature	-	-	-	-	-	-	-	-
	Maximum area of a single opening (cm^2)	-	-	-	-	-	-	-	-
	Sum of area of all openings (cm^2)	-	-	-	-	-	-	-	-
Fire penetration	Time of occurrence (min:sec)	-	-	-	-	-	-	-	-
	Nature	-	-	-	-	-	-	-	-

		Firesmart Proflex Firesmart Infinity Firesmart Power Firesmart Tribond E				Firesmart Tecnatorch Firesmart Elastogum				Firesmart Profiles XL			
Specimen		1	2	3	4	1	2	3	4	1	2	3	4
External Fire Spread													
Time taken to travel: (in an upwards direction from upper edge of the band) (min:sec)	10cm	-	-	-	-	-	-	-	-	-	-	-	-
	30cm	-	-	-	-	-	-	-	-	-	-	-	-
	50cm	-	-	-	-	-	-	-	-	-	-	-	-
	70cm	-	-	-	-	-	-	-	-	-	-	-	-
	to upper edge of measuring zone	-	-	-	-	-	-	-	-	-	-	-	-
Time taken to travel: (in an upwards direction from upper edge of the band) (min:sec)	10cm	03:29	-	02:33	02:19	02:59	-	02:57	02:06	-	-	-	-
	30cm	-	-	-	-	-	-	-	-	-	-	-	-
	50cm	-	-	-	-	-	-	-	-	-	-	-	-
	to lower edge of measuring zone	-	-	-	-	-	-	-	-	-	-	-	-
Falling flaming material from surface of Roof													
Time of occurrence (min:sec)		-	-	-	-	-	-	-	-	-	-	-	-
Length of time burning on floor (min:sec)		-	-	-	-	-	-	-	-	-	-	-	-
Burnt length external													
Upwards (cm)		0	0	0	0	0	0	0	0	0	0	0	0
Downwards (cm)		19	5	21	11	12	5	13	14	6	7	6	7
Damaged area (cm^2)		548	698	554	587	650	697	576	647	645	574	601	557

		Firesmart Single Ply (torch on)				Firesmart Single Ply (mechanical fix)			
Specimen		1	2	3	4	1	2	3	4
External fire spread									
Time taken to travel: (in an upwards direction from upper edge of the brand) (min:sec)	10cm	-	-	-	-	-	-	-	-
	30cm	-	-	-	-	-	-	-	-
	50cm	-	-	-	-	-	-	-	-
	70cm	-	-	-	-	-	-	-	-
	to upper edge of measuring zone	-	-	-	-	-	-	-	-
Time taken to travel: (in a downwards direction from lower edge of the brand) (min:sec)	10cm	-	-	-	-	-	-	-	-
	30cm	-	-	-	-	-	-	-	-
	50cm	-	-	-	-	-	-	-	-
	to lower edge of measuring zone	-	-	-	-	-	-	-	-
Falling flaming material from surface of roof									
Time of occurrence (min:sec)		-	-	-	-	-	-	-	-
Length of time burning on floor (min: sec)		-	-	-	-	-	-	-	-
Burnt length (external)									
Upwards (cm)		-	-	-	-	-	-	-	-
Downwards (cm)		-	-	-	-	-	-	-	-
Damaged area (cm^2)		856	894	882	865	882	851	897	859

		Firesmart Proflex Firesmart Infinity Firesmart Power				Firesmart Tecnatorch Firesmart Elastogum				Firesmart Profiles XL			
Specimen		1	2	3	4	1	2	3	4	1	2	3	4
Internal Damage													
Non-flaming propogation	Nature												
Extent of internal damage (cm)	Upwards	0	0	0	0	0	0	0	0	0	0	0	0
	Downwards	19	5	21	11	12	5	13	14	6	7	6	7
Max. length of burnt material in each functional layer (cm)	Layer 1:												
	Upwards	0	0	0	0	0	0	0	0	0	0	0	0
	Downwards	19	5	21	11	12	5	13	14	6	7	6	7
	Layer 2:												
	Upwards	0	0	0	0	0	0	0	0	0	0	0	0
	Downwards	19	5	21	11	12	5	13	14	6	7	6	7
	Layer 3:												
	Upwards	0	0	0	0	0	0	0	0	0	0	0	0
	Downwards	19	5	21	11	12	5	13	14	0	0	0	0
	Layer 4:												
	Upwards	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a
	Downwards	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a
Damage area of each functional layer (cm^2)	Layer 1	548	698	554	587	650	697	576	647	645	574	601	587
	Layer 2	548	698	554	587	650	697	576	647	645	574	601	587
	Layer 3	548	698	554	587	650	697	576	647	98	288	82	159
	Layer 4	200	181	246	210	212	70	276	481	n/a	n/a	n/a	n/a
Extent of lateral flame spread													
External (cm)		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Internal (cm)		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

		Firesmart Single Ply (torch on)				Firesmart Single Ply (mechanical fix)			
Specimen		1	2	3	4	1	2	3	4
Internal damage									
Non-flaming propogation	Nature	-	-	-	-	-	-	-	-
Extent of internal damage (cm)	Upwards	-	-	-	-	-	-	-	-
	Downwards	-	-	-	-	-	-	-	-
Maximum length of burnt material in each functional layer (cm)	Layer 1: Upwards	-	-	-	-	-	-	-	-
	Downwards	-	-	-	-	-	-	-	-
	Layer 2: Upwards	-	-	-	-	-	-	-	-
	Downwards	-	-	-	-	-	-	-	-
	Layer 3: Upwards	-	-	-	-	-	-	-	-
	Downwards	-	-	-	-	-	-	-	-
Damaged area of each functional layer (cm^2)	Layer 1	484	392	407	419	441	399	415	428
	Layer 2	197	163	158	144	202	172	169	181
	Layer 3	-	-	-	-	-	-	-	-
Extent of lateral flame spread									
External (cm)		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Internal (cm)		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

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Certificate No: 626a to BS476:Part 3:1958

Roofing Products

Product Name	Category	LPCB Ref. No.
Coolbond FireBloc System	EXT.F.AA	626a/01
Superflex 250 FireBloc Torch-on system	EXT.F.AA	626a/03
Superflex 250 FireBloc Torch-on system (modified)	EXT.F.AA	626a/04
Superflex 250 FireBloc system	EXT.F.AA	626a/05
Superflex 350 FireBloc system	EXT.F.AA	626a/06
Superflex 350 FireBloc Torch-on system	EXT.F.AA	626a/07
Ultra prevENt system	EXT.F.AA	626a/08
Untra prevENt M-F system	EXT.F.AA	626a/09
Untra prevENt Torch-on system	EXT.F.AA	626a/10

Notes:
1) The categories specified are applicable only to roofs having a pitch of 10 degrees or less.
2) Product systems LPCB Ref No. 626a/01, 626a/03, 626a/05, 626a/06, 626a/07, 626a/08, 626a/09 626a/10 & 626a/11, were tested applied to a 18mm exterior grade plywood deck.
3) The supporting substrate may be reinforced (cast insitu) concrete 200mm or pre cast concrete slabs, (screeded), 50-100 mm screeded Woodwool slabs, profiled metal decking or 20mm timber boards.
4) Product systems LPCB Ref. No. 626a/03 & 626a/07 Superflex FireBlocTorch-on consist of any Superbar FireBlock VCL, Insulation layers Supertherm Universal (53-103mm), or Supertherm PIR (50-100mm), or SuperRock standard (100-160mm) and Superbase FireBloc Torch-on underlay.
5) Product systems LPCB Ref. No. 626a/05 & 626a/06 Superflex FireBloc consist of any Superbar FireBlock VCL, Insulation layers Supertherm Universal (53-103mm), or Supertherm PIR (50-100mm), or SuperRock standard (100-160mm) and Superbase FireBloc underlay.
6) Product systems LPCB Ref. No. 626a/08 UltraprevENt consist of any Superbar FireBlock VCL, Insulation layers Supertherm Universal (53-103mm), or Supertherm PIR (50-100mm), or SuperRock standard (100-160mm) and UltraprevENt underlay.

7) Product systems LPCB Ref. No. 626a/08 UltraprevENt Torch-on consist of any Superbar FireBlock VCL, Insulation layers Supertherm Universal (53-103mm), or Supertherm PIR (50-100mm), or SuperRock standard (100-160mm) and UltraprevENt Torch-on underlay.
8) Product systems LPCB Ref. No. 626a/09 UltraprevENt M-F consist of any Superbar FireBlock VCL, Insulation layers Ultratherm SF (53 - 113mm), or Supertherm PIR (50-100mm).
   (i) Product 626a/04 - the cap sheet was applied to a system comprising a 0.9mm thick profile metal deck, one layer of a Superbar Double-stick FireBloc VCL, 90mm thick PIR insulation board, one layer of Quadra Base (Rock) underlay.
   (j) The requirements for BS476: Part 3: 1958 will cease when the UK Building Regulations cease to refer to it.

Certificate No: 626b to DD ENV 1187: 2002 - Test Methods for External Fire Exposure to Roofs - Test 1

Roofing Products

Product Name	LPCB Ref. No.
Coolbond FireBloc system	626b/01

Notes:
1) The certification applies to roofs with a pitch of 20 degrees or greater.
2) The certification covers the above systems when applied to a 18mm thick exterior grade plywood deck.
3) The underlay used for the Ultratorch system was a Superbase FireBloc T.O. Underlay.
4) The performance of the systems is detailed in the following table.

Specimen		Coolbond FireBloc 1	2	3	4	Ultratorch 1	2	3	4
External fire spread									
Time taken to travel: (in an upwards direction from upper edge of the brand) (min:sec)	10cm	-	-	5:59	-	7:01	-	6:55	-
	30cm	-	-	-	-	-	-	-	-
	50cm	-	-	-	-	-	-	-	-
	70cm	-	-	-	-	-	-	-	-
	to upper edge of measuring zone	-	-	-	-	-	-	-	-
Time taken to travel: (in a downwards direction from lower edge of the brand) (min:sec)	10cm	1:56	1:25	1:49	1:54	2:15	1:33	1:48	1:25
	30cm	2:30	2:17	2:28	5:05-	-	-	2:23	-
	50cm	-	-	-	-	-	-	-	-
	to lower edge of measuring zone	-	-	-	-	-	-	-	-
Falling flaming material from surface of roof									
Time of occurrence (min:sec)		-	-	-	-	-	-	-	-
Length of time burning on floor (min: sec)		-	-	-	-	-	-	-	-
Burnt length (external)									
Upwards (cm)		2	3	10	0	10	0	10	0
Downwards (cm)		30	30	30	30	10	10	30	10
Damaged area (cm^2)		700	600	700	800	800	800	900	700

Certificate No: 626c to DD ENV 1187: 2002 Test Methods for External Fire Exposure to Roofs - Test 2

Roofing Products

Product Name	LPCB Ref. No.
Coolbond FireBloc system	626c/01

Notes:
1) The certification applies to roofs with any pitch.
2) The certification covers the above systems when applied to a 18mm thick exterior grade plywood deck.

The performance of the systems is detailed in the following tables.

626c/01 Coolbond FireBloc system

Specimen	1	2	3	4	5	6	Average
Air velocity	2 m/s	2 m/s	2 m/s	4 m/s	4 m/s	4 m/s	N/A
Time at which specimen ignited (min:sec)	0:54	0:51	0:50	0:48	0:38	0:41	0:47
Time at which flaming of specimen ceased (min:sec)	8:53	8:49	4:29	4:56	4:15	4:10	5:55
Time at which glowing of specimen ceased (min:sec)	N/A	N/A	N/A	N/A	N/A	N/A	-
Test termination time (min:sec)	15:00	15:00	15:00	15:00	15:00	15:00	15:00
Reason for termination (if applicable)	N/A	N/A	N/A	N/A	N/A	N/A	-
Extent of damage to roof covering (mm)	360	360	410	385	390	360	378
Extent of damage to substrate (mm)	0	0	0	0	0	0	0
Damaged area of roof covering (mm^2)	31000	31000	36000	34000	34500	32000	33084
Damaged area of substrate (mm^2)	0	0	0	0	0	0	0
Maximum depth of damage (mm)	3	3	3	3	3	3	3

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Certificate No: 615a to BS 476: Part 3: 1958

BS 476: Part 3: 1958

Product Name	LPCB Ref. No.
Decothane Gamma 20 Roofing System	615a/01
Decothane Delta 25 Roofing System	615a/02

Notes:
1) The categories specified are applicable only to roofs having a pitch of 10 degrees or less.
2) Products were tested on a 6mm fibre reinforced cement base board, or on a 6mm fibre reinforced cement base board with 1 layer of a BS474 Type 1F felt , or on a 9mm calcium silicate board with a torched-on 3.8mm bituminous felt.
3) The requirement for BS476:Part 3:1958 will cease when the UK Building Regulations cease to refer to it.

Certificate No: 615b to DD ENV 1187: 2002: Test 1

DD ENV 1187: 2002: Test 1

Product Name	LPCB Ref. No.
Decothane Gamma 20 Roofing System	615b/01
Decothane Delta 25 Roofing System	615b/02

Notes:
1) The certification applies to roofs with a pitch of 20 degrees or less.
2) The certification covers the above systems when applied to a 9mm calcium silicate board with 3.8mm thick bituminous felt torched on.
3) The performance of the systems is detailed in the following table.

Specimen		1	2	3	4
Test Pitch		15°	15°	15°	15°
Room temperature at start of test (°C)		24	24	23	23
External fire spread		-	-	-	-
Time taken to travel: (in an upwards direction from upper edge of the brand) (min:sec)	10cm	-	-	-	-
	30cm	-	-	-	-
	50cm	-	-	-	-
	70cm	-	-	-	-
	to upper edge of measuring zone	-	-	-	-
Time taken to travel: (in a downwards direction from upper edge of the brand) (min:sec)	10cm	-	-	-	-
	30cm	-	-	-	-
	50cm	-	-	-	-
	to lower edge of measuring zone	-	-	-	-
Falling flaming material from surface of roof					
Time of occurence (min:sec)		-	-	-	-
Length of time burning on floor (min:sec)		-	-	-	-
Burnt length external					
Upwards (cm)		Nil	Nil	Nil	Nil
Downwards (cm)		Nil	Nil	Nil	Nil
Damaged area (cm^2)		666	605	632	652

Specimen		1	2	3	4
Fire Penetration					
Falling flaming material falling from underside	Time of occurence (min:sec)	-	-	-	-
	Length of time burning on floor (min:sec)	-	-	-	-
Openings	Time of occurence (min:sec)	-	-	-	-
	Nature	-	-	-	-
	Max. area of a single opening (cm^2)	-	-	-	-
	Sum of area of all openings (cm^2)	-	-	-	-
Fire Penetration	Time of occurence (min:sec)	-	-	-	-
	Nature (glowing, sustained flaming, or flaming droplets)	-	-	-	-

Specimen		1	2	3	4
Internal Damage					
Non-flaming propogation	Nature (glowing/smoldering)				
Extent of internal damage (cm)	Upwards	Nil	Nil	Nil	Nil
	Downwards	Nil	Nil	Nil	Nil
Max. length of burnt material in each functional layer (cm)		n/a	n/a	n/a	n/a
Damage area of each functional layer (cm^2)		n/a	n/a	n/a	n/a
Extent of lateral flame spread					
External (cm)		Nil	Nil	Nil	Nil
Internal (cm)		Nil	Nil	Nil	Nil
End of test					
Time at which test was terminated (min:sec)		60:00	60:00	60:00	60:00
Cause of termination		End of standard test duration	End of standard test duration	End of standard test duration	End of standard test duration

Certificate No: 615c to DD ENV 1187: 2002: Test 2

DD ENV 1187: 2002: Test 2

Product Name	LPCB Ref. No.
Decothane Gamma 20 Roofing System	615c/01
Decothane Delta 25 Roofing System	615c/02

Notes:
1) The certification applies to roofs with any pitch.
2) The certification covers the above systems when applied to a 9mm calcium silicate board with 3.8mm thick bituminous felt torched on.
3) The performance of the systems is detailed in the following table

Specimen	1	2	3	4	5	6	Average
Air velocity	2 m/s	2 m/s	2 m/s	4 m/s	4 m/s	4 m/s	n/a
Time at which specimen ignited (min:sec)	n/a	n/a	n/a	n/a	n/a	n/a	-
Time at which flaming of specimen ceased (min:sec)	-	-	-	-	-	-	-
Time at which glowing of specimen ceased (min:sec)	-	-	-	-	-	-	-
Test temination time (min:sec)	15:00	15:00	15:00	15:00	15:00	15:00	15:00
Reason for termination (if applicable)	n/a	n/a	n/a	n/a	n/a	n/a	-
Extent of damage to roof covering (mm)							
Layer 1	215	235	238	280	265	280	252
Layer 2	0	0	0	0	0	0	0
Extent of damage to substrate (mm)	0	0	0	0	0	0	0
Damage area of roof covering (mm^2)	14200	16800	16400	18900	17700	17400	16900
Damage area of substrate (mm^2)	0	0	0	0	0	0	0
Maximum depth of damage (mm)	0	0	0	0	0	0	0

Certificate No: 615d to DD ENV 1187: 2002: Test 3

DD ENV 1187: 2002: Test 3

Product Name	LPCB Ref. No.
Decothane Gamma 20 Roofing System	615d/01
Decothane Delta 25 Roofing System	615d/02

Notes:
1) The certification applies to roofs with a pitch of 10 degrees or less.
2) The certification covers the above systems when applied to a 9mm calcium silicate board with 3.8mm thick bituminous felt torched on.
3) The performance of the systems is detailed in the following table.

Specimen		1	2
Test Pitch		5^o	5^o
Room temperature at start of test (^oC)		16	16
External fire spread		-	-
Time taken to travel: (in an upwards direction from upper edge of the brand) (min:sec)	10cm	4:45	5:04
	30cm	5:17	5:33
	50cm	5:48	Did not reach
	70cm	Did not reach	Did not reach
	90cm	Did not reach	Did not reach
	110cm	Did not reach	Did not reach
	130cm	Did not reach	Did not reach
	200cm	Did not reach	Did not reach
	to upper edge of measuring zone	Did not reach	Did not reach
Time taken to travel: (in a downwards direction from upper edge of the brand) (min:sec)	10cm	n/a	n/a
	30cm	n/a	n/a
	50cm	n/a	n/a
	to lower edge of measuring zone	n/a	n/a
Falling flaming material from surface of roof			
Time of occurence (min:sec)		n/a	n/a
Length of time burning on floor (min:sec)		n/a	n/a
Burnt length external			
Upwards (cm)		60.5	43
Downwards (cm)		3.1	3.5

Specimen		1	2
Fire Penetration			
Falling flaming material falling from underside	Time of occurence (min:sec)	n/a	n/a
	Length of time burning on floor (min:sec)	n/a	n/a
Openings	Time of occurence (min:sec)	n/a	n/a
	Nature	n/a	n/a
	Max. area of a single opening (cm^2)	n/a	n/a
	Sum of area of all openings (cm^2)	n/a	n/a
Fire Penetration	Time of occurence (min:sec)	n/a	n/a
	Nature (glowing, sustained flaming, or flaming droplets)	n/a	n/a

Specimen		1	2
Damage			
Non-flaming propogation	Nature (glowing/smoldering)	Nil	Nil
Extent of internal damage (cm)	Upwards	69.8	56
	Downwards	3.4	3.5
Max. length of burnt material in each functional layer (cm)	Layer 1: Upwards	60.5	43.0
	Layer 1: Downwards	3.1	3.5
End of test			
Time at which test was terminated (min:sec)		30:00	30:00
Cause of termination		End of standard test duration	End of standard test duration

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Certificate No: 672a to BS476:Part 3:1958

Roofing System

Product Name	Category	LPCB Ref. No.
System 600 FR Roofing System	EXT.F.AA	672a/01
System 600 FR Torch On Roofing System	EXT.F.AA	672a/02
Goldseal FR Roofing System	EXT.F.AA	672a/03
Goldseal FR Torch On Roofing System	EXT.F.AA	672A/04
Mach One FR Single Layer (Mechanically Fastened) Roofing System	EXT.F.AA	672a/05
Mach One FR Single Layer (Cold Adhered) Roofing System	EXT.F.AA	672a/06

Notes:
1) All categories specified are applicable only to roofs having a pitch of 10 degrees or less.
2) All products were tested using 18mm 'OSB 3' deck.

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Certificate No: 666a to BS 476:Part 3:1958

Permaphalt

Product Name	Category	LPCB Ref. No.
Permaphalt	Category EXT.F.AA	666a/01

Notes:
1) The Categories specified are applicable only to roofs having a pitch of 10 degrees or less.
2) The test specimen had 2 layers of Permaphalt to a total thickness of 20mm.
3) The product was tested separately with 90mm thick Supertherm PIR and 135mm thick Rockwool HD insulation board.
4) All tests used a 18mm exterior grade plywood deck.
5) The requirement for BS476: Part 3: 1958 will cease when the Building Regulations cease to refer to it.

The products listed in this section are built-up roofing systems which offer protection against the risk of fire from within the building. The products have been tested to:

- BS 476: Part 21 *Fire tests on building materials & structures. Methods for determination of the fire resistance of loadbearing elements of construction* or
- BS 476:Part 22 *Fire tests on building materials & structures. Methods for determination of the fire resistance of non-loadbearing elements* or
- EN 1364: Part 2 *Fire resistance tests for non-loadbearing elements. Ceilings* or
- EN 1365: Part 2 *Fire resistance tests for loadbearing elements. Floors & roofs*

and meet the requirements of LPS 1208 for fire resistance. (For roof sandwich panels see Section 2.3.)

Rockwool Limited

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Certificate No: 022a to BS476:Part 21:Method 7 (see note 1)

Product Name	Specification	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	Core Material	Material	LPCB Ref. No.
Hardrock Dual Density Roofing Board	(see note 2)	60	60	Mineral Wool		022a/01

Notes:

1) The test construction was tested unloaded. However, deflection of the roof did not exceed the allowable limits set out in BS 476: Part 20:1987 for load bearing horizontal elements.
2) The construction consist of:
   Weatherproof roof membrane can be of any material with a weight per unit area of less than 3.5 kg/m² e.g. PVC, Chlorinated PE, Butyl Rubber with welded seams
   2 x 50mm layers of Rockwool Hardrock 171kg/m³
   Monarflex reflex flame-proof vapour barrier
   Metal deck (nominally 0.7mm)
   203mm x133mm x 300kg/m beams at 1800mm centres protected by 25mm BeamClad

Temporary Buildings are widely used on construction sites as site offices, canteens and rest area's etc. On some large construction site the number of temporary buildings can form a virtual village, a fire starting in one of these temporary buildings could be catastrophic if the fire were to break out and spread to other temporary buildings or to the building under construction.

LPS 1195: Part 1 specifies the test and performance requirements for temporary buildings for use on construction sites at locations less than 6m from buildings under construction/refurbishment. The basic objective is to prevent a fire which has started in a temporary building from spreading to adjacent combustible materials, other temporary buildings or to the building under construction. A temporary building tested and approved by LPCB to this standard can be regarded as meeting the appropriate requirements of "The Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation".

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Certificate No: 728a to LPS 1195: Part 1: Issue 4

Product Name	Maximum size (mm) & configurations	Maximum Supporting Load (Note 4)	Integrity Performance	Insulation Performance	Irradiance Performance	LPCB Ref. No.
SafeSpace Fire rated office	9750(L) x 3040(W) x 3040(H) See Note 1	8.5 tonne	30 minutes	30 minutes	0.005 kW/m^2	728a/01

Notes:
1) The certification applies to unit configurations as follows;
   12FT x 10FT Fire rated office, drawing reference FRO-1210-0-011
   16FT x 10FT Fire rated office, drawing reference FRO-1610-0-021
   20FT x 10FT Fire rated office, drawing reference FRO-2010-0-021
   24FT x 10FT Fire rated office, drawing reference FRO-2410-0-021
   30FT x 10FT Fire rated office, drawing reference AVO-3010-0-031-08
   32FT x 10FT Fire rated office, drawing reference FRO-3210-0-031
   Including up to 3 off 1067 x 940mm fire rated timber frame windows with external steel security shutters (Note 2) and,
   1 off 762 x 1981mm fire rated timber door with external steel security door (Note 3).
2) Test conducted with steel security shutters in the open position.
3) Test conducted with the steel security door in the closed position.
4) Imposed load applied evenly distributed on a floor section located on the top of the 4 structural corner posts.

The products listed under this scheme have been assessed for use in transport applications in which the means of escape from a fire may be limited as a result of:

- The difficulties in escaping from vehicles.
- The location of the fire (sub surface tunnels, viaducts, termini).
- The restricted egress from tunnels and sub surface termini.

Under such circumstances, it is essential that the materials used in the construction and furnishings of vehicles and infrastructure have the appropriate fire performance characteristics in terms of fire resistance and reaction to fire including spread of flame, smoke and toxic fume emission.

This scheme provides independent, third party approval for fire performance of products which have been tested and, where appropriate, classified in accordance with standards and codes of practice recognized by the transport industry or produced by the relevant transport bodies such as LUL, IMO, etc.

Products gaining LPCB approval under this scheme are aimed primarily for use in transport applications such as rolling stock, shipping, motor vehicles and within transport infrastructure such as underground tunnels and transport termini.

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Certificate No: 628a to LPS 1132: Issue 4

Product Name	Use	Element of Construction	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	LPCB Ref. No.
RGB 2, 4 , 6, 8 & RGB 180, 240 & 360	Cables	Concrete or masonry Floor	240	120	628a/01
	Steel pipe	Concrete or masonry Floor	240	60	
	Cables	Concrete or masonry Wall	240	60	
	Steel pipes	Concrete or masonry Wall	240	60	
RGBO 2, 4 , 6, 8 & RGBO 180, 240 & 360	Cables	Concrete or masonry Floor	240	120	628a/02
	Steel pipes	Concrete or masonry Floor	240	60	
	Cables	Concrete or masonry Wall	240	60	
	Steel pipes	Concrete or masonry Wall	240	60	
RGP 50, 70, 100, 150, 200 & 300	Cables	Concrete or masonry Floor	360	120	628a/03
	Steel pipes	Concrete or masonry Floor	240	60	
	Cables	Concrete or masonry Wall	360	120	

Product Name	Use	Element of Construction	Fire Resistance (min) Integrity	Fire Resistance (min) Insulation	LPCB Ref. No.
	Steel pipes	Concrete or masonry Wall	240	60	
RGPO 50, 70, 100, 150, 200 & 300	Cables	Concrete or masonry Floor	360	120	628a/04
	Steel pipes	Concrete or masonry Floor	240	60	
	Cables	Concrete or masonry Wall	360	120	
	Steel pipes	Concrete or masonry Wall	240	60	

Note:
Please refer to manufacture's product data for maximum aperture sizes and installation details.

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Certificate No: 022e to EN 13501-1:2002

Product Name	Thickness (mm)	Test/Assessment standard	Classification	LPCB Ref. No.
Cladding Roll - Unfaced	60 - 180	EN 13501-1:2002	A1	022e/01
Cladding Roll - Aluminum foil faced	60 - 180	EN 13501-1:2002	A1	
Cladding Roll - White tissue faced	60 - 180	EN 13501-1:2002	A1	
Flexi Batts - Unfaced	50 - 150	EN 13501-1:2002	A1	022e/04

Certificate No: 022f to BS 476: Part 24:1987

Product Name	Duct Type	Condition	Maximum Duct Size (ht x wt) (mm)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
FirePro	Ventilation vertical orientation	Fire Outside	1000 x 1000	25	30	30	022f/01
	Ventilation vertical orientation	Fire Outside	1000 x 1000	30	60	60	
	Ventilation vertical orientation	Fire Outside	1500 x 1500	50	90	90	
	Ventilation vertical orientation	Fire Outside	1500 x 1500	70	120	120	
	Ventilation vertical orientation	Fire Outside	1525 dia.	25	30	30	
	Ventilation vertical orientation	Fire Outside	1525 dia.	30	60	60	
	Ventilation vertical orientation	Fire Outside	1525 dia.	50	90	90	

Product Name	Duct Type	Condition	Maximum Duct Size (ht x wt) (mm)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
	Ventilation vertical orientation	Fire Outside	1525 dia.	70	120	120	
	Ventilation horizontal orientation	Fire Outside	1000 x 1000	25	30	30	
	Ventilation horizontal orientation	Fire Outside	1500 x 1500	40	60	60	
	Ventilation horizontal orientation	Fire Outside	1200 x 1200	70	90	90	
	Ventilation horizontal orientation	Fire Outside	1000 x 1000	90	120	120	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	25	30	30	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	40	60	60	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	70	90	90	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	90	120	120	
	Ventilation vertical orientation	Fire Inside	1000 x 1000	25	30	30	
	Ventilation vertical orientation	Fire Inside	1000 x 1000	30	60	60	
	Ventilation vertical orientation	Fire Inside	1500 x 1500	50	90	90	
	Ventilation vertical orientation	Fire Inside	1500 x 1500	70	120	120	
	Ventilation vertical orientation	Fire Inside	1525 dia.	25	30	30	
	Ventilation vertical orientation	Fire Inside	1525 dia.	30	60	60	
	Ventilation vertical orientation	Fire Inside	1525 dia.	50	90	90	
	Ventilation vertical orientation	Fire Inside	1525 dia.	70	120	120	
	Ventilation horizontal orientation	Fire Inside	1000 x 1000	25	30	30	
	Ventilation horizontal orientation	Fire Inside	1500 x 1500	40	60	60	
	Ventilation horizontal orientation	Fire Inside	1200 x 1200	70	90	90	
	Ventilation horizontal orientation	Fire Inside	1000 x 1000	90	120	120	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	25	30	30	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	40	60	60	

Product Name	Duct Type	Condition	Maximum Duct Size (ht x wt) (mm)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
	Ventilation horizontal orientation	Fire Inside	1525 dia.	70	90	90	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	90	120	120	
	Smoke Outlet vertical orientation	Fire Outside	1000 x 1000	25	30	30	
	Smoke Outlet vertical orientation	Fire Outside	1000 x 1000	30	60	60	
	Smoke Outlet vertical orientation	Fire Outside	1500 x 1500	50	90	90	
	Smoke Outlet vertical orientation	Fire Outside	1500 x 1500	70	120	120	
	Smoke Outlet vertical orientation	Fire Outside	1525 dia.	25	30	30	
	Smoke Outlet vertical orientation	Fire Outside	1525 dia.	30	60	60	
	Smoke Outlet vertical orientation	Fire Outside	1525 dia.	50	90	90	
	Smoke Outlet vertical orientation	Fire Outside	1525 dia.	70	120	120	
	Smoke Outlet horizontal orientation	Fire Outside	1000 x 1000	25	30	30	
	Smoke Outlet horizontal orientation	Fire Outside	1500 x 1500	40	60	60	
	Smoke Outlet horizontal orientation	Fire Outside	1200 x 1200	70	90	90	
	Smoke Outlet horizontal orientation	Fire Outside	1000 x 1000	90	120	120	
	Smoke Outlet horizontal orientation	Fire Outside	1525 dia.	25	30	30	
	Smoke Outlet horizontal orientation	Fire Outside	1525 dia.	40	60	60	
	Smoke Outlet horizontal orientation	Fire Outside	1525 dia.	70	90	90	
	Smoke Outlet horizontal orientation	Fire Outside	1525 dia.	90	120	120	
	Smoke Outlet vertical orientation	Fire Inside	1000 x 1000	25	30	30	
	Smoke Outlet vertical orientation	Fire Inside	1000 x 1000	30	60	60	
	Smoke Outlet vertical orientation	Fire Inside	1500 x 1500	50	90	90	
	Smoke Outlet vertical orientation	Fire Inside	1500 x 1500	70	120	120	
	Smoke Outlet vertical orientation	Fire Inside	1525 dia.	25	30	30	

Product Name	Duct Type	Condition	Maximum Duct Size (ht x wt) (mm)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
	Smoke Outlet vertical orientation	Fire Inside	1525 dia.	30	60	60	
	Smoke Outlet vertical orientation	Fire Inside	1525 dia.	50	90	90	
	Smoke Outlet vertical orientation	Fire Inside	1525 dia.	70	120	120	
	Smoke Outlet horizontal orientation	Fire Inside	1000 x 1000	25	30	30	
	Smoke Outlet horizontal orientation	Fire Inside	1500 x 1500	40	60	60	
	Smoke Outlet horizontal orientation	Fire Inside	1200 x 1200	70	90	90	
	Smoke Outlet horizontal orientation	Fire Inside	1000 x 1000	90	120	120	
	Smoke Outlet horizontal orientation	Fire Inside	1525 dia.	25	30	30	
	Smoke Outlet horizontal orientation	Fire Inside	1525 dia.	40	60	60	
	Smoke Outlet horizontal orientation	Fire Inside	1525 dia.	70	90	90	
	Smoke Outlet horizontal orientation	Fire Inside	1525 dia.	90	120	120	
	Kitchen Extract	Fire Outside	1500 x 1500	40	30	30	
	Kitchen Extract	Fire Outside	1000 x 1000	90	60	60	

Part 2

FIREBREAK DOORS AND SHUTTERS

PART 2: Firebreak doors and shutters

INTRODUCTION

Fire doors and shutters have an important role to play in passive fire protection of buildings. Their main functions are:

- To maintain the fire separation of compartment walls, and separating walls, including large cavity barriers when a door assembly is incorporated for the passage of persons or objects.
- To maintain the fire separation in shafts or service ducts that penetrate compartment floors.
- To maintain the protection provided by walls forming protected routes for means of escape.

This Part of the Red Book lists the following products and services:

Product Approval
Doors and shutters approved to LPS 1056 *Test and Evaluation Requirements for the LPCB Approval and Listing of Fire Doorsets, Lift Landing Doors and Shutters.* This standard is based upon BS 476:Part 20 *Method for determination of the fire resistance of elements of construction (general principles)*, BS EN 1634-1 *Fire resistance test for doors and shutter assemblies - Part 1: Fire doors and shutters* an BS EN 81-58 *Landing doors fire resistance test.* LPS 1056 not only looks at the fire integrity of the product and its door/shutter furniture, but also calls up cyclic testing and deals in detail with the Assessment procedures for outsized doors/shutters that cannot be fire tested.

Maintenance
Companies approved to LPS 1197 *Requirements for LPCB Approval and Listing of Companies Undertaking the Maintenance and Repair of Doorsets, Shutters, and Active Smoke/Fire barriers.* The effectiveness of a door is dependent upon regular inspection and servicing in accordance with the manufacturer's recommendations. Companies approved to LPS 1197 have demonstrated their ability to carry out this work effectively.

Installation
Companies approved to LPS 1271 *Requirements for LPCB Approval and Listing of Companies installing fire and security doorsets, shutters and smoke barriers.* The effectiveness of a door or shutter to maintain the fire separation of compartment walls, and separating walls is not only dependant on the design of the door or shutter but also the manner in which it has been installed. Companies approved to LPS 1271 have demonstrated their ability to install certified products effectively.

This section lists firebreak doorsets and shutters approved to LPS 1056 *Test and Evaluation Requirements for the LPCB Approval and Listing of Fire Doorsets, Lift Landing Doors and Shutters*. This standard is based upon BS 476.Part 20 *Method for determination of the fire resistance of elements of construction* or BS EN 1634-1 *Fire resistance test for doors and shutter assemblies - Part 1: Fire doors and shutters* . LPS 1056 not only looks at the fire integrity of the product and its door/shutter furniture, but also calls up cyclic tests and deals in detail with Assessment procedures for outsized doors/shutters that cannot be tested in standard fire test furnaces.

For details of the specific fire resistance required for firebreak doors and shutters for different building types, see the LPC Design Guide for the Fire Protection of Buildings:2000.

Where insulation is marked as 0, this denotes that the insulation was not measured or that it could not be measured in accordance with the relevant standard

Accent-Hansen

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Certificate No: 021a to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Fireshield	4	single-leaf hinged	2.74	1.22	2.6	120	0	021a/01
	4	double-leaf hinged	2.74	2.44	5.2	120	0	021a/02
	4	single leaf hinged with 6.0mm Georgian wired vision panel	0.30	0.30	0.09	60	0	021a/03
	4	single-leaf hinged	2.74	1.22	2.6	-	0	
	4	single-leaf hinged with 6.0mm Pyrolithic vision panel	0.45	0.35	0.16	90	0	
	4	double-leaf hinged	2.74	1.22	2.6	-	0	021a/04
	4	double-leaf hinged with 6.00mm Pyrolothic vision panel	0.45	0.35	0.16	90	0	

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Certificate No: 131a to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
A200 Series	4	rolling shutter	7.00	7.00	49.00	240	0	131a/01
A400 Series	4	Single - leaf hinged	2.42	1.02	2.24	240	0	131a/02
	4	Double - leaf hinged	2.42	2.04	4.48	240	0	131a/03

Attenborough Industrial Doors Limited

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Certificate No: 145b to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Attenborough Fire Shutter	4	Rolling Shutter	7.00	7.00	49.00	240	0	145b/01

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Certificate No: 347b to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Fireguard Series	4	Rolling Shutter	7.00	7.00	49.00	240	0	347b/01

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Certificate No: 026-2a to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
FireRoll E240	4	face-fixed rolling shutter	7.00	7.00	49.00	240	0	026-2a/01
	4	built-in rolling shutter	3.66	4.27	15.60	240	0	026-2a/02
Escalator	4	rolling shutter	15.00	5.00	75.00	240	0	026-2a/03
Contour	4	vertically hung rolling shutter	4.50	15.00	67.50	240	0	026-2a/04
FireRoll E120	4	servery rolling shutter	2.00	4.00	8.00	120	0	026-2a/05
	4	servery rolling shutter	3.00	3.00	9.00	120	0	
FireRoll E30	4	servery rolling shutter	2.00	4.00	8.00	30	0	
	4	servery rolling shutter	3.00	3.00	9.00	30	0	
FireRoll E60	4	servery rolling shutter	2.00	4.00	8.00	60	0	
	4	servery rolling shutter	3.00	3.00	9.00	60	0	
Eurofold	4	Folding shutter [1,2]	5.00	5.00	25.00	240	0	026-2a/06
Superior	4	Folding Shutter [1,2]	5.00	5.00	25.00	240	0	026-2a/07

Notes:
1) This product must be fitted with a bottom track.
2) This product may be fitted in the approved steel sub-frame when used as a lift landing door.

Clark Door Limited

Willowholme, Carlisle, Cumbria CA2 5RR UK
Tel: +44 (0)1228 522321 • Fax: +44 (0)1228 401854
E-mail: mail@clarkdoor.com • Website: www.clarkdoor.com

Certificate No: 106a to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Fireman	4	sliding door	4.00	4.00	16.00	240	0	106a/01

Eurobond Doors Limited

Wentloog Corporate Park, Cardiff CF23 2ER UK
Tel: +44 (0)2920 361111 • Fax: +44 (0)2920 362222
E-mail: sales@eurobond.co.uk • Website: www.eurobond.co.uk

Certificate No: 523a to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Firebond Sliding Door	4	Sliding	2.50	2.20	5.5	60	60	523a/01
Firemaster Insulated Hinged Door (2)	4	Hinged	2.1	1.15	2.415	60	60	523a/02

Notes:
1) Maximum sizes refer to wall opening dimensions
2) Approved for use within a sandwich panel partition only

gte Brandschutz AG

Hamburger Strasse 2, D-14532 Stahnsdorf, Germany
Tel: +49 3329 6359-0 • Fax: +49 3329 6359-25
E-mail: gte-brandschutz@t-online.de • Website: www.gte-brandschutz.de

Certificate No: 735a to LPS 1056: Issue 5

Product Name	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (m) BS 476: Part 22 Integrity	Fire Resistance (m) BS 476: Part 22 Insulation	LPCB Ref. No.
CSS	Vertical sliding conveyor system shutter	1.3	1.4	1.82	90	90	735a/01

Product Name	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (m) BS 476: Part 22 Integrity	Fire Resistance (m) BS 476: Part 22 Insulation	LPCB Ref. No.
	Horizontal sliding conveyor system shutter	1.3	1.4	1.82	90	90	735a/02
	Flap type conveyor system shutter (Single)	1.3	1.1	1.43	90	90	735a/03
	Flap type conveyor system shutter (Stacked)	0.85	1.1	0.935	90	90	735a/04

Notes:
1) LPCB Product Ref. No's 735a/01, /02, /03 & /04 suitable for installation into masonry walls and Durasteel partitions as described in Assessment report No. CC221812.
2) CSS conveyor system shutters must be regularly maintained in line with the gte Brandschutz recommendations.

Hart Door Systems

Redburn Road, Westerhope Industrial Estate, Newcastle upon Tyne NE5 1PJ UK
Tel: +44 (0)191 214 0404 • Fax: +44 (0)191 271 1611
E-mail: response@hart-speedor.co.uk • Website: www.hart-speedor.co.uk

Certificate No: 016a to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Firebrand	4	face-fixed rolling shutter	7.00	7.00	49.00	240	0	016a/01

Hörmann KG Freisen

Bahnhofstrasse 43, D-66629 Freisen, Germany
Tel: +49 (0)6855 993-0 • Fax: +49 (0)6855 993 197
Website: www.hoermann.de

Certificate No: 655a to LPS 1056

Fire Doors

Product Name	Door Type	Max height (m)	Max width (m)	Max area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
HBS 60 C-1	Single leaf hinged	2.5	1.25	3.125	60	30[1]	655a/01
HBS 60 C-2	Double leaf hinged	2.5	2.5	6.25	60	30[1]	655a/02
HBS 120-C1	Single leaf hinged insulated	2.15	1.05	2.25	120	30[1]	655a/03
HBS 120 C-1	Single leaf hinged uninsulated	2.827	1.15	2.95	120	0	655a/04
HBS 120 C-2	Double leaf hinged insulated	2.15	2.1	4.5	120	30[1]	655a/05
	Double leaf hinged uninsulated	2.827	2.3	5.9	120	0	655a/06

Notes:
1) If the door set is fitted with a vision panel with uninsulated glass, the glassed area must not exceed 20% of the area of the doorset.
2) Doors have been fire tested when fitted with GEZE TS 4000 and 5000 door closers.
3) Height and width dimensions stated are maximum clear opening sizes.

Industrial Door Engineering Limited

Winnington Avenue, Winnington, Northwich, Cheshire CW8 4EQ UK
Tel: +44 (0)1606 871832 • Fax: +44 (0)1606 871482
E-mail: sales@industrial-door-eng.co.uk • Website: www.industrial-door-eng.co.uk

Certificate No: 165a to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Sentry	4	rolling shutter	7.00	7.00	49.00	240	0	165a/01
Sentry 2	4	rolling shutter	7.00	7.00	49.00	120	0	165a/02
Sentry 1 Compact (1)	4	rolling shutter	2.20	2.20	4.84	60	0	165a/03
Sentry 1	4	rolling Shutter	2.20	2.20	4.84	60	0	165a/04

Note:
1) Sentry 1 Compact Rolling Shutter Door can be fitted with either the flat or curved lath.

Kaba Door Systems Limited, Service Division, East Midlands

Wharf Road, Wharf Road Industrial Estate, Pinxton, Nottinghamshire NG16 6LE UK
Tel: +44 (0)870 000 5237 • Fax: +44 (0)870 000 5238

Certificate No: 557-1b to LPS 1056: Issue 5

Rolling Shutter

Product Name	Spec	Door Type	Maxi (m)	Maxi Width (m)	Maximum Area (m^2)	Fire Resistance (min) BS 476: Part 22 integrity	Fire Resistance (min) BS 476: Part 22 insulation	LPCB Ref. No.
Firetex	4	Rolling shutter	7.0	7.0	49.0	240	0	557-1b/01

Kenrick Door Systems Limited

Booth Street, Smethwick, West Midlands B66 2PF UK
Tel: +44 (0)121 565 0022 • Fax: +44 (0)121 565 0055
E-mail: enquiries@kenrickdoorsystems.co.uk

Certificate No: 477a to LPS 1056 Issue 5

Product Name	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Fire Stopper	Face-fixed Rolling shutter	7.00	7.00	49.0	240	0	477a/01

Note: LPCB ref 447a/01 Fire Stopper rolling shutters manufactured in stainless steel are limited in size to 3.5m x 3.5m and a fire resistance of 120 minutes see, assessment report CC93624.

Kone Bolton Brady

Units 8 and 9, Newbridge Trading Estate, Whitby Road, Bristol BS4 4AX UK
Tel: +44 (0)117 9803493 • Fax: +44 (0)117 971 7700

Certificate No: 122b to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Rolling Shutter	4	Rolling Shutter	7.00	7.00	49.00	240	0	122b/01

L.B.S. Group (incorporating L.B. Securities, Russell Shutters, Olsen Shutters and Ranford Doors)

Unit 6, Sterling Trading Estate, Rainham Road South, Dagenham, Essex RM10 8TX UK
Tel: +44 (0)208 526 8572 • Fax: +44 (0)208 984 0378

Certificate No: 247b to LPS 1056

Fireguard

Product Name	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistace Integrity (min) Area (m^2)	LPCB Ref. No.
Fireguard	Rolling shutter	7.00	10.00	49.00	240	247b/01

Mercian Shutters Limited

Pearsall Drive, Brades Road Industrial Estate, Oldbury, West Midlands B69 2RA UK
Tel: +44 (0)121 544 6124 • Fax: +44 (0)121 552 6793
E-mail: info@merciandoors.co.uk • Website: www.merciandoors.co.uk

Certificate No: 355b to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
SF Series	4	rolling shutter	7.00	7.00	49.00	240	0	355b/01

Northern Doors (UK) Limited

Kingsforth Road, Thurcroft, Rotherham, South Yorks S66 9HU UK
Tel: +44 (0)1709 545999 • Fax: +44 (0)1709 545341
E-mail: sales@northerndoors.co.uk • Website: www.northerndoors.co.uk

Certificate No: 003a to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Fire seal	4	rolling shutter	2.30	2.30	5.29	360	0	003a/03
	4	rolling shutter (face-fixed)	7.00	7.00	49.00	240	0	
Escalator	4	fire shutter	10.00	5.00	50.00	240	0	003a/04
Wayfinder	4	vertically hung rolling shutter	4.50	15.00*	67.50	240	0	003a/05

Note:
* Where this the Wayfinder product is used in a firebreak wall or a firebreak floor, insurers may wish to reduce the maximum size.

Profile Industrial Doors Limited

Newby Road Industrial Estate, Hazel Grove, Stockport SK7 5DG UK
Tel: +44 (0)161 483 9611 • Fax: +44 (0)161 483 9572
Website: www.profiledoors.co.uk

Certificate No: 432b to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Profile	4	Folding shutter	7.10	7.00	49.70	240	0	432b/01

Sunray Engineering Limited

Kingsnorth Industrial Estate, Wotton Road, Ashford, Kent TN23 6LL UK
Tel: +44 (0)1233 639039 • Fax: +44 (0)1233 625137
E-mail: sales@sunraydoors.co.uk • Website: www.sunraydoors.co.uk

Certificate No: 234b to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
ExcluDoor 4, 2 lock version	4	Single-leaf hinged door	2.25	1.05	2.40	30	0	234b/01

Notes:
1) This product achieved an integrity rating of 120 minutes when tested opening towards the furnace with the deadlocks engaged.

2) This product is certified to Security Rating 4 against the requirements of LPS1175: Issue 3. See Part 6, Section 5 for details.

Watson Brothers Limited (incorporating Turner Roller Doors Limited)

30-34 Wilson Place, Nerston, East Kilbride, Lanarkshire G74 4QD UK
Tel: +44 (0)13552 21232 / 33144 / 44476 • Fax: +44 (0)13552 33850

Certificate No: 081a to LPS 1056

Product Name	Spec.	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
TRD ECOSSE	4	Rolling shutter	7.00	7.00	49.00	240	0	081a/01

This section lists lift landing doors approved to LPS 1056 *Test and Evaluation Requirements for the LPCB Approval and Listing of Fire Doorsets, Lift Landing Doors and Shutters*. This standard is based upon BS 476.Part 20 *Method for determination of the fire resistance of elements of construction,* BS EN 1634-1 *Fire resistance test for doors and shutter assemblies- Part 1: Fire doors and shutters* or BS EN 81-58 *Landing doors fire resistance test* as appropriate LPS 1056 not only looks at the fire integrity of the product and its door/shutter furniture, but also calls up cyclic tests and deals in detail with Assessment procedures for outsized doors/shutters that cannot be tested in standard fire test furnaces.

Bolton Gate Co. Limited

Waterloo Street, Bolton, Lancashire BL1 2SP UK
Tel: +44 (0)1204 871000 • Fax: +44 (0)1204 871049
E-mail: kb@boltongate.co.uk • Website: www.boltongate.co.uk

Certificate No: 026-2a to LPS 1056

Folding shutters

Product Name	Spec	Door Type	Max Height (m)	Max Width (m)	Max Area (m^2)	Fire Resistance (min) BS 476: Part 22 Integrity	Fire Resistance (min) BS 476: Part 22 Insulation	LPCB Ref. No.
Eurofold	4	Folding shutter	5.00	5.00	25.00	240	0	026-2a/06
Superior	4	Folding shutter	5.00	5.00	25.00	240	0	026-2a/07

Note:
These products must be fitted with a bottom track

Kone Bolton Brady

Units 8 and 9, Newbridge Trading Estate, Whitby Road, Bristol BS4 4AX UK
Tel: +44 (0)117 9803493 • Fax: +44 (0)117 971 7700

Certificate No: 122-1b to LPS1056: Issue 5

Product Name	Spec	Door Type	Height (m)	Width (m)	Area (m^2)	Integrity (min)	Insulation (min)	LPCB Ref. No.
Lift Landing Sliding Folding Shutter	-	Lift Landing Sliding Folding Shutter [1,2,3]	5.00	5.00	25.0	240	0	122b/02

Notes:
1) Doorsets fitted with 5mm Keralite ceramic glass vision panels up to a maximum size of 0.213m high x 0.072m wide have an integrity rating of 240 minutes, as long as the total glazed area does not exceed $0.015m^2$.
2) Doorsets fitted with 6mm Pilkington Pyrosheild safety clear glass vision panels up to a maximum size of 0.213m high x 0.072m wide have an integrity rating of 120 minutes, as long as the total glazed area does not exceed $0.015m^2$.
3) Manual operation, single leaf.

This section lists companies approved to LPS 1271 *Requirements for LPCB Approval and Listing of Companies installing fire and security doorsets, shutters and smoke barriers* This standard was developed to ensure that the product performance is not compromised by poor installation of the fire door or shutter. This section includes manufacturers installing doors and independent installation companies.

Grange Door Systems

Unit 12, Bilston Glen Industrial Estate, Edinburgh EH20 9LZ UK
Tel: +44 (0)131 440 7000 • Fax: +44 (0)131 440 7003
E-mail: kevin@grangedoor.com • Website: www.grangedoor.com

Certificate No. 573b to LPS 1231

Certified installer of Ascot A200 series rolling shutter (LPCB Ref. No. 131a/01)

This section lists companies approved to LPS 1197 *Requirements for LPCB Approval and Listing of Companies Undertaking the Maintenance and Repair of Doorsets, Shutters, and Active Smoke/Fire barriers*. The effectiveness of a door is dependent upon regular inspection and servicing in accordance with the manufacturer's recommendations. Companies approved to LPS 1197 have demonstrated their ability to carry out this work effectively. The listings include the geographical areas covered by the companies and the level of service provided.

Ascot Doors Limited

Britannia Way Industrial Park, Union Road, Bolton BL2 2HE UK
Tel: +44 (0)8705 556644 • Fax: +44 (0)1204 545800
E-mail: sales@ascotdoors.co.uk • Website: www.ascotdoors.co.uk

Certificate No. 131c to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(on site within 4 hours of all of England, Scotland and Wales)

Blount Shutters Limited

Unit B, 734 London Road, West Thurrock, Essex RM20 3NL UK
Tel: +44 (0)1708 860000 • Fax: +44 (0)1708 861271
E-mail: info@blountshutters.co.uk • Website: www.blountshutters.co.uk

Certificate No. 347a to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(on site within 4 hours of call in England and Wales. Isles dependent on ferries)

Crawford Amber Limited (Cardo Door Production Limited)

7 Churchill Way, 35A Business Park, Chapeltown, Sheffield, South Yorkshire S35 2PY UK
E-mail: sales@crawfordamber.co.uk • Website: www.crawfordamber.co.uk

Certificate No. 001c to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

Out of Hours: Tel: 01244 348711
Free phone: Tel: 0800 281 852

(on site within 4 hours of call in Avon, Bedfordshire, Berkshire, Borders, Cambridgeshire, Cheshire, Cleveland, Clwyd, Cumbria, Derbyshire, Dorset, Dumfries and Galloway, Durham, Essex, Gloucestershire, Gwent, Gwynedd, Hampshire, Hereford and Worcestershire, Hertfordshire, Humberside, Kent, Lancashire, Leicestershire, Lincolnshire, Merseyside, Norfolk, Northamptonshire, Northumberland, Nottinghamshire, Oxfordshire, Powys, Shropshire, Somerset, Staffordshire, Suffolk, Surrey, East Sussex, West Sussex, Tyne & Wear, Warwickshire, West Midlands, Wiltshire, North Yorkshire, South Yorkshire and West Yorkshire).

Grange Door Systems

Unit 12, Bilston Glen Industrial Estate, Edinburgh EH20 9LZ UK
Tel: +44 (0)131 440 7000 • Fax: +44 (0)131 440 7003
E-mail: kevin@grangedoor.com • Website: www.grangedoor.com

Certificate No. 573a to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(on site within 4 hours of call in Scotland, Cumbria, North Lancashire, Teeside and Tyneside)

Industrial Door Engineering Limited

Winnington Avenue, Winnington, Northwich, Cheshire CW8 4EQ UK
Tel: +44 (0)1606 871832 • Fax: +44 (0)1606 871482
E-mail: sales@industrial-door-eng.co.uk • Website: www.industrial-door-eng.co.uk

Certificate No. 165b to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(on site within 4 hours of call in Cheshire, Clwyd, Derbyshire, Greater Manchester, Gwynedd, Lancashire, Merseyside and Yorkshire)

Kaba Door Systems Limited, Service Division, East Midlands

Wharf Road, Wharf Road Industrial Estate, Pinxton, Nottinghamshire NG16 6LE UK
Tel: +44 (0)870 000 5237 • Fax: +44 (0)870 000 5238

Certificate No. 557-1a to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(on site within 4 hours of call in Derbyshire, Leicestershire, Lincolnshire, Northamptonshire, Nottinghamshire, South Yorkshire and Warwickshire)

Kenrick Door Systems Limited

Booth Street, Smethwick, West Midlands B66 2PF UK
Tel: +44 (0)121 565 0022 • Fax: +44 (0)121 565 0055
E-mail: enquiries@kenrickdoorsystems.co.uk

Certificate No. 477b to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(on site within 4 hours of call in Hereford & Worcestershire, Shropshire, Staffordshire, Warwickshire and West Midlands)

Kone Bolton Brady

(Irish Region Service Centres inc Antrim, Portadown & Dublin)
Unit 13, Carn Business Park, Carn Road, Portadown, Co Armagh BT63 5WG UK
Tel: +44 (0)2838 399842 • Fax: +44 (0)2838 399832
E-mail: kbb.ireland@kone.com

Certificate No. 122k to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(onsite within 4 hours of call in area covered by postal code:
BT 01-99 and all of Eire

Kone Bolton Brady

(Midlands Region Service Centres inc Nottingham, Birmingham & Telford)
Unit 14, Robin Hood Industrial Estate, Alfred Street South, Nottingham NG3 1GE UK
Tel: +44 (0)1159 503262 • Fax: +44 (0)1159 589032
E-mail: kbb.central@kone.com

Certificate No. 122f to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(onsite within 4 hours of call in area covered by postal code:
B 01-99, CV 01-35, CV 37-99, CW 01-02, CW 11-12, DE 01-99, DY 01-99, HR 01,
HR 06-08, LE 01-99, LN 01-06, LN 08-99,
NG 01-99, NN 14-99, PE 09-11, PE 20-25 ST 01-99, SY 01-22, SY 24, SY 26-99,
TF 01-99, WR 01-99, WS 01-99, WV 01-99

Kone Bolton Brady

(Western Region Service Centres inc Bristol & Caerphilly)
Unit 8, Gott Drive, Newbridge Trading Estate, Brislington, Bristol BS4 4AX
Tel: +44 (0)117 9713155 • Fax: +44 (0)117 9803494
E-mail: kbb.western@kone.com

Certificate No. 122j to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(onsite within 4 hours of call in area covered by postal code:
BA 01-19,BA 23-99, BS 01-99, CF 01-99,
GL 01-54, GL 57-99, HR 01-05, HR 09,
LD 01-99, NP 01-99, OX 12, RG 17 SA 01-99, SN 01-99, SP 03, SP 07-08, SY 23, SY 25

Kone Bolton Brady

(Southern Region Service Centres inc Andover, Banbury & Wimborne)
Unit 4, Queensway, Walworth Industrial Estate, Andover SP10 5AZ UK
Tel: +44 (0)1264 350616 • Fax: +44 (0)1264 336025
E-mail: kbb.southern@kone.com

Certificate No. 122g to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(onsite within 4 hours of call in area covered by postal code:
BH 01-99, BN 01-03, BN 11-18, BN 41-99, CV 36, DT 01-06, DT 08-11, GL 55-56,
GU 01-99, NN 01-13, OX 01-11, OX 13-99, PO 01-99, RG 01-16, RG 18-99, RH 14, RH 20,
SO 01-40, SO 41-99, SP 01-02, SP 04-07, SP 09-11

Kone Bolton Brady

(Scottish Region Service Centres inc Glasgow, Edinburgh & Aberdeen)
405 Hillington Road, Hillington Industrial Estate, Glasgow G52 4BL UK
Tel: +44 (0)1418 832131 • Fax: +44 (0)1418 834502
E-mail: kbb.scotland@kone.com

Certificate No. 122a to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(onsite within 4 hours of call in area covered by postal code:
AB 01-99, DD 01-99, DG 01-99, EH 01-99,
FK 01-99, G 01-99, HS 01-99, IV 01-99,
KA 01-99, KW 01-99, KY 01-99, ML 01-99,
PA 01-99, PH 01-99, TD 01-99.

Kone Bolton Brady

(Northern Region Service Centres inc Newcastle, Middlesbrough & Wigton)
Blenheim Place, Unit H/A, Dunston Industrial Estate, Dunston, Tyne and Wear NE11 9HF UK
Tel: +44 (0)1914 605201 • Fax: +44 (0)1914 601877
E-mail: kbb.north@kone.com

Certificate No. 122c to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(onsite within 4 hours of call in area covered by postal code:
CA 01-99, DH 01-99, DL 01-99, NE 01-99,
SR 01-99, TS 01-99, YO 21-22.

Kone Bolton Brady

(North East Region Service Centres inc Leeds, Hull & Sheffield)
Unit 12, Hunslet Trading Estate, Severn Road, Hunslet, Leeds LS10 1BL UK
Tel: +44 (0)1132 718633 • Fax: +44 (0)1132 771808
E-mail: kbb.northeast@kone.com

Certificate No. 122d to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(onsite within 4 hours of call in area covered by postal code:
BD 01-99, DN 01-49, HD 01-99, HG 01-99, HU 01-99, HX 01-99, LN 07, LS 01-99, S 01-99,
WF 01-99, YO 01-20, YO 23-99

Kone Bolton Brady

(North West Region Service Centres inc Liverpool, Manchester & Blackburn)
Garden Works, Acornfield Road, Knowsley Industrial Park North, Liverpool L33 7SP UK
Tel: +44 (0)1515 485222 • Fax: +44 (0)1515 463244
E-mail: kbb.northwest@kone.com

Certificate No. 122e to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(onsite within 4 hours of call in area covered by postal code:
BB 01-99, BL 01-99, CH 01-99, CW 03-10,
CW 13-99, FY 01-99, L 01-99, LA 01-99, LL 01-99, M 01-99, OL 01-99, PR 01-99,
SK 01-99, WA 01-99, WN 01-99

Kone Bolton Brady

(South West Region Service Centres inc Plymouth, Exeter & Cornwall)
Unit 4, Pomphlett Industrial Estate, Plymstock, Plymouth, Devon PL9 7BG UK
Tel: +44 (0)1752 492961 • Fax: +44 (0)1752 480420
E-mail: kbb.southwest@kone.com

Certificate No. 122i to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(onsite within 4 hours of call in area covered by postal code:
BA 20-22, DT 07, DT 12-99, EX 01-99, PL 01-99, TA 01-99, TQ 01-14, TR 01-99

Kone Bolton Brady

(South East Region Service Centres inc Epsom, Newmarket & Watford
Unit 24, Nonsuch Industrial Estate, Kiln Lane, Epsom, Surrey KT17 1DH UK
Tel: +44 (0)1372 727275 • Fax: +44 (0)1372 727284
E-mail: kbb.southeast@kone.com

Certificate No. 122h to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(onsite within 4 hours of call in area covered by postal code:
AL 01-99, BN 04-10, BN 19-40, BR 01-99, CB 01-99, CM 01-99, CO 01-99, CR 00-99, CT 01-99, DA 01-99, E 01-99, EC 01-99, EN 01-05, EN 10-99, HA 01-99, HP 01-99, IG 01-99, IP 01-99, KT 01-99, LU 01-99, ME 01-99, MK 01-99, N 01-99, NR 01-99, NW 01-99, PE 01-08, PE 12-19, PE 30-38, RH 01-13, RH 15-19, RH 21-99, RM 01-99, SE 01-99, SG 01-99, SL 01-99, SM 01-99,
SS 01-99, SW 01-99, TN 01-99, TW 01-99, UB 01-99, W 01-99, WC 01-99, WD 01-99

L.B.S. Group (incorporating L.B. Securities, Russell Shutters, Olsen Shutters and Ranford Doors)

Unit 6, Sterling Trading Estate, Rainham Road South, Dagenham, Essex RM10 8TX UK
Tel: +44 (0)208 526 8572 • Fax: +44 (0)208 984 0378

Certificate No. 247a to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(on site within 4 hours of call-out in Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Essex, Hampshire, Hertfordshire, Kent, London, Norfolk, Northamptonshire, Oxfordshire, Suffolk, Surrey, East Sussex, West Sussex)

Mercian Shutters Limited

Pearsall Drive, Brades Road Industrial Estate, Oldbury, West Midlands B69 2RA UK
Tel: +44 (0)121 544 6124 • Fax: +44 (0)121 552 6793
E-mail: info@merciandoors.co.uk • Website: www.merciandoors.co.uk

also at:

Mercian Industrial Doors (Southern) Limited, t/a Mercian Industrial Doors Southern, 10-12 Gallymead Road, Colnbrook, Slough, Berkshire SL3 0EN UK

Certificate No. 355a to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(on site within 4 hours of call in Hereford and Worcestershire, Shropshire, Staffordshire, Warwickshire and West Midlands).

Northern Doors (UK) Limited

Kingsforth Road, Thurcroft, Rotherham, South Yorks S66 9HU UK
Tel: +44 (0)1709 545999 • Fax: +44 (0)1709 545341
E-mail: sales@northerndoors.co.uk • Website: www.northerndoors.co.uk

Certificate No. 003b to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	No

(on site within 24 hours of call).

Profile Industrial Doors Limited

Newby Road Industrial Estate, Hazel Grove, Stockport SK7 5DG UK
Tel: +44 (0)161 483 9611 • Fax: +44 (0)161 483 9572
Website: www.profiledoors.co.uk

Certificate No. 432a to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(On site within 4 hours of call in Cheshire, Derbyshire, Durham, Greater Manchester, Lancashire, Merseyside, Midlands, North Wales, Northumberland, Tyne & Wear and Yorkshire.)

Stanair Industrial Door Services Limited

2 Henson Way, Telford Way Industrial Estate, Kettering, Northamptonshire NN16 8PX UK
Tel: +44 (0)1536 482187 • Fax: +44 (0)1536 411799
E-mail: info@stanair.co.uk • Website: www.stanair.co.uk

Certificate No. 141a to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(On site within 4 hours of call in Bedfordshire, Buckinghamshire, Cambridgeshire, Leicestershire, Northamptonshire.)

Stertil UK Limited (Trading as Stertil - Koni &Stertil - Stokvis)

Stertil House, Unit A, Brackmills Business Park, Caswell Road, Northampton NN4 7PW UK
Tel: +44 (0)870 770 0471 • Fax: +44 (0)1604 662010
E-mail: info@stertiluk.com • Website: www.stertiluk.com

Certificate No. 236a to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	No

Watson Brothers Limited (incorporating Turner Roller Doors Limited)

30-34 Wilson Place, Nerston, East Kilbride, Lanarkshire G74 4QD UK
Tel: +44 (0)13552 21232 / 33144 / 44476 • Fax: +44 (0)13552 33850

Certificate No. 081b to LPS 1197

General servicing/maintenance	Yes
Maintenance contracts	Yes
24 hour answering service	Yes
24 hour emergency service	Yes

(On site within 4 hours of call in Cumbria (north of A66), Northumberland and Scotland).

Part 3

FIRE DETECTION AND ALARM SYSTEMS

Even with the best equipment, fire detection and alarm systems are only effective if correctly designed, installed, commissioned and maintained. It is therefore important that specifiers select only competent firms with a proven track record to design, install commission and service fire detection and fire alarm systems.

The CFOA (Chief Fire Officers Association) has recently developed a 'Model Agreement' between the Fire and Rescue Services, and Alarm Receiving Centres. The Agreement calls for third party certification of both the installer and the Alarm Receiving Centre (ARC). The installing company must also be certificated for the design, commissioning and maintenance of the system to the appropriate standard, i.e. BS 5839-1:2002.

The LPCB scheme for this is LPS 1014 *Requirements for Certificated fire detection and alarm system firms.*

LPS 1014 requires **one** Certificate of Conformity for the project, i.e. single point responsibility, which benefits all parties concerned, i.e. the insurer, the fire brigade, the building owner, etc. The scheme also requires, where possible, the use of third party approved products. For each installation Specifiers should request the issue of an LPCB Certificate of Conformity as part of the contract which:

- certifies that the fire detection and fire alarm system was designed, installed and commissioned in accordance with the installation rules applied, and
- ensures that the system is recorded by LPCB as a Certificated fire detection and fire alarm system.

The availability of more varied and sophisticated fire detection and alarm equipment means that it is even more important that designers and firms listed to LPS 1014 are regularly assessed by LPCB for their competence to design, install, commission and service fire detection and fire alarm systems in accordance with the following installation rules or codes of practice:

- BS 5839-1 - *Fire detection and alarm systems for buildings. Code of Practice for system design, installation, commissioning and maintenance.*
- BS 5839-6 - *Fire detection and alarm systems for buildings. Code of Practice for the design, installation and maintenance of fire detection and fire alarm systems in dwellings.*
- BS 6266 - *Code of practice for fire protection for electronic equipment installations.*
- BS 7273-1 - *Code of practice for the operation of fire protection measures, Electrical actuation of gaseous total flooding extinguishing systems;*
- Others subject to defined contracts (e.g. *Health Technical Memorandum 82*, NFPA's specific rules).

LPS 1014 was revised in 2003 to help clarify the requirements for approval and so make it more useful for specifiers and designers. Another level (level 2) was introduced to allow entry of firms working to a reduced scope, particularly for single panel type stand-alone systems. Installation by others is now permitted, as long as the installer is an electrical contractor certificated to level A3 (fire alarm systems) under the ECA/BRE Certification scheme (or equivalent). The contractor must supply the LPS 1014 approved company with a copy of their Certificate of Conformity and installation test results for their part of the work. The LPS 1014 listed company then notes these details on the LPS 1014 Certificate of Conformity. The scheme has also been opened up to include design by others. The designer must supply a list of variations agreed with interested parties to the LPS 1014 approved company who will eventually carry out the works and again this information will be included on the LPCB Certificate of Conformity.

Firms listed in this section are also authorised to issue LPCB Certificates of Conformity for these installations. Only firms certificated by LPCB are authorised to issue an LPCB Certificate of Conformity.

Note:

1 Where a firm has more than one office, these offices are also required to meet the appropriate requirements of LPS 1014 to be eligible for certification, and are listed separately.

2 Certificated LPS 1014 companies may use firms who are certificated to work category A3 approval under the Electrotechnical Assessment scheme (EAS) for the installation elements. See www.eca.co.uk for details.

ADT Fire and Security
1 Bowling Green Terrace, Off Jack Lane, Leeds LS11 9SX UK
Tel: +44 (0)1132 911000 • Fax: +44 (0)1132 425933

Certificate No. CFA-110 to LPS 1014

ADT Fire and Security
180 Aztec West, Almondsbury, Bristol BS32 4TH UK
Tel: +44 (0)1454 843434 • Fax: +44 (0)1454 843484

Certificate No. CFA-107 to LPS 1014

ADT Fire and Security
ADT House, Mucklow Hill, Halesowen, Birmingham, West Midlands B62 8DA UK
Tel: +44 (0)1212 556000 • Fax: +44 (0)1212 556100

Certificate No. CFA-108 to LPS 1014

ADT Fire and Security
Quay House, City Park Business Village, Manchester M16 9UN UK
Tel: +44 (0)1612 525500 • Fax: +44 (0)1612 525688

Certificate No. CFA-109 to LPS 1014

ADT Fire and Security
Turnberry House, 100 Bunhill Row, London EC1Y 8ND UK
Tel: +44 (0)2079 418700 • Fax: +44 (0)2079 418717

Certificate No. CFA-119 to LPS 1014

ADT Fire and Security
ADT House, Tannochside Park, Uddingston, Glasgow G71 5PH UK
Tel: +44 (0)1698 486000 • Fax: +44 (0)1698 486100

Certificate No. CFA-113 to LPS 1014

ADT Fire and Security
Unit 8, Prospect Business Park, Langston Road, Loughton, Essex IG10 3TR UK
Tel: +44 (0)2082 724700 • Fax: +44 (0)2082 724709

Certificate No. CFA-112 to LPS 1014

ADT Fire and Security
ADT House, 5th Avenue Business Park, Team Valley Trading Estate, Gateshead, Tyne and Wear NE11 0HF UK
Tel: +44 (0)1914 515000 • Fax: +44 (0)1914 515001

Certificate No. CFA-111 to LPS 1014

ADT Fire and Security
Security House, The Summit, Hanworth Road, Sunbury on Thames, Middlesex TW16 5DB UK
Tel: +44 (0)1932 743456 • Fax: +44 (0)1932 743222

Certificate No. CFA-105 to LPS 1014

ADT Fire and Security
ADT House, Unit 61, Stephenson Way, Wavertree Technology Park, Liverpool L13 1HD UK
Tel: +44 (0)151 5514000 • Fax: +44 (0)151 5514100
E-mail: dcarmstrong@tycoint.com • Website: www.adt.co.uk

Certificate No. CFA-155 to LPS 1014

Argus Fire Protection Company Limited
Hendglade House, 46 New Road, Stourbridge, West Midlands DY8 1PA UK
Tel: +44 (0)1384 376256 • Fax: +44 (0)1384 393955
E-mail: info@argusfire.co.uk • Website: www.argusfire.co.uk

Certificate No. CFA-148 to LPS 1014

BBC Fire Protection Limited
St Florian House, Ayton Road, Wymondham, Norfolk NR18 0RA UK
Tel: +44 (0)1953 857700 • Fax: +44 (0)1953 857750
E-mail: sales@bbcfire.co.uk • Website: www.bbcfire.co.uk

Certificate No. CFA-126 to LPS 1014

Chubb Fire Limited
PO Box 163, Rawfolds, Cleakheaton BD19 5WY UK
Tel: +44 (0)1274 866912 • Fax: +44 (0)1274 866916
E-mail: fire.leeds@chubb.co.uk • Website: www.chubb.co.uk

Certificate No. CFA-120 to LPS 1014

Chubb Fire Limited

Chubb House, Staines Road West, Sunbury-on-Thames, Middlesex TW6 7AR UK
Tel: +44 (0)1932 785588 • Fax: +44 (0)1932 777222
E-mail: Feltham.firesystems@chubb.co.uk • Website: www.chubb.co.uk

Certificate No. CFA-121 to LPS 1014

Clymac Limited

Cloudway Court, Belton Road, Loughborough LE11 1LB UK
Tel: +44 (0)1509 232651 • Fax: +44 (0)1509 232665
E-mail: sales@clymac.co.uk • Website: www.clymac.co.uk

Certificate No. CFA-154 to LPS 1014

CTM Fire and Security Limited (Leyland & London Offices)

Unit 2, Osprey Place, Moss Side Industrial Estate, Leyland PR26 7EW UK
Tel: +44 (0)800 5872753 • Fax: +44 (0)1772 641227
E-mail: ctmfire@btconnect.com • Website: www.firealarmuk.com

Including the following satellite offices:

BBC Television Centre, Arch 118, Dodds Yard, Wood Lane, London W12 7RJ
Tel: +44 (0)208 225 9427 • Fax: +44 (0)208 225 9446

Certificate No. CFA-156 to LPS 1014

Daemon Fire and Security Limited

Daemon House, 41-42 Albert Road, Tamworth, Staffs B79 7JS UK
Tel: +44 (0)1827 69266 • Fax: +44 (0)1827 53584
E-mail: sales@daemonfire.co.uk

Certificate No. CFA-145 to LPS 1014

Dalkia Energy & Technical Services Limited

Limeharbour Court, 5 Limeharbour, London E14 9TS UK
Tel: +44 (0)20 7001 7000 • Fax: +44 (0)20 7001 7272
E-mail: info@dalkiarail.co.uk

Certificate No. CFA-129 to LPS 1014

Dragon Fire & Security Systems Limited
Dragon House, Norwich Road, Cardiff, Wales CF23 9AB UK
Tel: +44 (0) 2920 485555 • Fax: +44 (0) 2920 484400
E-mail: admin@dragonfs.co.uk • Website: www.dragonfs.co.uk

Sales Line:
Tel: 0800 018 7772

Certificate No. CFA-142 to LPS 1014

EMCOR Facilities Services (Specialist Services)
Jape One Business Centre, Dell Road, Rochdale OL12 6BZ UK
Tel: +44 (0)1706 524115 • Fax: +44 (0)1706 524918
E-mail: david.parker@emcoruk.com

Certificate No. CFA-151 to LPS 1014

EMCOR Rail Limited
EMCOR House, 1 Mastmaker Road, London E14 9WT UK
Tel: +44 (0)207 536 6800 • Fax: +44 (0)207 536 6801

Certificate No. CFA-153 to LPS 1014

FFE Fire & Security Limited
Unit 20, Tait Road Industrial Estate, Tait Road, Croydon CR0 2DP UK
Tel: +44 (0)845 60 999 06 • Fax: +44 (0)20 8665 4125
E-mail: enquiries@ffe.co.uk • Website: www.ffe.co.uk

Certificate No. CFA-152 to LPS 1014

Firetecnics Systems Limited
142 Vauxhall Street, London SE11 5RH UK
Tel: +44 (0) 20 7587 0927 • Fax: +44 (0) 20 7582 3496
E-mail: sales@firetecnics.bdx.co.uk • Website: www.firetecnics.com

Certificate No. CFA-146 to LPS 1014

Gent by Honeywell
140 Waterside Road, Hamilton Industrial Park, Leicester LE5 1TN UK
Tel: +44 (0)116 246 2000 • Fax: +44 (0)116 2462 300
E-mail: gent_enquiry@gent.co.uk • Website: www.gent.co.uk

Certificate No. CFA-118 to LPS 1014

Grainger Fire Systems

Thornley House, Carrington Business Park, Carrington, Manchester M31 4XL UK
Tel: +44 (0)161 777 6700 • Fax: +44 (0)161 777 6638
E-mail: info@grainger-fire.co.uk

The following location is included within the scope of certification for servicing:

Unit 1A, Newton Court, Wavertree Technology Park, Wavertree, Liverpool L13 1EJ
Tel: +44 (0)151 220 4068 • Fax: +44 (0)151 259 4365

Certificate No. CFA-125 to LPS 1014

Hall & Kay Fire Engineering (Windsor)

1st Floor, Sefton Lodge, Clewer Hill Road, Windsor SL4 4FT UK
Tel: +44 (0)1753 842130 • Fax: +44 (0)1753 842385
E-mail: windsor@hkfire.co.uk • Website: www.hkfire.co.uk

Certificate No. CFA-147 to LPS 1014

Hallmark Fire Limited

Systems House, Stoke Road, Hoo, Rochester, Kent ME3 9NT UK
Tel: +44 (0)8700 111150 • Fax: +44 (0)8700 111160
E-mail: sales@hallmarkfire.co.uk • Website: www.hallmarkfire.co.uk

Certificate No. CFA-140 to LPS 1014

Honeywell Control Systems Limited (Manchester)

Honeywell House, 856 Wilmslow Road, Didsbury, Manchester M20 2HY UK
Tel: +44 (0)161 251 4000 • Fax: +44 (0)161 251 4141

Certificate No. CFA-139 to LPS 1014

Howden UK Limited

Construction & Maintenance Division, Unit 27, Bow Enterprise Park, Cranwell Close, Bow, London E3 3QY UK
Tel: +44 (0)20 7531 4353 • Fax: +44 (0)20 7531 4345
E-mail: service.admin@howden.com • Website: www.howden.com

Certificate No. CFA-144 to LPS 1014

I.C. Service & Maintenance Limited
Unit K3 Temple Court, Knights Park, Knight Road, Strood, Kent ME2 2LT UK
Tel: +44 (0)1634 290300 • Fax: +44 (0)1634 290700
E-mail: sales@icservice.biz • Website: www.icservice.biz

Certificate No. CFA-158 to LPS 1014

Kingfell Fire Engineering Limited
44 Copperfield Street, London SE1 0DY UK
Tel: +44 (0)20 7928 9995 • Fax: +44 (0)20 7928 5554
E-mail: kfe@kingfell.co.uk • Website: www.kingfell.co.uk

Certificate No. CFA-138 to LPS 1014

M. J. Quinn Integrated Services Limited
Gormley House, Waxlow Road, London NW10 7NU UK
Tel: +44 (0)20 8452 0450 • Fax: +44 (0)20 8453 0455
E-mail: enquiries@mjquinn.co.uk

Certificate No. CFA-143 to LPS 1014

M. J. Quinn Integrated Services Limited (Merseyside)
Oak House, Overbrook Lane, Knowlsey Business Park, Knowsley, Merseyside L34 9FB UK
Tel: +44 (0)151 547 8800 • Fax: +44 (0)151 547 8801
E-mail: enquiries@mjquinn.co.uk

Certificate No. CFA-137 to LPS 1014

MECE Fire & Security Limited
Berkeley Business Centre, Crown House, Home Gardens, Dartford, Kent DA1 1DZ UK
Tel: +44 (0)1322 424496 • Fax: +44 (0)1322 424497
E-mail: darren.jones@mecefireandsecurity.co.uk • Website: www.mecefireandsecurity.co.uk

Certificate No. CFA-159 to LPS 1014

Multifire Ltd
Ground Floor Office Suite, Heritage House, Yalding Hill, Yalding, Maidstone, Kent ME18 6AL UK
Tel: +44 (0)1622 817285 • Fax: +44 (0)1622 817284
E-mail: info@multi-fire.co.uk • Website: www.multi-fire.co.uk

Certificate No. CFA-164 to LPS 1014

Servicing of fire detection and alarm systems is carried out by Multifire Maintenance Services Limited, based at the above address

Polaron Controls Limited

26 Greenhill Crescent, Watford Business Park, Watford, Hertfordshire WD18 8XG UK
Tel: +44 (0)1923 495495 • Fax: +44 (0)1923 228796
E-mail: sales@polaron.com • Website: www.polaron.com

Certificate No. CFA-162 to LPS 1014

Protec Fire Detection plc

Protec House, Churchill Way, Nelson, Lancashire BB9 6RT UK
Tel: +44 (0)1282 717171 • Fax: +44 (0)1282 717273
E-mail: sales@protec.co.uk • Website: www.protec.co.uk

Certificate No. CFA-132 to LPS 1014

Raysil Security Systems Limited

Unit 16, Red Lion Business Centre, 218 Red Lion Road, Surbiton, Surrey KT6 7QD UK
Tel: +44 (0)20 8391 0202 • Fax: +44 (0)20 8391 4758
E-mail: enquiries@raysil.co.uk • Website: www.raysil.co.uk

Certificate No. CFA-127 to LPS 1014

Scotshield Limited

Century House, Chapelhall Industrial Estate, Airdrie, Scotland ML6 8QH UK
Tel: +44 (0)1236 767788 • Fax: +44 (0)1236 762233
E-mail: j.baxter@scotshield.com

Including the following satellite offices:

Unit 20, Dryden Road, Bilston Glen Industrial Estate, Loanhead, Midlothian EH20 9LZ UK
Tel: +44 (0)131 448 0583 • Fax: +44 (0)131 448 0584

Unit E, Scott Way, West Pitkerro Industrial Estate, Dundee DD5 3XR UK
Tel: +44 (0)1382 866600 • Fax: +44 (0)1382 866601

Certificate No. CFA-150 to LPS 1014

Siemens plc, Building Technologies, Fire Safety Division

Hawthorne Road, Staines, Middlesex TW18 3AY UK
Tel: +44 (0)1784 461616 • Fax: +44 (0)1784 464646
Website: www.sbt.siemens.com

Certificate No. CFA-100 to LPS 1014

Static Systems Group Plc
Heath Mill Road, Wombourne, Staffordshire WV5 8AN UK
Tel: +44 (0)1902 895551 • Fax: +44 (0)1902 324969
E-mail: sales@staticsystems.co.uk • Website: www.staticsystems.co.uk

Certificate No. CFA-135 to LPS 1014

Trinity Protection Systems Limited
Little Bridge Business Park, Oil Mill Lane, Clyst St.Mary, Exeter, Devon EX5 1AG UK
Tel: +44 (0)1392 874455 • Fax: +44 (0)1392 875546
E-mail: info@trinityprotection.co.uk • Website: www.trinityprotection.co.uk

Including the following satellite office:

Unit C15b, Holly Farm Business Park, Honiley, Warwickshire CV8 1NP
Tel: +44 (0)1926 485080 • Fax: +44 (0)1926 485090

Certificate No. CFA-160 to LPS 1014

TVF (UK) plc
59-69 Queens Road, High Wycombe, Buckinghamshire HP13 6AH UK
Tel: +44 (0)1494 450641 • Fax: +44 (0)1494 465378
E-mail: info@tvfplc.co.uk • Website: www.tvfplc.co.uk

Certificate No. CFA-128 to LPS 1014

Tyco Fire and Integrated Solutions (the trading company for Tyco Fire and Integrated Solutions (UK), Limited and Tyco Fire and Integrated Solutions (Ireland) Limited)
Hillcrest Business Park, Cinderbank, Dudley, West Midlands DY2 9AP UK
Tel: +44 (0)1384 458993 • Fax: +44 (0)1384 458981
E-mail: howfire@howfire.co.uk • Website: www.howfire.co.uk

Certificate No. CFA-103 to LPS 1014

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]
206 Bedford Avenue, Slough Trading Estate, Slough SL1 4RY
Tel: +44 (0)1753 574111 • Fax: +44 (0)1753 824226
Website: www.wormald.co.uk

Certificate No. CFA-157 to LPS 1014

LPCB certifies both the individual components of the fire detection and alarm systems and the compatibility of all of the different components of the system to work reliably together.

LPS 1054 *Requirements for the evaluation of component compatibility for fire alarm systems* is the standard used for this assessment. This applies to systems incorporating control and indicating equipment and power supply equipment complying with EN54-2 *Fire detection and fire alarm systems - Control and indicating equipment* and EN54-4 *Fire detection and fire alarm systems - Power supply equipment* respectively.

Networked systems are evaluated by ensuring that each control panel connected to the network can operate as a stand alone unit, in the event of failure of the network connections, and that failure of a control panel will not affect other control panels on the network.

LPCB approved control panels are listed in Part 3, Section 3 of this book.

Notes:
1. Where bases are listed with detectors in Section 2, these are the only detector/base combinations that have been shown to be compatible with the control and indicating equipment. Otherwise all bases, shown to be associated with the listed detectors in Section 4, are compatible.
2. Since the LPCB uses national and international standards for the listing of products, in some instances, the requirements of these standards may conflict with the recommendations of local codes of practice. If full compliance with an installation code of practice is necessary, confirmation should be obtained that the listed products also comply with the appropriate codes of practice.

Control Equipment Limited

Hillcrest Business Park, Dudley, West Midlands DY2 9AP UK
Tel: +44 (0)1384 458651 • Fax: +44 (0)1384 458972
E-mail: celsales@controlequipment.co.uk • Website: www.controlequipment.com

Certificate No: 018b to LPS 1054-1
Certificate No: 018d to LPS 1054-1

Certificated Products		**LPCB Ref. No.**
Precept fire alarm system	Comprising the following products:	018b/S1

Control Equipment Limited
- Precept 2, 4, 8, 16 and 32 zone control and indicating equipment.

Apollo Fire Detectors Limited
- 55000-100 grade 1 rate of rise heat detector (45681-200 base)
- 55000-200 ionization smoke detector (45681-200 base)
- 55000-300 photoelectic smoke detector (45681-200 base)
- 53531-221 grade 1 rate of rise heat detector (45681-007 base) continued
- 53541-151 ionization smoke detector (45681-007 base)
- 53541-200 photoelectric smoke detector (45681-007 base)
- 55000-101 grade 2 rate of rise heat detector (45681-200 base)
- 55000-102 grade 3 rate of rise heat detector (45681-200 base)
- 55000-103 range 1 rate of rise heat detector (45681-200 base)
- 55000-104 range 2 rate of rise heat detector (45681-200 base)
- 55000-210 integrating ionization smoke detector (45681-200 base)

Hochiki Corporation
- DFE-60 grade 2 fixed temperature heat detector (YBF-RL/4H5 base)
- DFE-90 range 1 fixed temperature heat detector (YBF-RL/4H5 base)
- DCC-1EL grade 1 rate of rise heat detector (YBF-RL/4H5 base)
- DCC-2EL grade 2 rate of rise heat detector (YBF-RL/4H5 base)
- DCC-R1EL range 1 rate of rise heat detector (YBF-RL/4H5 base)

Hochiki Europe
- SLK-E photoelectric smoke detector (YBF-RL/4H5 base)
- SIH-E ionization smoke detector (YBF-RL/4H5 base)

KAC Alarm Company Limited
- KR72 manual call point.

Photain Controls Limited

Certificated Products		LPCB Ref. No.
	ISD-P91 ionization smoke detector PRR-P91 grade 1 rate of rise heat detector PHD-P90 range 1 fixed temperature heat detector Signature Industries - Clifford and Snell Alarms. MCP/R/F manual call point MCP/R/S manual call point System Sensor, St. Charles, Illinois, USA. 1151E ionization smoke detector (B401 base) 2151E photoelectric smoke detector (B401 base)	
Discovery fire alarm system	Comprising the following products: Control Equipment Limited Discovery analogue addressable control and indicating equipment Apollo Fire Detectors Limited 55000-400 grade 2 analogue temperature monitor 55000-420 grade 2 analogue temperature monitor 58000-400 Discovery temperature monitor 55000-600 analogue photoelectric smoke monitor 55000-620 analogue photoelectric smoke monitor 58000-600 Discovery optical smoke monitor 55000-500 analogue ionisation smoke monitor 55000-520 analogue ionisation smoke monitor 58000-500 Discovery ionisation smoke monitor 58000-700 Discovery multisensor monitor 55000-900 surface and flush mounted manual call point 55000-910 flush mounted manual call point 55000-950 waterproof addressable manual call point 58000-900 flush and surface mounted manual call point 58000-910 flush mounted manual call point 58000-920 surface mounted manual call point 55000-700 XP95 short circuit isolator 45681-321 XP95 negative isolating base 45681-210 XP95 addressable mounting base	018d/01

GE Security (Africa) trading as Ziton

Ziton House, 555 Voortrekker Road, Maitland 7405, Republic of South Africa
Tel: +27 21 5066000 • Fax: +27 21 5066100

UK Sales enquiries:

Ziton Limited
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Certificate No: 092f to LPS 1054

Certificated Products		LPCB Ref. No.
ZP5 Mark 5 analogue addressable fire alarm system	Comprising the following products: ZP5 Mark 5 control and indicating equipment 092e/01 ZP710-2 analogue ionisation smoke detector (ZP7-SB1 base) 092n/01 ZP730-2 analogue optical smoke sensor (ZP7-SB1 base) 092n/02 ZP720-3 grade 1 analogue heat sensor (ZP7-SB1 base) 092p/01 ZP785-2 addressable flush and surface mounted call point 092d/01	092f/S1
ZP3 analogue addressable fire alarm system	Comprising of the following products: ZP3 analogue addressable control and indicating equipment 092h/01 ZP710-2 analogue addressable ionisation smoke detector 092n/01 ZP730-2 analogue addressable optical smoke detector 092n/02 ZP720-3 analogue addressable grade 1 heat detector 092p/01 ZP785-2 addressable flush and surface mounted manual call point	092f/S2

Certificated Products		LPCB Ref. No.
	092d/01 ZP760-2 short circuit isolator 092j/01	

GE Security Inc, trading as Edwards Systems Technology

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Certificate No: 262f to LPS 1054

Certificated Products		LPCB Ref. No.
EST 3 Life safety system	Comprising the following products:	262f/S1
	EST 3 control and indicating equipment Edwards Systems Technology Point Smoke Detectors SIGA-ISI intelligent ionisation smoke sensor SIGA-PSI intelligent photoelectric smoke sensor SIGA-PHSI intelligent 3D multisensor smoke detector SIGA-IPHSI intelligent 4D multisensor smoke detector Point Heat Detectors SIGA-HRSI grade 1 rate-of-rise heat sensor Line Modules SIGA-CC1 single input signal module SIGA-CC2 dual input signal module SIGA-CT1I single input module SIGA-CT2I dual input module Manual Call Point SIGI-271 break glass station Detector Mounting Bases SIGA-SB standard base SIGA-SB4 standard base plus trim skirt SIGA-RB relay base SIGA-RB4 relay base plus trim skirt SIGA-IBS isolator base SIGA-IBS4 isolator base plus trim skirt Pittway Technologica SpA Point Smoke Detectors 1551E analogue ionisation smoke sensor 2151E conventional photoelectric smoke detector 1151E conventional ionisation smoke detector 2551F analogue photoelectric smoke sensor 1551F analogue ionisation smoke sensor Point Heat Detectors 5551E grade 2 analogue rate-of-rise heat sensor 5551RE grade 1 analogue rate-of-rise heat sensor 5451E grade 1 conventional rate-of-rise heat detector 5551R grade 1 analogue heat sensor Line Modules M500MF monitor module M500CFS control module M500XF short circuit isolator M501MF mini monitor module M500M monitor module M500CH control module M500X short circuit isolator M501M mini monitor module Detector Mounting Bases	

Certificated Products		LPCB Ref. No.
	B401 conventional detector base B501 analogue sensor base	

Gent By Honeywell

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Certificate No: 042e to LPS 1054

Certificated Products		LPCB Ref. No.
3260 Fire Alarm System	Comprising the following products: 13260-01 1 zone control and indicating equipment 13260-02 2 zone control and indicating equipment 13260-04 4 zone control and indicating equipment 13260-08 8 zone control and indicating equipment Point Smoke Detectors 17430-01 ionization smoke detector Point Heat Detectors 17460-01 grade 2 rate of rise heat detector Manual Call Point 1195OR manual call point Sounders 12511-37 alarm sounder 12511-52 alarm sounder	042e/S1
3400 Fire Alarm System	Comprising the following Gent products: 3404 control and indicating equipment 3460 mimic panel 13473-01 analogue ionization smoke sensor 13471-01 analogue optical smoke/heat sensor 13472-01 analogue rate of rise heat sensor 13474 analogue optical beam smoke sensor	042e/S2

Certificated Products		LPCB Ref. No.
	13480-02 manual call point 13420-02 alarm sounder 13420-03 alarm sounder	

Honeywell Control Systems Limited (Bracknell)

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Certificate No: 262f to LPS 1054

Certificated Products		LPCB Ref. No.
XLS1000 Life Safety System	Comprising the following products	262f/S1
	XLS1000 control and indicating equipment Honeywell International compatible devices Point Smoke Detectors TC807A1036 analogue ionisation smoke sensor TC805E1013 conventional ionisation smoke detector TC807E1003 analogue ionisation smoke sensor TC806A1037 analogue photoelectric smoke sensor TC804E1030 conventional photoelectric smoke detector XLS-ISI intelligent ionisation smoke sensor XLS-PSI intelligent photoelectric smoke sensor XLS-PHSI intelligent 3D multisensor smoke detector XLS-IPHSI intelligent 4D multisensor smoke detector Point Heat Detectors TC808A1043 grade 1 analogue heat sensor TC808E1002 grade 2 analogue heat sensor TC808E1028 grade 1 analogue heat sensor TC830E1004 grade 1 conventional heat detector XLS-HRSI grade 1 rate-of-rise heat sensor Line Modules TC809A1059 monitor module TC810A1056 control module TC811A1006 short circuit isolator module TC809B1008 mini monitor module Manual Call Point SIGI-271 break glass station Detector Mounting Bases SIGA-SB standard base SIGA-SB4 standard base plus trim skirt SIGA-RB relay base SIGA-RB4 relay base plus trim skirt SIGA-IBS isolator base SIGA-IBS4 isolator base plus trim skirt 14506414-002 base 14506414-007 base 14506587-005 base B501 base ADT compatible devices Point Smoke Detectors ADT-ISI intelligent ionisation smoke sensor ADT-PSI intelligent photoelectric smoke sensor ADT-PHSI intelligent 3D multisensor smoke detector ADT-IPHSI intelligent 4D multisensor smoke detector Point Heat Detectors ADT-HRSI grade 1 rate-of-rise heat sensor Line Modules SIGA-CC1 single input signal module SIGA-CC2 dual input signal module SIGA-CT1I single input module SIGA-CT2I dual input module Manual Call Point SIGI-271 break glass station	

Certificated Products		LPCB Ref. No.
	Detector Mounting Bases SIGA-SB standard base SIGA-SB4 standard base plus trim skirt ADT-RB relay base ADT-RB4 relay base plus trim skirt ADT-IBS isolator base ADT-IBS4 isolator base plus trim skirt	

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Certificate No: 126i to LPS 1054

Certificated Products		LPCB Ref. No.
S1140 analogue addressable fire alarm system	Comprising the following products: CS1140 Control and indicating equipment For details of approved control and indicating equipment, refer to Siemens Building Technologies AG certificate 126h. Using E3M060 zone module MS91 E90MI Master element F716I Ionisation smoke detector (Z94I and Z94MI bases) F906 Ionisation smoke detector (Z94I and Z94MI bases) F910 Ionisation smoke detector (Z94I and Z94MI bases) F930 Ionisation smoke detector (Z94I and Z94MI bases) R716I Optical smoke detector (Z94I and Z94MI bases) R930 Optical smoke detector (Z94I and Z94MI bases) D900 Grade 1 rate of rise heat detector (Z94I and Z94MI bases) D920 Range 1 rate of rise heat detector (Z94I and Z94MI bases) ATAN 50Manual call point Using E3M080 group line unit or K3M080 line card collective F716I Ionisation smoke detector (Z94, Z94B and Z94D bases) F906 Ionisation smoke detector (Z94, Z94B and Z94D bases) F910 Ionisation smoke detector (Z94, Z94B and Z94D bases) F930 Ionisation smoke detector (Z94, Z94B and Z94D bases) R716I Optical smoke detector (Z94, Z94B and Z94D bases) R930 Optical smoke detector (Z94, Z94B and Z94D bases) D900 Grade 1 rate of rise heat detector (Z94, Z94B and Z94D bases) D920 Range 1 rate of rise heat detector (Z94, Z94B and Z94D bases) S610 Infra red flame detector (FKS6.1 base) S2406 Infra red flame detector (Z2406 base) S2406 Ex Intrinsically safe infra red flame detector (Z2406 base) ATAN 50 Manual call point DO1101A Photoelectric smoke detector (DB1101A base) DT1101A Grade 1 rate of rise heat detector (DB1101A base) DT1102A Range 1 rate of rise high temperature heat detector (DB1101A base) DM1101 Manual call point DLO1191 Optical beam smoke detector (DLB1191A base) Using E3M070 line module interactive DO1151A Photoelectric smoke detector (DB1151A base)	126i/S1

Certificated Products		LPCB Ref. No.
	DO1152A Photoelectric smoke detector (DB1151A base) DOT1151A Photoelectric smoke detector with thermal enhancement (DB1151A base) DOT1152A Photoelectric smoke detector with thermal enhancement (DB1151A base) DT1152A Rate of rise heat detector (DB1151A base) DM1151 Manual call point DC1151 Input module DC1154 Output module DLO1191 Optical beam smoke detector (DLB1191A base) Using E3M071 line module interactive or K3M071 line card interactive DO1151A Photoelectric smoke detector (DB1151A base) DO1152A Photoelectric smoke detector (DB1151A base) DOT1151A Photoelectric smoke detector with thermal enhancement (DB1151A base) DOT1152A Photoelectric smoke detector with thermal enhancement (DB1151A base) DT1152A Rate of rise heat detector (DB1151A base) DM1151 Manual call point DC1151 Input module DC1154 Output module DC1157 Input module DLO1191 Optical beam smoke detector (DLB1191A base) Using E3M110 line module or E3M111 line module AnalogPLUS or K3M111 line card AnalogPLUS DO1131A Photoelectric smoke detector (DB1131A base) DOT1131A Photoelectric smoke detector (DB1131A base) DT1131A Grade 1 rate of rise heat detector (DB1131A base) DM1131 Manual call point DC1131-AA Input module DC1134-AA Output module DC1136-AA Output module DC1131 Input module DC1134 Output module Using E3M171 line module "interactive ex" DO1151A Photoelectric smoke detector (DB1151A base) DO1152A Photoelectric smoke detector (DB1151A base) DOT1151A Photoelectric smoke detector with thermal enhancement (DB1151A base) DOT1152A Photoelectric smoke detector with thermal enhancement (DB1151A base) DT1152A Rate of rise heat detector (DB1151A base) DM1151 Manual call point DC1151 Input module DC1154 Output module DC1157 Input module DLO1191 Optical beam smoke detector (DLB1191A base) DOT1151A-Ex Photoelectric smoke detector with thermal enhancement, addressable (DB1151A base) DT1151A-Ex Rate of rise detector, addressable (DB1151A base) DM1154-Ex Interactive manual call point, addressable DF1151-Ex I.S. infra-red flame detector, analogue addressable (DFB1190 base) DC1154-AA Output module DC1156-AA Output module DC1157-AA Input module DF1191 Infra-red flame detector, analogue addressable DF1192 Infra red flame detector, analogue addressable	
S1110 Danger Management System (fire)	Comprising the following products: CS1110 AlgoControl Fire Detection Control Unit Point Smoke Detectors: DO1101A photoelectric smoke detector, collective (DB1101A base) F716I ionisation smoke detector, (Z74A base) R716I optical smoke detector (Z74A base) F911 ionisation smoke detector (Z94C base) DO1101A-Ex photoelectric smoke detector, conventional (DB1101A base) Point Heat Detectors: DT 1101A grade 1 rate of rise heat detector (DB1101A base) DT 1102A range 1 rate of rise high temperature heat detector, conventional (DB1101A base) D716 grade 2 rate of rise heat detector (Z94A base)	126i/S2

Certificated Products		LPCB Ref. No.
	D901 grade 1 rate of rise heat detector (Z94C base) D921 range 1 rate of rise heat detector (Z94C base) DT1101A-Ex range 1 rate of rise heat detector, conventional (DB1101A base) DT1102A-Ex range 1 rate of rise high temperature heat detector, conventional (DB1101A base) Manual Call Point: DM1101 indoor manual call point (DMZ1191 mounting box) Flame Detectors: S2406 infra red flame detector S2406EX intrinsically safe infra red flame detector DF1191 infra red flame detector, analogue addressable (DFB1190 base) DF1192 infra red flame detector, analogue addressable (DFB1190 base) DF1101-Ex intrinsically safe infra red flame detector, conventional (DBF1190 base) Beam Detector: DLO 1191 Optical beam smoke detector (DLB 1191A base)	
S1115 AlgoControl Fire Detection System	Comprising the following products: CS1115 AlgoControl Fire Detection Control Unit Point Smoke Detectors: DO1101A conventional photoelectric smoke detector, conventional (DB1101A base) DO1131A photoelectric smoke detector, addressable (DB1131A base) DOT1131A photoelectric smoke detector with thermal enhancement, addressable (DB1131A base) F716I ionisation smoke detector (Z74A base) R716I optical smoke detector (Z74A base) F911 ionisation smoke detector (Z94C base) DO1101A-Ex photoelectric smoke detector, conventional (DB1101A base) Point Heat Detectors: DT1101A grade 1 rate of rise heat detector (DB1101A base) DT1102A range 1 rate of rise high temperature heat detector, conventional (DB1101A base) DT1131A grade 1 rate of rise heat detector, addressable (DB1131A base) D716 grade 2 rate of rise heat detector (Z94C base) D901 grade 1 rate of rise heat detector (Z94C base) D921 range 1 rate of rise heat detector (Z94C base) DT1101A-Ex grade 1 rate of rise heat detector, conventional (DB1101A base) DT1102A-Ex range 1 rate of rise high temperature heat detector, conventional (DB1101A base) Manual Call Point: DM1101 manual call point (DMZ1191 mounting box) DM1131 manual call point (DMZ1191 mounting box) DM1104 manual call point, conventional DM1134 manual call point, addressable Beam Detectors DLO1191 optical beam smoke detector (DLB1191A base) Flame Detectors: S2406 infra red flame detector S2406EX intrinsically safe infra red flame detector DF1191 infra red flame detector, analogue addressable (DFB1190 base) DF1192 infra red flame detector, analogue addressable (DFB1190 base) DF1101-Ex intrinsically safe infra red flame detector, conventional (DBF1190 base) Line Modules: DC1131 input module DC1134 output module DC1131-AA input module DC1134-AA output module DC1136-AA output module DC1192 input/output module	126i/S3
FC330A Syno Loop System	Comprising the following products: FC330A Syno Log Fire Control Panel Point Smoke Detectors OP620C photoelectric smoke detector, conventional (DB1101A base) OP620A photoelectric smoke detector, addressable (DB1131A base) OH620A photoelectric smoke detector with thermal enhancements, addressable (DB1131A Base) F716I ionisation smoke detector, (Z74A base) R716I optical smoke detector (Z74A base) F911 ionisation smoke detector (Z94C base)	126i/S4

Certificated Products		LPCB Ref. No.
	OH320A photoelectric smoke detector with thermal enhancements, addressable (SO320 base) OP320A photoelectric smoke detector, addressable (SO320 base) OH320C smoke detector with thermal enhancements (SO320 base) OP320C photo electric smoke detector, conventional (SO320 base) Point Heat Detectors HI620C grade 1 rate of rise heat detector, conventional (SO620C base) HI622C range 1 rate of rise high temperature heat detector, conventional (SO620C base) HI620A grade 1 rate of rise heat detector, addressable (SO620A base) HI622A grade 2 rate of rise heat detector, addressable (SO620A base) D716 grade 2 rate of rise heat detector (Z94C base) D901 grade 1 rate of rise heat detector (Z94C base) D921 range 1 rate of rise heat detector (Z94C base) HI320A grade 1 rate of rise detector, addressable (SO320 base) HI322A grade 2 rate of rise detector, addressable (SO320 base) HI320C grade 1 rate of rise detector, conventional (SO320 base) HI322C grade 2 rate of rise detector, conventional (SO320 base) Manual Call Point DM1101 manual call point (DMZ1191 mounting box) MT320A manual call point, addressable MT320C Manual call point (MTA320 mounting box) MT622A manual call point, addressable indoor and outdoor manual call point MT622C manual call point, conventional indoor and outdoor manual call point Beam Detectors DLO1191 optical beam smoke detector (DLB1191A base) Flame Detectors S2406 infra red flame detector S2406EX intrinsically safe infra red flame detector DF1191 infra red flame detector, analogue addressable (DFB1190 base) DF1192 infra red flame detector, analogue addressable (DFB1190 base) DF1101-Ex intrinsically safe infra red flame detector, conventional (DBF1190 base) Line module: DC1131 input module DC1192 input/output module EB322A input module AB322A output module ABI322A Output module CB320A input module	

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Certificate No: 143b to LPS 1054
Certificate No: 143h to LPCB test schedule 63512/1.4

Certificated Products		LPCB Ref. No.
Minerva conventional fire alarm panel	Comprising the following products: Thorn Security Minerva 1, 2 and 4 zone control and indicating equipment Point Smoke Detectors MR301T High Performance Optical (HPO) smoke detector MF301 ionization smoke detector MR301 photoelectric smoke detector MF301D ionization smoke detector MF301DH ionization smoke detector Point Heat Detectors MD301 grade 1 rate of rise heat detector	143b/S1

Certificated Products		**LPCB Ref. No.**
	MD311 grade 2 fixed temperature heat detector	
Excelsior conventional fire alarm system	Comprising the following products: Excelsior 1, 2 and 4 zone control and indicating equipment Point Smoke Detectors MR301T High Performance Optical (HPO) smoke detector MF301 ionization smoke detector MR301 photoelectric smoke detector MF301D ionization smoke detector MF301DH ionization smoke detector Point Heat Detectors MD301 grade 1 rate of rise heat detector MD311 grade 2 fixed temperature heat detector	143b/S2
Minerva analogue addressable fire alarm system	Comprising the following products: Thorn Security Minerva 16 controller Minerva 16E controller Minerva 80 controller Minerva power supply unit Minerva 16R repeater Minerva 16ER repeater Point Smoke Detectors MF301 ionization smoke detector MR301 photoelectric smoke detector MF301D ionization smoke detector MF301DH ionization smoke detector MR301T High Performance Optical (HPO) smoke detector MR401 addressable photoelectric smoke detector MF401 addressable ionization smoke detector MR501 analogue photoelectric smoke sensor MF501 analogue ionization smoke sensor MR501T High Performance Optical (HPO) analogue smoke sensor Point Heat Detectors MD301 grade 1 rate of rise heat detector MD311 grade 2 fixed temperature heat detector MD401 addressable grade 1 rate of rise heat detector MD501 analogue heat sensor Minerva 80R repeater Flame Detectors MS502Ex intrinsically safe flame detector Line Modules RM520 relay module SM520 addressable sounder driver module DM520 conventional detector module LI520 line isolator module CM520 contact monitoring module SB520 sounder booster module	10/S11
ThornNet System	In conjunction with the following LPCB approved control and indicating equipment. Minerva 8 Minerva 16E Minerva 80 When incorporating TLK530 network interface module.	143h/01

This Section lists control and indicating equipment, and power supply equipment approved for use in fire detection and fire alarm systems in buildings.

The following standards are currently used for certification schemes:

- EN 54-2: 1997 *Control and indicating equipment*;
- EN 54-4 :1997 *Power supply equipment*;
- ISO7240-2:2003 *Control and indicating equipment*;
- ISO7240-4:2003 *Power supply equipment;*
- LPS 1259 *Alternative Specification for control and indicating equipment for use in Countries not bound by CEN/CENELEC internal regulations* (see Note 1).

Due to changes in the applicable standards the list also includes equipment previously evaluated to the requirements of the following:

- BS 5839-4: 1988 *Specification for control and indicating equipment (N.B. including power supply equipment*); or
- Draft prEN 54-2 *Control and indicating equipment*;
- Draft prEN 54-4 *Power supply equipment*;

BS 5839-4 has been superseded by EN 54-2 and EN 54-4 and applications for certification to BS 5839-4 will no longer be accepted. Products currently listed as approved to the drafts prEN 54-2 and/or prEN 54-4 may remain only until the expiry of the current certificate.

Notes:

1. Although BS 5839-4 has been superseded by the European standards EN 54-2 and EN 54-4, equipment complying with BS 5839-4 is still requested and accepted in non-European markets. To assist manufacturers who want to supply these markets, LPCB will continue to list equipment as approved to this standard after April 2002 but will show this as for use in countries not bound by the CEN/CENELEC internal regulations. Also see LPS 1259 for dealing with new approvals of equipment in accordance with the requirements of BS 5839-4.

2. Since the LPCB uses national and international standards for the listing of products, in some instances the requirements of these standards may conflict with the recommendations of local codes of practice. If full compliance with a local installation code of practice is necessary, confirmation should be obtained that the listed products also comply with the appropriate codes of practice.

3. Where the control and indicating equipment is of modular construction, and the use of certain modules (or printed circuit boards PCBs) is optional, these are listed with the applicable equipment.

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Certificate No: 018c to EN 54:Part 2 and 4: 1997

Mx panels

Certificated Products		**LPCB Ref. No.**
Mx-1002 Two zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option) *Certified with the following options from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to outputs* *8.9 Output to fault warning equipment*	018c/02

Certificated Products		LPCB Ref. No.
	10 Test condition	
Mx-1004 Four zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option) *Certified with the following options from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to outputs* *8.9 Output to fault warning equipment* *10 Test condition*	018c/03
Mx-1008 Eight zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option) *Certified with the following options from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to outputs* *8.9 Output to fault warning equipment* *10 Test condition*	018c/04
Mx-1016 Sixteen zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option) *Certified with the following options from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to outputs* *8.9 Output to fault warning equipment* *10 Test condition*	018c/05
Mx-1032 Thirty two zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1629 Display board C1632 16 Zone Expansion board C1652 5A Power supply board C1631 Repeater interface board (option) *Certified with the following options from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to outputs* *8.9 Output to fault warning equipment* *10 Test condition*	018c/06
Mx-1108 Eight zone conventional repeater unit	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board	018c/R01
Mx-1116 Sixteen zone conventional repeater unit	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board	018c/R02
Mx-1132 Thirty two zone conventional repeater unit	Incorporating as modular units: C1627 Mother board C1629 Display board C1631 Repeater interface board	018c/R03

Computionics Limited (Trading as C-Tec)

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Certificate No: 176a to EN 54: Part 2 and 4: 1997

Certificated Products		LPCB Ref. No.
CFP 2	Conventional 2 zone control and indicating equipment	176a/01
CFP 4	Conventional 4 zone control and indicating equipment	176a/02
CFP 8	Conventional 8 zone control and indicating equipment	176a/03

Certificated with the following options from BS EN 54 Part 2:
7.8 Output to sounders
7.11 Delays to outputs
10 Test condition

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Certificate No: 018a to BS 5839: Part 4. This certificate is to a withdrawn standard. Control and indicating equipment conforming to this standard is not suitable for use within the jurisdiction of the European Union (EU). This certificate, to the withdrawn standard, is maintained because control and indicating equipment meeting the withdrawn standard is still requested by some regulators outside of the EU.
Certificate No: 018c to EN 54: Part 2 and 4: 1997

Certificated Products		LPCB Ref. No.
Precept 2 zone control and indicating equipment	Incorporating as modular units C1423 Motherboard C1440 Display Board	018a/01
Precept 4 zone control and indicating equipment	Incorporating as modular units C1423 Motherboard C1441 Display Board	018a/02
Precept 8 zone control and indicating equipment	Incorporating as modular units C1427 Motherboard C1462 Display Board	018a/03
Precept 16 zone control and indicating equipment	Incorporating as modular units C1425 Motherboard C1426 Display Board	018a/04
Precept 32 zone control and indicating equipment	Incorporating as modular units C1425 Motherboard C1426 Display Board C1464 Display Board	018a/05
Series 600: 2 zone control and indicating equipment	Incorporating as modular units C1423 Motherboard C1440 Display Board	018a/06
Series 600: 4 zone control and indicating equipment	Incorporating as modular units C1423 Motherboard C1441 Display Board	018a/07
Series 600: 8 zone control and indicating equipment	Incorporating as modular units C1427 Motherboard C1462 Display Board	018a/08
Series 600: 16 zone control and indicating equipment	Incorporating as modular units C1425 Motherboard C1426 Display Board	018a/09
Series 600: 32 zone control and indicating equipment	Incorporating as modular units C1425 Motherboard C1426 Display Board C1464 Display Board	018a/10

Certificated Products		**LPCB Ref. No.**
Discovery 4 loop analogue addressable control and indicating equipment	Incorporating: A1579 Motherboard A1580 Display board A1585 Loop cards A1584 230 Vac power supply control card A1599 Printer board	018c/01
Precept En2 (2605-100) Two zone conventional control and indicating equipment	Incorporating as modular units:- C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/02
Precept En4 (2605-101) Four zone conventional control and indicating equipment	Incorporating as modular units:- C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/03
Precept En8 (2605-102) Eight zone conventional control and indicating equipment	Incorporating as modular units:- C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/04
Precept En16 (2605-103) Sixteen zone conventional control and indicating equipment	Incorporating as modular units:- C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/05
Precept En32 (2605-104) Thirty two zone conventional control and indicating equipment	Incorporating as modular units:- C1627 Mother board C1629 Display board C1631 Repeater interface board (option) C1632 16 Zone Expansion board C1652 5A Power supply board	018c/06
Precept En8 (2605-110) Eight zone conventional repeater unit	Incorporating as modular units:- C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/R01
Precept En16 (Repeater (2605-111) Sixteen zone conventional repeater unit	Incorporating as modular units:- C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/R02
Precept En32 (Repeater (2605-112) Thirty two zone conventional repeater unit	Incorporating as modular units:- C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/R03

Certificate Nos. 018a and 018c:
Certified with the following options from EN 54 Part 2:

7.8 Output to fire alarm devices
7.11 Delays to outputs
8.3 Fault signals from points
9.5 Disablement of addressable points
10 Test condition

Certificate Nos. 018c/02-06:
Certified with the following options from EN 54 Part 2:

7.8 Output to fire alarm devices
7.9 Output to fire routing equipment
7.10 Output to automatic fire protection equipment
7.11 Delays to outputs
8.9 Output to fault warning equipment
10 Test condition

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Certificated Products		**LPCB Ref. No.**
CF3000 Analogue addressable 2 and 4 loop control and indicating equipment	Incorporating the following units: ADF6Assembled back box YPCB2153 Motherboard PCB YPCB2147 PSU PCB YPCB2148 2 Loop card (2 off) ADF6 Screen Touch Screen YPCB2185 Complete Display + Micro PCB ADF6DISPCOVER Display PCB Cover ADF6FACIA Front Moulding ADF6PRINTDOOR Printer Door Moulding BAT-NP11-12 Batteries (2off) ADF6HINGE Door Hinges ADF6OPFACIA Optional Anti Tamper Cover ADF6PRINTER Printer YPCB2187 Fire Brigade Interface *Certified with the following options from EN 54 Part 2:* *7.8 Output to fire alarm device(s)* *7.9 Output to fire alarm routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to the actioning of outputs fire alarm devices and fire routing equipment* *7.12 Coincidence detection* *7.13 Alarm counter* *8.9 Output to fault warning routing equipment* *9.5 Disablement of each address point* *10 Test condition*	714a/01
DF6000 Analogue addressable 2 and 4 loop control and indicating equipment	Incorporating the following units: ADF6 Assembled back box YPCB2153 Motherboard PCB YPCB2147 PSU PCB YPCB2148 2 Loop card (2 off) ADF6Screen Touch Screen YPCB2185 Complete Display + Micro PCB ADF6DISPCOVER Display PCB Cover ADF6FACIA Front Moulding ADF6PRINTDOOR Printer Door Moulding BAT-NP11-12 Batteries (2off) ADF6HINGE Door Hinges ADF6OPFACIA Optional Anti Tamper Cover ADF6PRINTER Printer YPCB2187 Fire Brigade Interface *Certified with the following options from EN 54 Part 2:* *7.8 Output to fire alarm device(s)* *7.9 Output to fire alarm routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to the actioning of outputs fire alarm devices and fire routing equipment* *7.12 Coincidence detection* *7.13 Alarm counter* *8.9 Output to fault warning routing equipment*	714a/01

Certificated Products		LPCB Ref. No.
	9.5 Disablement of each address point *10 Test condition*	
FX6000 Analogue addressable 2 and 4 Loop control and indicating equipment	Incorporating the following units: ADF6 Back Assembled back box YPCB2153 Motherboard PCB YPCB2147 PSU PCB YPCB2148 2 Loop Card (2 off) ADF6Screen Touch Screen YPCB2185 Complete Display + Micro PCB ADF6 DISPCOVER Display PCB Cover ADF6FACIA Front Moulding ADF6PRINTDOOR Printer Door Moulding BAT-NP11-12 Batteries (2 off) ADF6HINGE Door Hinges ADF6OPFACIA Optional Anti Tamper Cover ADF6PRINTER Printer YPCB2187 Fire Brigade Interface *The following options with requirements are approved with this equipment:* *7.8 Output to fire alarm device(s)* *7.9 Output to fire alarm routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to the actioning of outputs fire alarm devices and fire routing equipment* *7.12 Coincidence detection* *7.13 Alarm counter* *8.9 Output to fault warning routing equipment* *9.5 Disablement of each address point* *10 Test condition*	714a/01

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Certificate No: 081c to EN54: Part 2 and 4: 1997

Certificated Products		LPCB Ref. No.
FireGuard Excel Series 8 zone conventional repeater unit	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface	018/R01
FireGuard Excel Series 4 loop analogue addressable control and indicating equipment	Incorporating as modular units: A1579 Motherboard A1580 Display board A1585 Loop cards A1584 230Vac power supply control card A1599 Printer board *Certified with the following options from EN54 Part 2:* *7.8 Output to fire alarm devices* *7.11 Delays to outputs* *8.3 Fault signals from points* *9.5 Disablement of addressable points* *10 Test condition*	018c/01
FireGuard Excel Series 2 zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface (option) *Certified with the following options from EN 54: Part 2* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to outputs* *8.9 Output to fault warning equipment* *10 Test condition*	018c/02
FireGuard Excel Series 4	Incorporating as modular units:	018c/03

Certificated Products		LPCB Ref. No.
zone conventional control and indicating equipment	C1627 Mother board C1628 Display board C1631 Repeater interface (option) *Certified with the following options from EN 54: Part 2* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to outputs* *8.9 Output to fault warning equipment* *10 Test condition*	
FireGuard Excel Series 8 zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface (option) *Certified with the following options from EN 54: Part 2* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to outputs* *8.9 Output to fault warning equipment* *10 Test condition*	018c/04
FireGuard Excel Series 16 zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface (option) *Certified with the following options from EN 54: Part 2* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to outputs* *8.9 Output to fault warning equipment* *10 Test condition*	018c/05
FireGuard Excel Series 32 zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1629 Display board C1632 16 Zone expansion board C1652 5A Power Supply board C1631 Repeater interface (option) *Certified with the following options from EN 54: Part 2* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.10 Output to automatic fire protection equipment* *7.11 Delays to outputs* *8.9 Output to fault warning equipment* *10 Test condition*	018c/06
FireGuard Excel Series 16 zone conventional repeater unit	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface	018c/R02
FireGuard Excel Series 32 zone conventional repeater unit	Incorporating as modular units: C1627 Mother board C1629 Display board C1631 Repeater interface	018c/R03

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Certificate No: 092h to EN 54: Part 2 and 4:1997
Certificate No: 018c to EN 54: Part 2 and 4: 1997

Certificated Products		**LPCB Ref. No.**
ZC3-EN2 Two zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/02
ZC3-EN4 Four zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/03
ZC3-EN8 Eight zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/04
ZC3-EN16 Sixteen zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/05
ZC3-EN32 Thirty two zone conventional control and indicating equipment	Incorporating as modular units: C1627 Mother board C1628 Display board C1632 16 Zone Expansion board C1652 5A Power supply board C1631 Repeater interface board (option)	018c/06
ZC3-RDU230-8	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/R01
ZC3-RDU230-16 Sixteen zone conventional repeater unit	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/R02
ZC3-RDU230-32 Thirty two zone conventional repeater unit	Incorporating as modular units: C1627 Mother board C1628 Display board C1631 Repeater interface board (option)	018c/R03
ZP5 Mark 5 2, 4 and 8 loop control and indicating equipment	Incorporating as modular units: ZP-PS230V4A-3 power supply unit ZP-MCB5 main control board ZP-LD8-4 line driver board ZP-DU81L-2 LCD ZP-DU81P-2 plasma display board ZP-PR1 printer kit ZP-RL8-1 8 way programmable relay board	092e/01
ZP3 1, 2 and 4 loop analogue addressable control and indicating equipment	Incorporating as modular units: ZP3-MB2-4L 4 Loop Main board ZP3-MB2-2L 2 Loop Main board ZP3-MB2-1L 1 Loop Main board ZP3-CPU1 CPU board ZP3-DB1 Display board ZP3-ZB50 50 Zone LED board ZP3-CB1 Commissioning key switch board ZP3-PR1 Printer Kit ZP3AB-SCB-D Control bus drive ZP3AB-RL8 Programmable relay output board, 8 way ZP3-AB-MA8 Programmable monitored output board, 8 way ZP3AB-OP24 Programmable transistor output board, 24 way ZP3AB-MIP8 Programmable input board, 8 way ZP3-xL 230V ac Power supply unit	092h/01

Certificated with the following options from EN 54 Part 2:

7.8 Output to fire alarm devices
7.9 Output to fire alarm routing equipment
7.10 Output to fire protection equipment
7.11 Delays to outputs
8.9 Output to fault routing equipment
10 Test condition

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Certificate No: 257c to EN 54: Part 2 and 4: 1997

Certificated Products		**LPCB Ref. No.**
EST3 control and indicating equipment.	Incorporating as modular units: 3-PPS/M 230E Primary power supply 3-BPS/M 230E Power supply booster 3-CPU Central processor module 3-LCD Main LCD display for 3 CPU. 3-LDSM LED display support local rail module. 3-SSDC Single Signature driver controller module 3-AADC System Sensor driver controller module 3-IDC8/4 Traditional zone I/O module. 3-RS485 Network communications card 3-RS232 Ancillary communications card 3-XMEM Expansion memory card 3-24Y 24 yellow LED card 3-24R 24 red LED card 3-24RY red/yellow LED card	257c/01
EST3 Repeater/Remote Controller	Incorporating as modular units: 3-ANNCPU1Central Processor Module 3-LCD Main LCD Display for 3 CPU.	257c/01

The following options with requirements are approved with this equipment:

7.8 Output to fire alarm devices
7.13 Alarm counter
8.3 Fault Signals from points.
10 Test condition
11 Standardised input/output interface.

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Certificate No: 42x to EN 54: Parts 2 & 4: 1997

Control and Indicating Equipment

Certificated Products		**LPCB Ref. No.**
13270-01 1 zone conventional control and indicating equipment		042x/01
	Certified with the following options from EN 54 Part 2: 1997	
	7.8 Output to fire alarm devices	
	7.9 Delays of actioning to outputs to fire alarm routing equipment	
	10 Test condition	
13270-02 2 zone conventional control and indicating equipment		042x/02
	Certified with the following options from EN 54 Part 2: 1997	
	7.8 Output to fire alarm devices	
	7.9 Delays of actioning to outputs to fire alarm routing equipment	
	10 Test condition	
13270-04 4 zone conventional control and indicating equipment		042x/03
	Certified with the following options from EN 54 Part 2: 1997	
	7.8 Output to fire alarm devices	
	7.9 Delays of actioning to outputs to fire alarm routing equipment	
	10 Test condition	
13270-08 8 zone conventional control and indicating equipment		042x/04
	Certified with the following options from EN 54 Part 2: 1997	
	7.8 Output to fire alarm devices	
	7.9 Delays of actioning to outputs to fire alarm routing equipment	

Certificated Products		**LPCB Ref. No.**
	10 Test condition	
VIG 1 Single loop analogue addressble control and indicating equipment	Incorporating as modular units: 2434-334 Power supply PCB VIG-LPC 1 Loop processor card VIG-MCC Master Controller Card 2434-766 Display PCB 2434-578 Terminal PCB 2434-581 GENT backpanel VIG-IOC-DOM Output card 2434-591 Printer PCB VIG-NC-FO Fibre optic Network card (*Note: Scope of approval does not include the operation of the network card)*	042x/06
VIG 2 Two loop analogue addressable control and indicating equipment	Incorporating as modular units: 2434-334 Power supply PCB VIG-LPC 2 Loop processor card VIG-MCC Master controller card 2434-766 Display PCB 2434-578 Terminal PCB 2434-581 GENT backpanel VIG-IOC-DOM Output card 2434-591 Printer PCB VIG-NC-FO Fibre optic Network card (*Note: Scope of approval does not include the operation of the network card)*	042x/07
VIG 3 Three loop analogue addressable control and indicating equipment	Incorporating as modular units: 2434-334 Power supply PCB VIG-LPC 3 Loop processor card VIG-MCC Master controller card 2434-766 Display PCB 2434-578 Terminal PCB 2434-581 GENT backpanel VIG-IOC-DOM Output card 2434-591 Printer PCB VIG-NC-FO Fibre optic Network card (*Note: Scope of approval does not include the operation of the network card)*	042x/08
VIG 4 Two loop analogue addressable control and indicating equipment	Incorporating as modular units: 2434-334 Power supply PCB VIG-LPC 4 Loop processor card VIG-MCC Master controller card 2434-766 Display PCB 2434-578 Terminal PCB 2434-581 GENT backpanel VIG-IOC-DOM Output card 2434-591 Printer PCB VIG-NC-FO Fibre optic Network card (*Note: Scope of approval does not include the operation of the network card)*	042x/09

Certified with the following options from EN 54 Part 2:
7.8 Output to fire alarm devices
7.11 Delays to outputs
8.3 Fault signals from points
9.5 Disablement of each address point
10 Test condition

Certificate No: 400f to EN 54: Parts 2 and 4: 1997

Certificated Products		**LPCB Ref. No.**
8000M 7 Loop Addressable Control and Indicating Equipment	Incorporating as modular units: 771690 Power Supply Module 772414 Basic Module 772441 Display Card 772411 LED Module 772412 Group Individual Indication 128 Zones 772413 Group Individual Indication 384 Zones 772418 Peripheral Module 772419 Peripheral Module	400f/01

Certificated Products		LPCB Ref. No.
	772420 Peripheral Module 772421 Extension Module 787530 4 Relay Module 787531 3 Relay Module 787532 3 Relay SaS Module 787533 BSL Module 787680 7 Output Module Positive 787681 7 Output Module Negative 784382 Analogue Ring Module 784385 CIE Triggering Module 802426 Powered Loop power pack module 804382 Analogue Ring Module powered loop 804383 Analogue Ring Module powered loop	
	Certified with the following options from EN 54 Part 2: *7.8 Output to fire alarm devices* *7.9 Output to fire alarm routing equipment* *7.10 Output to automatic fire protection equipment* *7.12 Coincidence detection* *7.13 Alarm counter* *8.4 Total loss of the power supply* *10 Test condition* *11 Output to standardised input/output interface*	
8000C 2 loop analogue addressable control and indicating equipment	Incorporating as modular units 771690 Power Supply Module 772441 Display Card 772411 LED Module 772412 Group Individual Indication 128 Zones 772413 Group Individual Indication 384 Zones 772414 Basic Module 772418 Peripheral Module 772419 Peripheral Module 772420 Peripheral Module 787530 4 Relay Module 787531 3 Relay Module 787532 3 Relay SaS Module 787533 BSL Module 787680 7 Output Module Positive 787681 7 Output Module Negative 784382 Analogue Ring Module 784385 CIE Triggering Module 802426 Powered Loop power pack module 804382 Analogue Ring Module powered loop 804383 Analogue Ring Module powered loop	400f/02
	Certified with the following options from BS EN 54 Part 2: *7.8 Output to fire alarm devices* *7.9 Output to fire alarm routing equipment* *7.10 Output to automatic fire protection equipment* *7.12 Coincidence detection* *7.13 Alarm counter* *8.4 Total loss of the power supply* *10 Test condition* *11 Output to standardised input/output interface*	

Certificate No: 042d to BS 5839: Part 4

Certificated Products		LPCB Ref. No.
3404 control and indicating equipment	Incorporating as modular units 13430-01V3 Local Controller Card (LCC) 13431-01V3 Loop Processor Card (LPC) 13432-03V3 Input Output Card (IOC) 13433-01V3 Random Access Memory (RAM) card	042d/05
3460 Mimic Panel		042d/06
VIG1-V3+ 1 loop control and indicating equipment		042d/07
VIG2-V3+ 2 loop control and indicating equipment		042d/08
VIG3-V3+ 3 loop control		042d/09

Certificated Products		LPCB Ref. No.
and indicating equipment		
VIG4-V3+ 4 loop control and indicating equipment	Incorporating as modular units: VIG-LCC V3+ Loop Controller Card (LCC) VIG-LPC V3+ Loop Processor Card (LPC) VIG-IOC V3+ Input Output Card (IOC) VIG-RAM Random Access Memory Card (RAM)	042d/10

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Certificate No: 330d to EN 54: Part 2 and 4: 1997

Control and indicating equipment

Certificated Products		LPCB Ref. No.
Premier SX 1 Zone	conventional control and indicating equipment	330d/01
Premier SX 2 Zone	conventional control and indicating equipment	330d/02
Premier SX 4 Zone	conventional control and indicating equipment	330d/03
Premier SX 6 Zone	conventional control and indicating equipment	330d/04
Premier SX 8 Zone	conventional control and indicating equipment	330d/05

Certified with the following options with requirements from EN 54: Part 2:
7.8 Output to fire alarm devices
7.11 Delays to the actioning of outputs
10 Test condition

Certificate No: 018c to EN 54-2 and 4:1997

Certificated Products		LPCB Ref. No.
Prem1er AL 4 loop analogue addressable control and indicating equipment	Incorporating: A1579 Motherboard A1580 Display board A1585 Loop cards A1584 230V AC power supply control card A1599 Printer board	018c/01

Certified with the following options from EN 54:Part 2
7.8 Output to fire alarm devices
7.11 Delays to outputs
8.3 Fault signals from points
9.5 Disablement of addressable points
10 Test condition

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Certificate No: 429a to EN 54: Part 2 and 4: 1997
Certificate No: 154d to EN 54: Part 2 and EN 54: Part 4: 1997

Certificated Products		LPCB Ref. No.
XLS80e 2-8 loop analogue	Incorporating as modular units:	154d/02

Certificated Products		LPCB Ref. No.
addressable control and indicating equipment	020-538-101 XLS80e Basic Equipment Kit Language Group 1(excluding manuals) 020-559-101 Extension Chassis with 1-64 Zone LED Display 020-559-102 Extension Chassis with 65-128 Zone LED Display 020-612-100 Extension Chassis with 1-256 Zone LED Display 020-708-100 Extension Chassis with Printer 020-644-009 Printer Assembly 020-588-100 LIB, Loop Interface Board 020-549-100 ELIB, Enhanced Loop Interface Board 020-478 RS232 Communications Kit 020-479 RS485 Communications Kit 020-484 PSU2.5A Power Supply 020-648 PSU3A Power Supply 020-579 PSU7A Power Supply (Requires DTP / Booster Interface) 020-543 DTP, Dual Transmission Path / Booster Interface 020-541-102 78Ah Battery and PSU7A Enclosure 020-472-002 Standard Back Box Kit 020-473-002 Extended Back Box Kit 020-475-002 Double Extended Back Box Kit 020-476-002 Double Extended Deep Back Box Kit 020-509-002 Deep Back Box extension 020-480-102 Main Cover Kit 020-481-002 Extension Cover Kit 020-621-002 Extension Cover Kit, 256 Zone LED Display 020-647-100 XLS80e NGM, Network Gateway Module 020-643 Fibre Optic Interface Module *Certified with the following options from EN 54:Part 2* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm counter* *8.3 Fault signals from points* *8.9 Output to Fault warning routing equipment* *9.5 Disablement of addressable points* *10 Test condition*	
002-467-002 XLS80e-NI, NGU Network Gateway unit	Incorporating the following modular units, is approved for use with the XLS80e control and indicating equipment: 020-647-100 XLS80e-NI NGM Network Gateway Module 020-643 Fibre Optic Interface Module 020-648 PSU3A Power Supply Module	154d/N02
XLS50E 1-2 loop analogue addressable control and indicating equipment	Incorporating the following units: 124-206 Processor card 124-249-001 System Sensor loop driver card 124-231 Apollo Discovery loop driver card 124-195 Hochiki loop driver card 124-249-002 Honeywell loop driver card 124-328 XLS50/60e 20 zone display 124-207-003 2A PSU 124-209-002 2 loop base card 124-196 240V filter card	429a/03
XLS60e 1-5 loop analogue addressable control and indicating equipment	Incorporating the following units: 124-206 Processor card 124-205-002 3A switcher PSU 124-330-001 60 zone extender 124-354 5 loop base card 124-249-001 System Sensor loop driver card 124-231 Apollo Discovery loop driver card 124-195 Hochiki loop driver card 124-249-002 Honeywell loop driver card 124-328 XLS50/60e 20 zone display *Certified with the following options from EN 54:Part 2* *7.8 Output to fire alarm devices* *7.11 Delays to outputs* *7.12 Coincidence detection* *8.3 Fault signals from points* *9.5 Disablement of addressable points* *10 Test condition*	429a/04

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Certificate No: 054d to EN 54: Part 2 and 4: 1997

Certificated Products		**LPCB Ref. No.**
Vega 1- 4 loop analogue addressable control and indicating equipment	Supporting either the Apollo or Hochiki protocol Incorporating as modular units 44782-K071 Processor card 44782-K072-08 Status and Zonal Indicator card 44782-K073 Master Basic Loop Controller (MBLC) 44782-K074 Loop card 43782-K035 8 line Liquid Crystal Display 28730-K005 Power Supply Unit 35333-K061 Enclosure and as optional modular units: 44782-K072-09 Extension Zonal Indicator card 44782-K076 Repeater Interface card 44782-K084 Slave Basic Loop Controller (SBLC) 44782-K091 4 way Motherboard card 44782-K092 8 way Relay card 44782-K093 8 way Monitored Output card 44782-K094 16 way Non-Monitored Input card 44782-K095 16 way Non-Monitored Output card 44782-K096 8 way Monitored Input card 44782-K050 24 Volt Printer Interface 43782-K126 Thermal Printer	054d/01

Certified with the following options from EN 54-2:1997:

7.8 Output to fire alarm devices
7.11 Delays of the actioning of outputs to fire alarm devices
7.12 Coincidence detection
8.3 Fault signals from a point
9.5 Disablement of each address point
10 Test condition
11 Output to standardised input/output interface

Certificate No: 054d to EN 54: Parts 2 and 4: 1997

Certificated Products		**LPCB Ref. No.**
Vega 1- 8 loop analogue addressable control and indicating equipment	Supporting either the Apollo or Hochiki protocol Incorporating as modular units 44782-K071 Processor card 44782-K072-08 Status and Zonal Indicator card 44782-K073 Master Basic Loop Controller (MBLC) 44782-K074 Loop card 43782-K035 8 line Liquid Crystal Display 28730-K006 Power Supply Unit 35333-K062 Enclosure and as optional modular units: 44782-K072-09 Extension Zonal Indicator card 44782-K076 Repeater Interface card 44782-K084 Slave Basic Loop Controller (SBLC) 44782-K091 4 way Motherboard card 44782-K092 8 way Relay card 44782-K093 8 way Monitored Output card 44782-K094 16 way Non-Monitored Input card 44782-K095 16 way Non-Monitored Output card 44782-K096 8 way Monitored Input card 44782-K050 24 Volt Printer Interface 43782-K126 Thermal Printer	054d/02

Certified with the following options from BS EN 54-2:1998:

7.8 Output to fire alarm devices
7.11 Delays of the actioning of outputs to fire alarm devices
7.12 Coincidence detection
8.3 Fault signals from a point
9.5 Disablement of each address point
10 Test condition
11 Output to standardised input/output interface

Certificate No: 054d to EN 54: Parts 2 and 4: 1997

Certificated Products		**LPCB Ref. No.**
Vega Repeater 1- 24 zone with control functions is approved for use with the	Vega 1-4 loop analogue addressable control and indicating equipment. Incorporating as modular units 44782-K077-00 Repeater Processor card 44782-K078-00 Repeater Termination card 44782-K072-08 Status and Zonal Indicator card 43782-K035 8 line Liquid Crystal Display 28730-K005 Power Supply Unit 35333-K060 Enclosure and as optional modular units: 44782-K050 Printer Interface card 43782-K126 Thermal Printer	054d/R01
Vega Repeater 1 120 zone with control functions is approved for use with the	Vega 1-8 loop analogue addressable control and indicating equipment. Incorporating as modular units44782-K077-00 Repeater Processor card 44782-K078-00 Repeater Termination card 44782-K072-08 Status and Zonal Indicator card 43782-K035 8 line Liquid Crystal Display 28730-K005 Power Supply Unit 35333-K022 Enclosureand as optional modular units: 44782-K072-09 Extension Zonal Indicator card 44782-K050 Printer Interface card 43782-K126 Thermal Printer	054d/R02

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Certificate No: 429a to EN 54: Part 2 and 4: 1997

Certificated Products		**LPCB Ref. No.**
ZX2e 1-2 loop analogue addressable control and indicating equipment	Incorporating the following units: 124-206 Processor card 124-327 ZX2/5e 20 zone display 124-231 Apollo Discovery loop driver card 124-195 Hochiki loop driver 124-249-003 Morley IAS loop driver card 124-207-003 2A PSU 124-209-002 2 loop base card 124-196 230V filter card	429a/01
ZX5e 1-5 loop analogue addressable control and indicating equipment	Incorporating the following units: 124-206 Processor card 124-327 ZX2/5e 20 zone display 124-205-002 3A PSU 124-330-001 60 zone extender 124-354 5 loop base card 124-231 Apollo Discovery loop driver card 124-195 Hochiki loop driver 124-249-003 Morley IAS loop driver card	429a/02
320b 1-2 loop analogue addressable control and indicating equipment	Incorporating the following units: 124-206 Processor card 124-231 Apollo Discovery loop driver card 124-195 Hochiki loop driver card 124-329 320b/380b 20 zone display 124-207-003 2A PSU	429a/05

Certificated Products		LPCB Ref. No.
	124-209-002 2 loop base card 124-196 230V filter card	
380b 1-5 loop analogue addressable control and indicating equipment	Incorporating the following units: 124-206 Processor card 124-205-002 3A PSU 124-330-001 60 zone extender 124-354 5 loop base card 124-231 Apollo Discovery loop driver card 124-195 Hochiki loop driver card 124-329 320B/380B 20 zone display	429a/06

Certified with the following options with requirements from EN 54: Part 2
7.8 Output to fire alarm devices
7.11 Delays to outputs
7.12 Coincidence detection
8.3 Fault signals from points
9.5 Disablement of addressable points
10 Test condition

Certificate No: 154d to EN 54:Part 2 and 4: 1997

Certificated Products		LPCB Ref. No.
Horizon HRZ2-8	2 Zone conventional control and indicating equipment Including the following versions: 002-479-222 Morley-IAS Horizon, 2 zone, English, French, Italian, Portuguese, Spanish (Region 2)	154d/09
Horizon HRZ2-8	002-479-322 Morley-IAS Horizon, 2 zone, dual relay, Danish, Finish, Norwegian, Swedish (Region 3)	154d/09
Horizon HRZ2-8	002-492-222 Morley-IAS Horizon, 2 zone, 2w relay, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual	154d/09
Horizon HRZ2-8	002-506-222 Morley-IAS Horizon, 2 zone, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual	154d/09
Horizon HRZ2-8	4 Zone conventional control and indicating equipment Including the following versions: 002-479-242 Morley-IAS Horizon, 4 zone, English, French, Italian, Portuguese, Spanish (Region 2)	154d/10
Horizon HRZ2-8	002-479-342 Morley-IAS Horizon, 4 zone, dual relay, Danish, Finish, Norwegian, Swedish (Region 3)	154d/10
Horizon HRZ2-8	002-492-242 Morley-IAS Horizon, 4 zone, 2w relay, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual	154d/10
Horizon HRZ2-8	002-506-242 Morley-IAS Horizon, 4 zone, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual	154d/10
Horizon HRZ2-8	8 Zone conventional control and indicating equipment Including the following versions: 002-479-282 Morley-IAS Horizon, 8 zone, English, French, Italian, Portuguese, Spanish (Region 2)	154d/11
Horizon HRZ2-8	002-479-382 Morley-IAS Horizon, 8 zone, dual relay, Danish, Finish, Norwegian, Swedish (Region 3)	154d/11
Horizon HRZ2-8	002-492-282 Morley-IAS Horizon, 8 zone, 2w relay, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual	154d/11
Horizon HRZ2-8	002-506-282 Morley-IAS Horizon, 8 zone, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual	154d/11

Certified with the following options from EN 54 Part 2:
7.8 Output to fire alarm devices
7.9 Output to fire routing equipment
7.11 Delays to outputs
7.12 Coincidence detection
10 Test condition

Notifier Fire Systems

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Certificate No: 154d to EN 54: Part 2 and 4: 1997

Certificated Products		LPCB Ref. No.
NFS2-8, 2 Zone conventional control and Indicating equipment	002-477-129 Notifier 2 zone, English, French, German, Dutch, Swedish, Icelandic (Region 1)	154d/09
NFS2-8, 2 Zone conventional control and Indicating equipment	002-477-229 Notifier 2 zone, English, French, Spanish, Portuguese, Italian (Region 2)	154d/09
NFS2-8, 2 Zone conventional control and Indicating equipment	002-477-329 Notifier 2 zone, dual relay, Danish, Finish, Norwegian, Swedish (Region 3)	154d/09
NFS2-8, 2 Zone conventional control and Indicating equipment	002-490-129 Notifier 2 zone, dual relay, English, French, German, Dutch, Swedish, Icelandic (Region 1) + UK user manual	154d/09
NFS2-8, 2 Zone conventional control and Indicating equipment	002-490-229 Notifier 2 zone, dual relay, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual	154d/09
NFS2-8, 4 Zone conventional control and Indicating equipment	002-477-149 Notifier 4 zone, English, French, German, Dutch, Swedish, Icelandic (Region 1)	154d/10
NFS2-8, 4 Zone conventional control and Indicating equipment	002-477-249 Notifier 4 zone, English, French, Spanish, Portuguese, Italian (Region 2)	154d/10
NFS2-8, 4 Zone conventional control and Indicating equipment	002-477-349 Notifier 4 zone, dual relay, Danish, Finish, Norwegian, Swedish (Region 3)	154d/10
NFS2-8, 4 Zone conventional control and Indicating equipment	002-490-149 Notifier 4 zone, dual relay, English, French, German, Dutch, Swedish, Icelandic (Region 1) + UK user manual	154d/10
NFS2-8, 4 Zone conventional control and Indicating equipment	002-490-249 Notifier 4 zone, dual relay, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual	154d/10
NFS2-8, 8 Zone conventional control and Indicating equipment	002-477-189 Notifier 8 zone, English, French, German, Dutch, Swedish, Icelandic (Region 1)	154d/11
NFS2-8, 8 Zone conventional control and Indicating equipment	002-477-289 Notifier 8 zone, English, French, Spanish, Portuguese, Italian (Region 2)	154d/11
NFS2-8, 8 Zone conventional control and Indicating equipment	002-477-389 Notifier 8 zone, dual relay, Danish, Finish, Norwegian, Swedish (Region 3)	154d/11
NFS2-8, 8 Zone conventional control and Indicating equipment	002-490-189 Notifier 8 zone, dual relay, English, French, German, Dutch, Swedish, Icelandic (Region 1) + UK user manual	154d/11
NFS2-8, 8 Zone conventional control and Indicating equipment	002-490-289 Notifier 8 zone, dual relay, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual	154d/11
ID2000 2-8 loop analogue addressable control and indicating equipment	Incorporating as modular units: 002-459 ID2002 Fixed 2 Loop Fire Alarm Panel, Language Group 0 (English manuals) 002-459-001 ID2002 Fixed 2 Loop Fire Alarm Panel, Language Group 1 (Excluding manuals) 002-472 ID2002 Fixed 2 Loop Fire Alarm Panel (Red), Language Group 0 (English manuals) 020-628 ID2000 Basic Equipment kit, Language Group 0 (English manuals) 020-628-001 ID2000 Basic Equipment kit, Language Group 1 (Excludes manuals) 020-469-009 Extension Chassis with 17-80 Zone LED Display 020-708-009 Extension Chassis with Printer 020-644-009 Printer Assembly 020-588 LIB, Loop Interface Board 020-478 RS232 Communications Kit	154d/01

Certificated Products		LPCB Ref. No.
	020-479 RS485 Communications Kit 020-484 PSU2.5A Power Supply 020-648 PSU3A Power Supply 020-579 PSU7A Power Supply (Requires DTP / Booster Interface) 020-543 DTP Dual Transmission Path / Booster Interface 020-541-009 78Ah Battery and PSU7A Enclosure 020-472-009 Standard Back Box Kit 020-473-009 Extended Back Box Kit 020-474-009 Extended Deep Back Box Kit 020-475-009 Double Extended Back Box Kit 020-476-009 Double Extended Deep Back Box Kit 020-508-009 Standard Back Box Extension Kit 020-509-009 Deep Back box Extension Kit 020-480-009 Main Cover Kit 020-481-009 Extension Cover Kit 020-513-009 High Security Main Cover 020-514-009 High Security Extension Cover *Certified with the following options with requirements from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm counter* *8.3 Fault signals from points* *9.5 Disablement of addressable points* *10 Test condition*	
ID3000-2-8 loop analogue addressable control and indicating equipment	Incorporating as modular units: 002-474 ID3002 Fixed 2 Loop Fire Alarm Panel, Language Group 0 (English Manuals) 002-474-00ID3002 Fixed 2 Loop Fire Alarm Panel, Language Group 1(Excludes Manuals) 002-473 ID3002 Fixed 2 Loop Fire Alarm Panel (Red), Language Group 0 (English Manuals) 020-538 ID3000 Basic Equipment Kit Language Group 0 020-538-001 ID3000 Basic Equipment Kit Language Group 1 (excluding manuals) 020-559-001 Extension Chassis with 1-64 Zone LED Display 020-559-002 Extension Chassis with 65-128 Zone LED Display 020-612 Extension Chassis with 1-256 Zone LED Display 020-708-009 Extension Chassis with Printer 020-644-009 Printer Assembly 020-588 LIB Loop Interface Board 020-549 ELIB, Enhanced Loop Interface Board 020-478 RS232 Communications Kit 020-479 RS485 Communications Kit 020-484 PSU2.5A Power Supply 020-648 PSU3A Power Supply 020-579 PSU7A Power Supply (Requires DTP / Booster Interface) 020-543 DTP Dual Transmission Path / Booster Interface 020-541-009 78Ah Battery and PSU7A Enclosure 020-472-009 Standard Back Box Kit 020-473-009 Extended Back Box Kit 020-474-009 Extended Deep Back Box Kit 020-475-009 Double Extended Back Box Kit 020-476-009 Double Extended Deep Back Box Kit 020-508-009 Standard Back Box Extension Kit 020-509-009 Deep Backbox Extension Kit 020-480-009 Main Cover Kit 020-481-009 Extension Cover Kit 020-513-009 High Security Main Cover 020-514-009 High Security Extension Cover 020-621-009 256 Zone LED Display Cover 020-647 NGM ID^2 net Network Gateway Module 020-643 Fibre Optic Interface Module *Certified with the following options with requirements from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm counter* *8.3 Fault signals from points* *8.9 Output to Fault warning routing equipment*	154d/02

Certificated Products		LPCB Ref. No.
	9.5 Disablement of addressable points *10 Test condition*	
002-467 NGU, ID(2)net Network Gateway Unit	Incorporating the following modular units, is approved for use with the ID3000 control and indicating equipment: 020-647 NGM, ID^2 net Network Gateway Module 020-643 Fibre Optic Interface Module 020-648 PSU3A Power Supply Module *Certified with the following options with requirements from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm counter* *8.3 Fault signals from points* *9.5 Disablement of addressable points* *10 Test condition*	154d/N02
ID50 single loop analogue addressable control and indicating equipment	Incorporating the following units: 002-455 ID50 Fire Alarm Panel, 1.5A PSU, 12Ah batteries, Language Group 0, (English Manuals) 002-455-001 ID50 Fire Alarm Panel, 1.5A PSU, 12Ah batteries, Language Group 1, (Excluding Manuals) 020-553 RS485 Communication Board *Certified with the following options with requirements from EN 54 part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm Counter* *8.3 Fault signals from points* *9.5 Disablement of addressable points* *10 Test condition*	154d/03
ID51 single loop analogue addressable control and indicating equipment	Incorporating the following units: 002-462 ID51 Fire Alarm Panel. 3A PSU, 12Ah Batteries, Printer Option, Language Group 0, (English Manuals) 002-462-001 ID51 Fire Alarm Panel. 3A PSU, 12Ah Batteries, Printer Option, Language Group 1, (Excluding Manuals) 020-553 RS485 Communication Board. 020-644-009 PRN-ID Printer Kit *Certified with the following options with requirements from EN 54 part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm Counter* *8.3 Fault signals from points* *9.5 Disablement of addressable points* *10 Test condition*	154d/04
ID52 single loop analogue addressable control and indicating equipment	Incorporating the following units: 002-460 ID52 Fire Alarm Panel. 3A PSU, 42Ah Batteries, Printer Option, Language Group 0, (English Manuals) 002-460-001 ID52 Fire Alarm Panel. 3A PSU, 42Ah Batteries, Printer Option, Language Group 1, (Excluding Manuals) 020-553 RS485 Communication Board 020-644-009 PRN-ID Printer Kit *Certified with the following options with requirements from EN 54 part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm Counter* *8.3 Fault signals from points* *9.5 Disablement of addressable points* *10 Test condition*	154d/05
ID60 single loop analogue addressable control and indicating equipment	Incorporating the following units: 002-456 ID60 Fire Alarm Panel. 1.5A PSU, 12Ah batteries, VIEW, Language Group 0, (English Manuals) 002-456-001 ID60 Fire Alarm Panel. 1.5A PSU, 12Ah batteries, VIEW, Language Group 1, (Excluding Manuals) 020-553 RS485 Communication Kit *Certified with the following options with requirements from EN 54 part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment*	154d/06

Certificated Products		LPCB Ref. No.
	7.11 Delays to outputs *7.12 Coincidence detection* *7.13 Alarm Counter* *8.3 Fault signals from points* *9.5 Disablement of addressable points* *10 Test condition*	
ID61 single loop analogue addressable control and indicating equipment	Incorporating the following units: 002-463 ID61 Fire Alarm Panel. 3A PSU, 12Ah Batteries, VIEW, Printer Option, Language Group 0, (English Manuals) 002-463-001 ID61 Fire Alarm Panel. 3A PSU, 12Ah Batteries, VIEW, Printer Option, Language Group 1, (Excluding Manuals) 020-553 RS485 Communication Board 020-644-009 PRN-ID Printer Kit *Certified with the following options with requirements from EN 54 part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm Counter* *8.3 Fault signals from points* *9.5 Disablement of addressable points* *10 Test condition*	154d/07
ID62 single loop analogue addressable control and indicating equipment	Incorporating the following units: 002-461 ID62 Fire Alarm Panel. 3A PSU, 42Ah Batteries, VIEW, Printer Option, Language Group 0, (English Manuals) 002-461-001 ID62 Fire Alarm Panel. 3A PSU, 42Ah Batteries, VIEW, Printer Option, Language Group 1, (Excluding Manuals) 020-553 RS485 Communication Board 020-644-009 PRN-ID Printer Kit *Certified with the following options with requirements from EN 54 part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm Counter* *8.3 Fault signals from points* *9.5 Disablement of addressable points* *10 Test condition*	154d/08
NFS2-8, 2 Zone conventional control and indicating equipment	Including the following versions: 002-477-122 Notifier 2 zone, English, French, Dutch, Icelandic, German, Swedish (Region 1) 002-477-222 Notifier 2 zone, English, French, Italian, Portuguese, Spanish (Region 2) 002-490-222 Notifier 2 zone, English, French, Italian, Portuguese, Spanish + UK user manual *Certified with the following options from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *10 Test condition*	154d/09
NFS2-8, 4 Zone conventional control and indicating equipment	Including the following versions: 002-477-142 Notifier 4 zone, English, French, Dutch, Icelandic, German, Swedish (Region 1) 002-477-242 Notifier 4 zone, English, French, Italian, Portuguese, Spanish (Region 2) 002-490-242 Notifier 4 zone, English, French, Italian, Portuguese, Spanish + UK user manual *Certified with the following options from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *10 Test condition*	154d/10
NFS2-8, 8 Zone conventional control and indicating equipment	Including the following versions: 002-477-182 Notifier 8 zone, English, French, Dutch, Icelandic, German, Swedish (Region 1) 002-477-282 Notifier 8 zone, English, French, Italian, Portuguese, Spanish (Region 2) 002-490-282 Notifier 8 zone, English, French, Italian, Portuguese, Spanish +	154d/11

Certificated Products		LPCB Ref. No.
	UK user manual *Certified with the following options from EN 54 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *10 Test condition*	

Certificate No: 154f to ISO 7240: Part 2 & 4: 2003

Certificated Products		LPCB Ref. No.
NFS2-8 2 Zone conventional control and indicating equipment	Including the following versions: 002-477-122 Notifier 2 Zone, English, French, Dutch, Icelandic, German, Swedish (Region 1) 002-477-222 Notifier 2 Zone, English, French, Italian, Portuguese, Spanish (Region 2) 002-490-222 Notifier 2 Zone, English, French, Italian, Portuguese, Spanish + UK user manual 002-477-129 Notifier 2 zone, English, French, German, Dutch, Swedish, Icelandic (Region 1) 002-477-229 Notifier 2 zone, English, French, Spanish, Portuguese, Italian (Region 2) 002-477-329 Notifier 2 zone, dual relay, Danish, Finish, Norwegian, Swedish (Region 3) 002-490-129 Notifier 2 zone, dual relay, English, French, German, Dutch, Swedish, Icelandic (Region 1) + UK user manual 002-490-229 Notifier 2 zone, dual relay, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual *Certified with the following options from ISO 7240 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Dependency detection* *11 Test condition*	154f/01
NFS2-8 4 Zone conventional control and indicating equipment	Including the following versions: 002-477-142 Notifier 4 Zone, English, French, Dutch, Icelandic, German, Swedish (Region 1) 002-477-242 Notifier 4 Zone, English, French, Italian, Portuguese, Spanish (Region 2) 002-490-242 Notifier 4 Zone, English, French, Italian, Portuguese, Spanish + UK user manual 002-477-149 Notifier 4 zone, English, French, German, Dutch, Swedish, Icelandic (Region 1) 002-477-249 Notifier 4 zone, English, French, Spanish, Portuguese, Italian (Region 2) 002-477-349 Notifier 4 zone, dual relay, Danish, Finish, Norwegian, Swedish (Region 3) 002-490-149 Notifier 4 zone, dual relay, English, French, German, Dutch, Swedish, Icelandic (Region 1) + UK user manual 002-490-249 Notifier 4 zone, dual relay, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual *Certified with the following options from ISO 7240 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Dependency detection* *11 Test condition*	154f/02
NFS2-8 8 Zone conventional control and indicating equipment	Including the following versions: 002-477-182 Notifier 8 Zone, English, French, Dutch, Icelandic, German, Swedish (Region 1) 002-477-282 Notifier 8 Zone, English, French, Italian, Portuguese, Spanish (Region 2) 002-490-282 Notifier 8 Zone, English, French, Italian, Portuguese, Spanish + UK user manual 002-477-189 Notifier 8 zone, English, French, German, Dutch, Swedish,	154f/03

Certificated Products		LPCB Ref. No.
	Icelandic (Region 1) 002-477-289 Notifier 8 zone, English, French, Spanish, Portuguese, Italian (Region 2) 002-477-389 Notifier 8 zone, dual relay, Danish, Finish, Norwegian, Swedish (Region 3) 002-490-189 Notifier 8 zone, dual relay, English, French, German, Dutch, Swedish, Icelandic (Region 1) + UK user manual 002-490-289 Notifier 8 zone, dual relay, English, French, Spanish, Portuguese, Italian (Region 2) + UK user manual *Certified with the following options from ISO 7240 Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire routing equipment* *7.11 Delays to outputs* *7.12 Dependency detection* *11 Test condition*	

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Certificate No: 400f to EN 54: Part 2 and 4: 1997

Certificated Products		LPCB Ref. No.
8000M 7 loop analogue addressable control and indicating equipment	Incorporating as modular units 771690 Power Supply Module 772414 Basic Module 772441 Display Card 772411 LED Module 772412 Group Individual Indication 128 Zones 772413 Group Individual Indication 384 Zones 772418 Peripheral Module 772419 Peripheral Module 772420 Peripheral Module 772421 Extension Module 787530 4 Relay Module 787531 3 Relay Module 787532 3 Relay SaS Module 787533 BSL Module 787680 7 Output Module Positive 787681 7 Output Module Negative 784382 Analogue Ring Module 784385 CIE Triggering Module 802426 Powered Loop power pack module 804382 Analogue Ring Module powered loop 804383 Analogue Ring Module powered loop	400f/01
8000C 2 loop analogue addressable control and indicating equipment	Incorporating as modular units 771690 Power Supply Module 772441 Display Card 772411 LED Module 772412 Group Individual Indication 128 Zones 772413 Group Individual Indication 384 Zones 772414 Basic Module 772418 Peripheral Module 772419 Peripheral Module 772420 Peripheral Module 787530 4 Relay Module 787531 3 Relay Module 787532 3 Relay SaS Module	400f/02

Certificated Products		LPCB Ref. No.
	787533 BSL Module 787680 7 Output Module Positive 787681 7 Output Module Negative 784382 Analogue Ring Module 784385 CIE Triggering Module 802426 Powered Loop power pack module 804382 Analogue Ring Module powered loop 804383 Analogue Ring Module powered loop	
IQ8 Control M 7 loop analogue addressable control and indicating equipment	Incorporating as modular units 772441 Display Card 772411 LED Module 772412 Group Individual Indication 128 Zones 772413 Group Individual Indication 384 Zones 808004 Base package IQ8Control M 772480 Interface (IF)-Board IQ8Control X 772482 Interface (IF)-Board IQ8Control M 772485 CPU-Module CF Processor 772477 Peripheral Module 772478 Peripheral Module 772479 Peripheral Module 772476 Extension Module 787530 4 Relay Module 787531 3 Relay Module 787532 3 Relay SaS Module 787533 BSL Module 787680 7 Output Module Positive 787681 7 Output Module Negative 784382 Analogue Ring Module 784385 CIE Triggering Module 802426 Powered Loop power pack module 804382 Analogue Ring Module powered loop 804383 Analogue Ring Module powered loop 784842 RS232/TTY Module	400f/03
IQ8 Control C 2 loop analogue addressable control and indicating equipment	Incorporating as modular units 772441 Display Card 772411 LED Module 772412 Group Individual Indication 128 Zones 772413 Group Individual Indication 384 Zones 808003 Base package IQ8Control C 772480 Interface (IF)-Board IQ8Control X 772481 Interface (IF)-Board IQ8Control C 772485 CPU-Module CF Processor 772477 Peripheral Module 772478 Peripheral Module 772479 Peripheral Module 787530 4 Relay Module 787531 3 Relay Module 787532 3 Relay SaS Module 787533 BSL Module 787680 7 Output Module Positive 787681 7 Output Module Negative 784382 Analogue Ring Module 784385 CIE Triggering Module 802426 Powered Loop power pack module 804382 Analogue Ring Module powered loop 804383 Analogue Ring Module powered loop 784842 RS232/TTY Module	400f/04

Certified with the following options from EN 54 Part 2:

7.8 Output to fire alarm devices
7.9 Output to fire alarm routing devices
7.10 Output to automatic fire protection equipment
7.12 Coincidence detection
7.13 Alarm counter
8.4 Total loss of the power supply
10 Test Condition
11 Output to standardised input/output interface

Protec Fire Detection plc

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Certificate No: 201b to BS 5839: Part 4

Control and Indicating Equipment

Certificated Products		**LPCB Ref. No.**
AN95 control and indicating equipment	Incorporating as modular units: AN90 Processor Board, issue B LPC Charger AD/AN95 Display Board, issue A 2-Loop Transmission I/F MK.2, issue A	201b/01

Certificate No: 201k to EN 54-2 and 4: 1997

Control and Indicating Equipment

Certificated Products		**LPCB Ref. No.**
6301 Analogue addressable 1 Loop control and indicating equipment	Incorporating the following units: 41-860-52 Main Board 41-850-50 Terminal Board 40-877-65 CP250 Printer Board 31-100-22 Backbox 31-243-36 Inner Plate 62-407-57 Door 04-701-38 Printer Mechanism 40-465-43 Series 9000 Power Supply Unit 31-275-44 Optional external 24 AH battery box 40-879-67 Network Card (*Note: Scope of approval does not include the operation of the network card)*	201k/01
6301 Analogue addressable 2 Loop control and indicating equipment	Incorporating the following units: 41-860-52 Main Board 41-850-50 Terminal Board 40-879-67 CP250 Printer Board 31-100-22 Backbox 31-243-36 Inner Plate 62-407-57 Door 04-701-38 Printer Mechanism 40-465-43 Series 9000 Power Supply Unit 31-275-44 Optional external 24 AH battery box 40-879-67 Network Card (*Note: Scope of approval does not include the operation of the network card)*	201k/02
6304 Analogue addressable 4 Loop control and indicating equipment	Incorporating the following units: 41-860-52 Main Board 41-850-50 Terminal Board 40-879-67 CP250 Printer Board 31-100-22 Backbox 31-243-36 Inner Plate 62-407-57 Door 04-701-38 Printer Mechanism 40-465-43 Series 9000 Power Supply Unit 41-913-56 SMT Dual 6000 Loop Card 31-275-44 Optional external 24 AH battery box 40-879-67 Network Card (*Note: Scope of approval does not include the operation of the network card)*	201k/03

Certified with the following options with requirements from EN 54: Part 2: 1997:
7.8 Output to fire alarm device(s)
7.9 Output to fire alarm routing equipment
7.11 Delays of the actioning of outputs to fire alarm devices and fire alarm routing equipment
7.12 Coincidence detection

7.13 Alarm counter
8.3 Fault signals from points
9.5 Disablement of each address point
10 Test condition

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Certificate No: 126h to EN 54: Part 2 and 4: 1997

Certificated Products		**LPCB Ref. No.**
CS1140 control and indicating equipment	Comprising the following products: CC1140 Control and indicating equipment CT11 Operators console CI1140 Integrated central unit Incorporating as modular units: E3X100 Master module E3X101 Master module E3X102 Master Module E3X103 Master Module E3X120 Master module E3C010 Battery charging module E3C011 Battery charging module B2F020 Converter B2F040 Converter E3M140 Line module FD20 E3M070 Line module "Interactive" E3M071 Line module Interactive K3M140 Line card FD20 K3M071 Line card Interactive K3M080 Line card Collective B3Q460 Control console B3Q320 Fire department control panel (Swiss) E3G050 Contacts control unit E3G070 Universal control unit E3I020 RS232 unit K3I060 RS232 module E3L020 I/O control unit E3M080 Group line unit K3R071 Synoptic - Algo pilot K3R070 Synoptic - Algo pilot K3I050 LON/Synoptic converter E3M060 MS9i module E3G091 Remote TX i/face E3M110 AnalogPLUS module E3M111 Line module AnaloguPLUS K3M111 Line card AnalogPLUS B3R050 Parallel indicator module B3R051 Parallel indicator module E3G080 Extinguishing module B3Q440 Extinguishing module E3G060 Control monitored module	126h/01

Certificated Products		LPCB Ref. No.
	E3H020 C-Bus Gateway module E3I040 I-Bus/LON module B3Q560/B3Q600 Terminals China B3Q580 Text display terminal B3Q590 Text control terminal Nordic B3Q660 Terminal Standard B3Q680 Terminal Nordic B3Q565 Terminal Asia/Pacific K3N010 RAM - Extension K3I110 LON Input/Output Box E3M171 Line Module Ex Interactive K5L020 Multi-Sect. Extinguishing P.C.B K3G060 Relay Card E3G110 Emergency Link to E3G080 K3R072 Synoptical Driver M3C080 Horn Monitoring Module *Notes:* *1) The following options with requirements are approved with this equipment:* *7.8 Outputs to fire alarm devices* *7.9 Output to fire alarm routing equipment* *7.10 Output to Fire Protection Equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm counter* *8.3 Fault signals from points* *8.4 Complete failure of power supply* *9.5 Disablement of addressable points* *10 Test condition* *11 Standardised input/output interface* *2) Compliance with clause 12.6.2 of EN 54-2:1997 requires LCD screen saving feature to be disabled for the alarm condition.*	
CS1110 AlgoControl Fire Detection Control Unit	Incorporating: B3Q510 Control Panel K3X010 Master card collective K3M010 line extension card K3M020 line extension card B3R 080 parallel indicator card *Approved with the following options from EN 54: Part 2* *7.8 Output to fire alarm devices* *7.9 Output to fire alarm routing equipment* *7.11 Delays to outputs* *7.12 Coincidence detection* *7.13 Alarm counter* *8.9 Output to fault warning routing equipment* *10 Test condition*	126h/02
CS1115 AlgoControl Fire Detection Control Unit	Incorporating: B3Q580 Text Display Terminal B3Q590 Text Control Terminal B3R051 Parallel Indicator Unit B3R070 Parallel indicator card B3R080 Parallel indicator card K3G050 Relay card K3G060 Relay p.c.b K3I050 LON Synoptic p.c.b K3I080 Serial LON ITF K3I090 PSA Interface K3I110 LON I/O Box K3L070 VdS Interface K3L100 LED driver card K3M010 Line extension card K3M020 Line extension card K3M030 Line Card K3R071 Synoptic-Driver K3R072 Synoptic-Driver K3X020 Master Board Analogue Plus K3X030 Master Module M3C080 Impedance translator M3P140 Monitoring Card 24V Z3S020 key switch nordic Z3S030 key switch KABA *Approved with the following options from EN 54-2: 1997*	126h/03

Certificated Products		LPCB Ref. No.
	7.1 Reception and Processing of fire signals *7.3 Indication of the zones in alarm* *7.5 Other indications during the Fire Alarm Condition* *7.6 Reset from the Fire Alarm Condition* *7.8 Output to fire alarm devices* *7.9 Output to fire alarm routing equipment* *7.11 Delays to outputs* *7.13 Alarm Counter* *8.1 Reception and processing of fault signals* *8.2 Indication of faults in specified functions* *8.3 Fault signals from points* *8.4 Total loss of power supply* *8.9 Output to fault warning routing equipment* *9.5 Disablement of addressable points* *9.4 Disablements and their indication* *10 Test condition*	

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Certificate No: 143j to prEN 54: Part 2 and 4: 1995
Certificate No: 143u to EN 54: Part 2 and 4: 1997
Certificate No: 143c to BS 5839: Part 4

Certificated Products		LPCB Ref. No.
Minerva 80R repeater	Incorporating as modular units MPIM multipurpose interface module 80ZD 80-way zonal display board ACPM AC/DC power module board DCPM DC/DC converter module	10/100
Minerva 16E addressable/ analogue addressable controller (to BS 5839: Part 4)	Incorporating as modular units MP main processor board MPIM multipurpose interface board 16ZD 16 way zonal display board ACPM AC/DC power module. TLK530 network interface module (ThornNet). LPIM loop powered insertion module.	10/70
Minerva 80 addressable/ analogue addressable controller (to BS 5839: Part 4)	Incorporating as modular units MP main processor board MPIM multipurpose interface module 80ZD 80-way zonal display board TLK530 network interface module MB motherboard MB-LP motherboard for loop powered systems AXLM addressable loop expansion module ALXM-LP expansion module for loop powered sounder. DCPM DC/DC converter module DCPM -LP DC power module for loop powering	10/71
Minerva 16R repeater	Incorporating as modular units MPIM multipurpose interface module 16ZD 16-way zonal display board ACPM AC/DC power module DCPM DC/DC converter module	10/72
Minerva power supply unit	Incorporating ACPM AC/DC power module board	10/98
Minerva 16ER repeater	Incorporating as modular units MPIM multipurpose interface module 16ZD 16-way zonal display board ACPM AC/DC power module board DCPM DC/DC converter module	10/99
Minerva conventional 1, 2 and 4 zone control and indicating equipment		143c/01

Certificated Products		**LPCB Ref. No.**
Excelsior conventional 1, 2 and 4 zone control and indicating equipment		143c/02
Minerva 8 addressable/analogue addressable controller (to BS5839 part 4)	Incorporating as modular units MP main processor board MPIM multipurpose interface board 16ZD 16 w ay zonal display board ACPM AC/DC power module TLK530 network interface module (ThornNet) LPIM loop powered insertion module	143c/03
NT100 8 and 16 Zone conventional control and indicating equipment	Approved with the following options from prEN 54 Part 2: 1995 7.8 Output to fire alarm device(s) 7.9 Output to fire alarm routing equipment 7.10 Output to automatic fire protection equipment 7.12 Coincident detection 8.3 Fault signals from points 8.4 Total loss of the power supply 8.9 Output to fault warning routing equipment 10 Test condition	143j/01
MX4000 2/4 loop Analogue Addressable Control and Indicating Equipment	Incorporating as modular units: OCM800 (Operator Control Module) ODM800 (Operator Display Module) CPU800 (main CPU module) FIM800 (Field Interface Module) (drives 1 or 2 loops) XLM800 (Expansion Loop Module) (drives 1 or 2 additional loops) PSB800 (Power Supply Module with Loop Booster) and as optional modular units: ANN840 (40 + 40 LED Annunciator module) ANN880 (80 LED Annunciator module) COM820 (20 way Status Command Module) MPM800 (Multi Purpose Interface Module) IOB800 (Input/Output Expansion Board) FB800 (Fuse Board) *Certified with the following options from EN 54: Part 2:* *7.8 Output to fire alarm devices* *7.9 Output to fire alarm routing equipment* *7.10 Output to fire protection equipment* *7.11 Delays to outputs* *7.12 Co-incidence detection* *7.13 Alarm counter* *8.3 Fault signals from points* *8.9 Output to fault warning routing equipment* *9.5 Disablement of addressable points* *10 Test condition* *11 Standardized input/output interface* *MXR Repeater panel, incorporating the following as modular units, is approved for use with the MX4000 control andindicating equipment:* *OCM800 (Operator Control Module)* *ODM800 (Operator Display Module)* *PSM800 (Power Supply Module)* *and as optional modular units:* *ANN840 (40 + 40 LED Annunciator)* *ANN880 (80 LED Annunciator)* *MPM800 (Multi Purpose Interface Module)* *IOB800 (Input/Output Expansion Board)* *FB800 (Fuse Board)*	143u/01

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Certificate No: 454f to EN 54: Part 2 and 4: 1997

Certificated Products		LPCB Ref. No.
4100-8001 Enhanced Fire Alarm Control Panel	Incorporating as modular units 4100-7014 Master controller with Display and Power Supply- EN 54 4100-5004 8 Zone coded input-security /class B fire alarm card 4100-4001 2 circuit class B signal module 4100-4321 6 circuit class B signal module 4100-3003 8 relay 3 AMP 8 point auxiliary relay module 4100-0301 64/64 LED / switch controller module 4100-0431 8 red LED module 4100-0432 16 red/yellow LED module 4100-0433 3/8 switch/LED module 4100-0435 8/16 switch/LED moduler red/yellow 4100-0110 MAPNET 2 Addressable module 4100-0113 RS232/2120 communication board assembly 4100-0304 Remote unit interface 4100-0158 230V 8AMP power supply expansion	454f/01
4100-8010 Miniplex Control Panel	Incorporating as modular units 4100-7014 Master controller with Display and Power Supply- EN 54 4100-0164 Battery charger-EN 54 and appropriate Optional Modular Units: 4100-5004 8 Zone coded input-security /class B fire alarm card 4100-4001 2 circuit class B signal module 4100-4321 6 circuit class B signal module 4100-3003 8 relay 3 AMP 8 point auxiliary relay module 4100-0301 64/64 LED / switch controller module 4100-0431 8 red LED module 4100-0432 16 red/yellow LED module 4100-0433 3/8 switch/LED module 4100-0435 8/16 switch/LED moduler red/yellow 4100-0110 MAPNET 2 Addressable module 4100-0113 RS232/2120 communication board assembly 4100-0304 Remote unit interface 4100-0158 230V 8AMP power supply expansion	454f/02
4100-8201 Enhanced Fire Alarm Control Panel with Voice	Incorporating as modular units 4100-7014 Master controller with Display and Power Supply- EN 54 4100-0164 Battery charger-EN54 and appropriate Optional Modular Units: 4100-5004 8 Zone coded input-security /class B fire alarm card 4100-4001 2 circuit class B signal module 4100-4205 2 circuit triple channel class B signal module 4100-4321 6 circuit class B signal module 4100-3003 8 relay 3 AMP 8 point auxiliary relay module 4100-0301 64/64 LED / switch controller module 4100-0431 8 red LED module 4100-0432 16 red/yellow LED module 4100-0433 3/8 switch/LED module 4100-0435 8/16 switch/LED moduler red/yellow 4100-0110 MAPNET 2 Addressable module 4100-0113 RS232/2120 communication board assembly 4100-0304 Remote unit interface 4100-0158 230V 8AMP power supply expansion	454f/03
4100-8210 Miniplex Control Panel with Voice	Incorporating as modular units: 4100-7014 Master controller with Display and Power Supply- EN 54 4100-0164 Battery charger-EN54 and appropriate Optional Modular Units: 4100-5004 8 Zone coded input-security /class B fire alarm card 4100-4001 2 circuit class B signal module 4100-4205 2 circuit triple channel class B signal module 4100-4321 6 circuit class B signal module 4100-3003 8 relay 3 AMP 8 point auxiliary relay module 4100-0301 64/64 LED / switch controller module 4100-0431 8 red LED module 4100-0432 16 red/yellow LED module 4100-0433 3/8 switch/LED module 4100-0435 8/16 switch/LED moduler red/yellow 4100-0110 MAPNET 2 Addressable module 4100-0113 RS232/2120 communication board assembly 4100-0304 Remote unit interface 4100-0158 230V 8AMP power supply expansion	454f/04
4100-8019 Miniplex Transponder panel	Incorporating as modular units 4100-50048 Zone coded input-security /class B fire alarm card 4100-4001 2 circuit class B signal module 4100-4205 2 circuit triple channel class B signal module 4100-4321 6 circuit class B signal module 4100-3003 8 relay 3 AMP 8 point auxiliary relay module 4100-0301 64/64 LED / switch controller module	454f/05

Certificated Products **LPCB Ref. No.**

4100-0431 8 red LED module
4100-0432 16 red/yellow LED module
4100-0433 3/8 switch/LED module
4100-0435 8/16 switch/LED moduler red/yellow
4100-0110 MAPNET 2 Addressable module
4100-0113 RS232/2120 communication board assembly
4100-0157 8 AMP Regulated expansion power supply / charger(230V)
4100-0158 230V 8AMP power supply expansion
4100-0164 Battery charger-EN 54

Certified with the following options with requirement from EN 54: Part 2
7.8 Output to fire alarm devices
8.3 Fault signals from points
9.5 Disablement of addressable points

This section lists fire detectors, approved for use in fire detection and fire alarm systems in buildings. The list includes detectors which work on different principles and detect different fire parameters (e.g. smoke, flame radiation, convective heat etc). Guidance on the selection of appropriate types of detectors should be sought from the applicable installation rule or code of practice (e.g. BS 5839-1). Where a particular type of detector is not covered by the installation rule or code of practice then guidance should be sought from the manufacturer's literature. In any case, account should be given to any notes or limitations given in this list.

The list includes detectors certified to recognised standards and detectors approved to draft standards or special test schedules developed by LPCB, for detector types where suitable standards are not available or were not available at the time of the evaluation.

Standards Used
The following standards are currently used for certification schemes:

- EN 54-5: 2000 *Heat detectors - point detectors*
- EN 54-7: 2000 *Smoke detectors - point detectors using scattered light, transmitted light or ionisation*
- EN 54-10:2002 *Flame detectors - point detectors*
- EN 54 12:2002 *Smoke detectors - line detectors using an optical light beam* ISO7240-5: 2003 *Point - type heat detectors*
- ISO7240-6:2004 *Carbon monoxide fire detectors using electro-chemical cells*
- ISO7240-7:2003 *Point-type smoke detectors using scattered light, transmitted light or ionization*
- ISO7240-12:2005 *Line type smoke detectors using transmitting light beam*
- ISO7240-15:2004 *Multisensor fire detectors*
- BS 5445-5:1977 (EN 54-5:1976) *Heat sensitive detectors - point detectors containing a static element* (see Note 1).
- BS 5445-7:1984 [EN54-7:1982] *Specification for point type smoke detectors using scattered light transmitted light or ionisation* (see Note 2).
- BS 5445-8: 1984 (EN 54-8:1982) *Specification for high temperature heat detectors* (see Note 1).
- BS 5839- 5 1988 *Specification for optical beam smoke detectors* (see Note 3)
- CEA 4021:1999 *Requirements and test methods for multisensor detectors, which respond to smoke and heat, and smoke detectors with more than one smoke sensor* (see Note 4)
- CEA 4021:2003 *Requirements and test methods for multisensor detectors, which respond to smoke and heat, and smoke detectors with more than one smoke sensor*
- CEA 4022:1999 *Requirements and test methods for aspirating smoke detectors*
- LPS1265-1.1:2005 *Requirements and Testing Procedures for the LPCB Approval and Listing of Carbon Monoxide Fire Detectors Using Electrochemical Cells*
- LPS1274-1.0:2005 *Testing Procedures for the LPCB Approval and Listing of Carbon Monoxide / Heat Multisensor Fire Detectors Using Electrochemical Cells*

Approval can also be obtained for other detection principles not detailed above. In such circumstances, the LPCB develops test criteria to evaluate products, which in time may be used for the development of standards.

Notes:

1. EN 54-5: 2000 supersedes BS 5445-5: 1977 (EN 54-5: 1976) and BS 5445-8: 1984 (EN 54-8: 1982) which were withdrawn in June 2003. It is intended that the listing of detectors certified to BS 5445-5 or BS5445-8 may be maintained until June 2006 as indicated in the Foreword to EN 54-5: 2000. However, EN 54-5:2000 is now a harmonised standard for the Construction Products Directive and CE marking will be required for the European market by 30 June 2005. It is therefore recommended that detectors are certificated to EN 54-5: 2000 as soon as possible.

2. EN 54-7: 2000 supersedes BS 5445-7: 1984 (EN 54-5: 1982) which was withdrawn in June 2003. It is intended that the listing of detectors certified by LPCB to BS 5445-7 may be maintained until June 2006 as indicated in the Foreword to EN 54-7: 2000. However, EN 54-7:2000 is now a harmonised standard for the Construction Products Directive and CE marking will be required for the European market by 30 June 2005. It is therefore recommended that detectors are certificated to EN 54-7: 2000 as soon as possible

3. EN 54-12 supersedes BS 5839-5: 1988 which was withdrawn in November 2005. It is intended that the listing of detectors certified to BS 5839-5 may be maintained until November 2005. EN 54-12 is a harmonised standard for the Construction Products Directive and CE marking will be required for the European market by November 2005.

4. CEA4021:2003 supersedes CEA4021:1999 which was withdrawn in June 2003 (i.e. at the same time as the national versions of EN 54-5:1976 and EN 54-7:1982 were officially withdrawn). (See note 1 and 2).

The bases with which a detector has been evaluated and shown to meet the relevant standards, are listed with each detector. Bases are not approved/certificated in their own right unless they are combined with another device (e.g. short circuit isolator or sounder).

Since the LPCB uses national and international standards for the listing of products, in some instances, the requirements of these standards may conflict with the recommendations of local codes of practice. If full compliance with an installation code of practice is necessary, confirmation should be obtained that the listed products also comply with the appropriate codes of practice.

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Certificate No: 512d to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
AE/C5-TV	Conventional 2 wire 24VDC class A2R fixed temperature and rate-of-rise heat detector with LED output (P/N854001 base)	512d/04

Bases:
P/N854001 4-Wire detector base

Certificate No: 512a to EN 54-7: 2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
AE/C5-OP	Conventional 2 wire photoelectric smoke detector with remote LED output (P/N854001 base)	512a/02

Bases:
P/N854001 4-Wire detector base

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
AE/C5-OPT	Conventional 2 wire photoelectric smoke and heat detector with remote LED output (P/N854001 base)	512b/02

Bases:
P/N854001 4 Wire detector base

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Certificate No: 404a to GEI 1-048: 30-1-97
Certificate No: 404b to CEA 4022: 1999-12

Certificated Products		**LPCB Ref. No.**
Stratos HSSD	Aspirating smoke detector *Approved Configuration:* *Master Detector and 3 Slave Detectors* *The approval is conditional on;* *1) A per hole sensitivity of better than 5.00%/m verified during commissioning testing.* *2) Power for the aspirating detector shall be supplied by a power supply complying with EN 54: Part 4.* *3) The use of pipeCAD in designing the sampling pipework system.* *4) Alarm latch enable is set in accordance with the manufacturer's specification (function 27).* *5) The pipework system shall be produced in High Temp. ABS PA-777D pipe.* *6) Interconnection of the Master detector and Slave detectors shall be in accordance with the manufacturer's specification.*	404a/01
Stratos HSSD 2	High sensitivity aspirating standard smoke detector *Notes:* *1) The detector has been assessed for compliance with clause 5.15 Fire sensitivity (Room protection).* *2) The approval of the detector is conditional upon the following requirements:* · *The detector shall be supplied with power from a power supply complying with the requirements of EN 54-4.* · *Design, installation and commissioning shall be performed in accordance with Airsense Technology Limited Installer's Handbook (LM80004) with per hole sensitivities of better than 5%/m, as predicted by the PipeCAD® system.*	404b/01
Stratos HSSD 2	High sensitivity aspirating command module smoke detector *Notes:* *1) The detector has been assessed for compliance with clause 5.15 Fire sensitivity (Room protection).* *2) The approval of the detector is conditional upon the following requirements:* · *The detector shall be supplied with power from a power supply complying with the requirements of EN 54-4.* · *Design, installation and commissioning shall be performed in accordance with Airsense Technology Limited Installer's Handbook (LM80004) with per hole sensitivities of better than 5%/m, as predicted by the PipeCAD® system.*	404b/02
Stratos HSSD 2	Stand alone command module *Notes:* *1) The detector has been assessed for compliance with clause 5.15 Fire sensitivity (Room protection).* *2) The approval of the detector is conditional upon the following requirements:* · *The detector shall be supplied with power from a power supply complying with the requirements of EN 54-4.* · *Design, installation and commissioning shall be performed in accordance with Airsense Technology Limited Installer's Handbook (LM80004) with per hole sensitivities of better than 5%/m, as predicted by the PipeCAD® system.*	404b/03
Stratos HSSD 2	High sensitivity aspirating minimum display version smoke detector *Notes:* *1) The detector has been assessed for compliance with clause 5.15 Fire sensitivity (Room protection).* *2) The approval of the detector is conditional upon the following requirements:* · *The detector shall be supplied with power from a power supply*	404b/04

Certificated Products		LPCB Ref. No.
	complying with the requirements of EN 54-4.	
	. *Design, installation and commissioning shall be performed in accordance with Airsense Technology Limited Installer's Handbook (LM80004) with per hole sensitivities of better than 5%/m, as predicted by the PipeCAD® system.*	

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Certificate No: 512a to EN 54 - 7: 2000

Certificated Products		LPCB Ref. No.
EA318-2L	Conventional 2 wire photoelectric smoke detector with remote LED output (E300-Base)	512a/02

Bases:
E300-Base 4-wire detector base

Certificate No: 512d to EN 54 - 5: 2000

Certificated Products		LPCB Ref. No.
EA323-2L/A2R	Conventional 2 wire 24VDC class A2R fixed temperature and rate-of-rise heat detector with LED output (E300-Base)	512d/04

Bases:
E300-Base 4-wire detector base

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Certificate No: 010a to BS 5445: Part 5: 1977
Certificate No: 010c to BS 5445: Part 8: 1984
Certificate No: 010p to EN 54: Part 5: 2000
Certificate No: 010r to EN 54: Part 5: 2000
Certificate No: 010p to EN 54: Part 5: 2000

Point Heat Detectors

Certificated Products		**LPCB Ref. No.**
55000-400 XP95	Analogue addressable Class A2S heat detector *(45681-210 mounting base)* *Certificated with Apollo Discovery, XP95, and S90 digital communications protocols configured for the Discovery heat detector in accordance with manufacturers instructions.*	010p/20
55000-401 XP95	Analogue addressable Class CS heat detector *(45681-210 mounting base)* *Certificated with Apollo Discovery, XP95, and S90 digital communications protocols configured for the Discovery heat detector in accordance with manufacturers instructions.*	010p/21
55000-420 XP95	Analogue addressable Class A2S heat detector *(45681-210 mounting base)* *Certificated with Apollo Discovery, XP95, and S90 digital communications protocol configured for the Discovery heat detector in accordance with manufacturers instructions.*	010p/22
55000-440 XP95	Analogue addressable intrinsically safe Class A2S heat detector *(45681-215 mounting base)* *Certified with Apollo Series 90 and XP95 digital communications protocol*	010p/23
Orbis Class A1S	Heat detectors with Apollo Approval Reference* 00009 (Approved for use with base styles OB, OL, OD, DX, OR)	010r/07
55000-100 Series 60	Conventional Grade 1 rate of rise heat detector *(45681-200 and 45681-201 mounting bases)*	010a/05
55000-101 Series 60	Conventional Grade 2 rate of rise heat detector *(45681-200 and 45681-201 mounting bases)*	010a/06
55000-102 Series 60	Conventional Grade 3 rate of rise heat detector *(45681-200 and 45681-201 mounting bases)*	010a/07
55000-103 Series 60	Conventional Range 1 rate of rise heat detector *(45681-200 and 45681-201 mounting bases)*	010c/03
55000-104 Series 60	Conventional Range 2 rate of rise heat detector *(45681-200 and 45681-201 mounting bases)*	010c/04
55000-110 Series 60 IS	Conventional intrinsically safe Grade 1 rate of rise heat detector *(45681-207 mounting base)*	010a/11
55000-111 Series 60 IS	Conventional intrinsically safe Grade 2 rate of rise heat detector *(45681-207 mounting base)*	010a/12
55000-112 Series 60 IS	Conventional intrinsically safe Grade 3 rate of rise heat detector *(45681-207 mounting base)*	010a/13

Certificated Products		LPCB Ref. No.
55000-113 Series 60 IS	Conventional intrinsically safe Range 1 rate of rise heat detector *(45681-207 mounting base)*	010c/05
55000-114 Series 60 IS	Conventional intrinsically safe Range 2 rate of rise heat detector *(45681-207 mounting base)*	010c/06
55000-120 Series 65	Conventional Class A1R heat detector - Flashing LED/Reed switch *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class A1R* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/04
55000-121 Series 65	Conventional Class A1R heat detector - Flashing LED *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class A1R* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/05
55000-122 Series 65	Conventional Class A1R heat detector - Standard *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class A1R* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/06
55000-125 Series 65	Conventional Class BR heat detector - Flashing LED/Reed switch *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class BR* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/07
55000-126 Series 65	Conventional Class BR heat detector - Flashing LED *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class BR* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/08
55000-127 Series 65	Conventional Class BR heat detector - Standard *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class BR* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/09
55000-130 Series 65	Conventional Class CR heat detector- Flashing LED/Reed switch *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class CR* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/10
55000-131 Series 65	Conventional Class CR heat detector - Flashing LED *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class CR* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/11
55000-132 Series 65	Conventional Class CR heat detector - Standard *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class CR* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/12
55000-135 Series 65	Conventional Class CS heat detector - Flashing LED/Reed switch *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class CS* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/13
55000-136 Series 65	Conventional Class CS heat detector - Flashing LED *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class CS* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/14
55000-137 Series 65	Conventional Class CS heat detector - Standard *(45681-200 mounting base)* *Note: Meets the requirements of EN 54: Part 5 - Class CS* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010p/15
58000-400 Discovery	Analogue addressable heat detector *(45681-210 mounting base)* *Note: Meets the requirements of EN 54: Part 5 for the following settings* *Class A1R in mode 1 and in conventional mode.* *Class A2 in mode 2 and in conventional mode.* *Class A2S in mode 3 and in conventional mode.* *Class CR in mode 4 and in conventional mode.* *Class CS in mode 5 and in conventional mode.*	010p/03

Certificated Products		LPCB Ref. No.
	Certificated with Apollo, Discovery, XP95 and S90 digital communication protocols when the Discovery heat detector has been configured in accordance with manufacturer's instructions.	
55000-400 XP95	Analogue addressable Grade 2 heat detector *(45681-210 mounting base) Certificated with Apollo Series 90 and XP95 digital communication protocols*	010a/08
55000-420 XP95	Analogue addressable Grade 2 heat detector *(45681-210 mounting base) Certificated with Apollo Series 90 and XP95 digital communication protocols*	010a/09
55000-440 XP95 IS	Analogue addressable intrinsically safe Grade 2 heat detector *(45681-215 mounting base) Certificated with Apollo Series 90 and XP95 digital communication protocols*	010a/10
59000-400 XPlorer	Analogue addressable Class A2S heat detector *(45681-500 and 45681-501 mounting bases) Certificated with Apollo Series 90 and XP95 digital communication protocols*	010p/01
59000-410 XPlorer	Analogue addressable Class CS heat detector *(45681-500 and 45681-501 mounting bases) Certificated with Apollo Series 90 and XP95 digital communication protocols*	010p/02
Orbis Class A1R	Heat detectors with Apollo Approval Reference* 00001 *(Approved for use with base styles OB, OL, OD, OR, DX)*	010r/01
Orbis Class A2S	Heat detectors with Apollo Approval Reference* 00002 *(Approved for use with base styles OB, OL, OD, OR, DX)*	010r/02
Orbis Class BR	Heat detectors with Apollo Approval Reference* 00003 *(Approved for use with base styles OB, OL, OD, OR, DX)*	010r/03
Orbis Class BS	Heat detectors with Apollo Approval Reference* 00004 *(Approved for use with base styles OB, OL, OD, OR, DX)*	010r/04
Orbis Class CR	Heat detectors with Apollo Approval Reference* 00005 *(Approved for use with base styles OB, OL, OD, OR, DX)*	010r/05
Orbis Class CS	Heat detectors with Apollo Approval Reference* 00006 *(Approved for use with base styles OB, OL, OD, OR, DX)*	010r/06

Bases:
45681-200 Series 60 mounting base
45681-201 Series 60 diode mounting base
45681-207 Series 60 intrinsically safe mounting base
45681-210 XP95 mounting base
45681-215 XP95 intrinsically safe mounting base
45681-245 Series 65 Relay mounting base
45681-246 Series 65 Auxiliary relay mounting base
45681-247 Series 65 EOL 12 Volt mounting base
45681-248 Series 65 EOL 24 Volt mounting base
45681-500 XPlorer standard mounting base
45681-501 XPlorer remote LED mounting base
TimeSaver bases with Apollo Approval Reference* OB
TimeSaver LX bases with A pollo Approval Reference* OL
TimeSaver diode bases with Apollo Approval Reference* OD
TimeSaver relay bases with Apollo Approval Reference* OR
TimeSaver LX diode bases with Apollo Approval Reference* DX

** The Apollo 'Approval Reference Number' identifies a group of detectors that all have the same physical construction, but have features enabled or disabled via their software, and/or regional marking variations.*

Certificate No: 010b to BS 5445: Part 7:1984
Certificate No: 010q to EN 54: Part 7: 2000
Certificate No: 010s to EN 54:Part 7:2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
55000-500 XP95	Analogue addressable ionisation smoke detector *(45681-210 mounting base)* *Certificated with Apollo Discovery, XP95, and S90 digital communication protocols that have been configured for the Discovery ionisation smoke detectors in accordance with manufacturers instructions .*	010q/16
55000-520 XP95	Analogue addressable ionisation smoke detector *(45681-210 mounting base)* *Certificated with Apollo Discovery, XP95, and S90 digital communication protocols*	010q/17

Certificated Products		LPCB Ref. No.
	that have been configured for the Discovery ionisation smoke detectors in accordance with manufacturers instructions .	
55000-600 XP95	Analogue addressable optical smoke detector *(45681-210 mounting base)* *Certificated with Apollo Discovery, XP95, and S90 digital communication protocols that have been configured for the Discovery ionisation smoke detectors in accordance with manufacturers instructions .*	010q/18
55000-620 XP95	Analogue addressable optical smoke detector *(45681-210 mounting base)* *Certificated with Apollo Discovery, XP95, and S90 digital communication protocols that have been configured for the Discovery ionisation smoke detectors in accordance with manufacturers instructions .*	010q/19
55000-560 XP95	Analogue addressable ionisation smoke detector *(45681-210 mounting base)* *Certificated with Apollo Discovery, XP95, and S90 digital communication protocols that have been configured for the Discovery ionisation smoke detectors in accordance with manufacturers instructions .*	010q/20
55000-660 XP95	Analogue addressable optical smoke detector. *(45681-210 mounting base)* *Certificated with Apollo Discovery, XP95, and S90 digital communication protocols that have been configured for the Discovery ionisation smoke detectors in accordance with manufacturers instructions .*	010q/21
55000-640 XP95	Analogue addressable intrinsically safe optical smoke detector *(45681-215 mounting base)* *Certified with Apollo Series 90 and XP95 digital communications protocol*	010q/22
55000-540 XP95	Analogue addressable intrinsically safe ionisation smoke detector *(45681-215 mounting base)* *Certified with Apollo Series 90 and XP95 digital communications protocol*	010q/23
55000-200 Series 60	Conventional ionisation smoke detector *(45681-200 and 45681-201 mounting bases)*	010b/05
55000-210 Series 60	Conventional integrating ionisation smoke detector *(45681-200 and 45681-201 mounting bases)*	010b/07
55000-212 Series 60 IS	Conventional intrinsically safe ionisation smoke detector *(45681-207 mounting base)*	010b/14
55000-213 Series 60 IS	Conventional intrinsically safe integrating ionisation smoke detector *(45681-207 mounting base)*	010b/15
55000-215 Series 65	Conventional ionisation smoke detector - Flashing LED/Reed switch *(45681-200 mounting base) Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010q/04
55000-216 Series 65	Conventional ionisation smoke detector - Flashing LED *(45681-200 mounting base) Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010q/05
55000-217 Series 65	Conventional ionisation smoke detector - Standard *(45681-200 mounting base) Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010q/06
55000-218 Series 65	Conventional integrating ionisation smoke detector - Flashing LED/Reed switch *(45681-200 mounting base) Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010q/07
55000-219 Series 65	Conventional integrating ionisation smoke detector - Flashing LED *(45681-200 mounting base)* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010q/08
55000-220 Series 65	Conventional integrating ionisation smoke detector - Standard *(45681-200 mounting base) Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681- 248 mounting bases*	010q/09
55000-300 Series 60	Conventional photoelectric smoke detector *(45681-200 and 45681-201 mounting bases)*	010b/06
55000-315 Series 65	Conventional optical smoke detector - Flashing LED/Reed switch *(45681-200 mounting base)* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010q/10
55000-316 Series 65	Conventional optical detector - Flashing LED *(45681-200 mounting base)* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010q/11
55000-317 Series 65	Conventional optical smoke detector - Standard *(45681-200 mounting base)* *Also Certificated for use with 45681-245, 45681-246, 45681-247 and 45681-248 mounting bases*	010q/12
55000-500 XP95	Analogue addressable ionisation smoke detector *(45681-210 mounting base) Certificated with Apollo Series 90 and XP95 digital communication protocols*	010b/08

Certificated Products		LPCB Ref. No.
55000-520 XP95	Analogue addressable ionisation smoke detector *(45681-210 mounting base) Certificated with Apollo Series 90 and XP95 digital communication protocols*	010b/10
55000-540 XP95 IS	Analogue addressable intrinsically safe ionisation smoke detector *(45681-215 mounting base) Certificated with Apollo Series 90 and XP95 digital communication protocols*	010b/12
55000-600 XP95	Analogue addressable photoelectric smoke detector *(45681-210 mounting base)* *Certificated with Apollo Series 90 and XP95 digital communication protocols*	010b/09
55000-620 XP95	Analogue addressable photoelectric smoke detector *(45681-210 mounting base)* *Certificated with Apollo Series 90 and XP95 digital communication protocols*	010b/11
55000-640 XP95 IS	Analogue addressable intrinsically safe photoelectric smoke detector *(45681-215 mounting base)* *Certificated with Apollo Series 90 and XP95 digital communication protocols*	010b/13
58000-500 Discovery	Analogue addressable ionisation smoke detector *(45681-210 mounting base)* *Note: Meets the requirements of EN 54:Part 7 in modes 1, 2, 3, 4, 5 and in conventional mode.* *Certificated with Apollo, Discovery, XP95 and S90 digital communication protocols that have been configured for the* *Discovery ionisation smoke detectors has been configured in accordance with manufacturer's instructions.*	010q/02
58000-600 Discovery	Analogue addressable photoelectric smoke detector *(45681-210 mounting base)* *Note: Meets the requirements of EN 54:Part 7 in modes 1, 2, 3, 4, 5 and in conventional mode.* *Certificated with Apollo, Discovery, XP95 and S90 digital communication protocols that have been configured for the* *Discovery ionisation smoke detectors has been configured in accordance with manufacturer's instructions.*	010q/03
59000-600 Xplorer	Analogue addressable optical smoke detector *(45681-500 and 45681-501 mounting bases)* *Certificated with Apollo Series 90 and XP95 digital communication protocols*	010q/01
Orbis	Optical smoke detectors with Apollo Approval Reference* 00007 *(Approved for use with base styles OB, OL, OD, OR, DX)*	010s/01

Bases:
45681-200 Series 60 mounting base
45681-201 Series 60 diode mounting base
45681-207 Series 60 intrinsically safe mounting base
45681-210 XP95 mounting base
45681-215 XP95 intrinsically safe mounting base
45681-245 Series 65 Relay mounting base
45681-246 Series 65 Auxiliary mounting base
45681-247 Series 65 EOL 12 Volt mounting base
45681-248 Series 65 EOL 24 Volt mounting base
45681-500 XPlorer standard mounting base
45681-501 XPlorer remote LED mounting base
TimeSaver bases with Apollo Approval Reference* OB
TimeSaver LX bases with Apollo Approval Reference* OL
TimeSaver diode bases with Apollo Approval Reference* OD
TimeSaver relay bases with Apollo Approval Reference* OR
TimeSaver LX diode bases with Apollo Approval Reference* DX

** The Apollo 'Approval Reference Number' identifies a group of detectors that all have the same physical construction, but have features enabled or disabled via their software, and/or regional marking variations.*

Certificate No: 010h to EN 54-5: 2000, EN 54-7: 2000 & CEA 4021: 2000
Certificate No: 010m to CEA 4021: 1999-06(en)
Certificate No: 010t to EN 54-7:2000 & CEA 4021:1999-06

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
58000-700 Discovery	Analogue addressable multisensor detector (45681-210 mounting base)	010h/01

Certificated Products		LPCB Ref. No.
	Note: Certificated at the following settings. *Mode 1 - High sensitivity smoke detector with standard heat enhancement.* *Mode 2 - Smoke detection only.* *Mode 3 - Medium sensitivity smoke detector with standard heat enhancement.* *Mode 4 - Low sensitivity smoke detector with high heat enhancement.* *Mode 5 - Class A1 heat detector.* *Also Certificated in conventional alarm modes 1, 2, 3, 4 and 5.* *Certificated with Discovery XP95 and S90 digital communication protocols that have been configured for the Discovery multisensor detector in accordance with manufacturer's instructions.*	
55000-885 XP95	Analogue addressable multisensor detector (45681-210 mounting base) *Certificated with Apollo, Discovery, XP95 and S90 digital communication protocols that have been configured for the Discovery multisensor detec tor in accordance with manufacturer's instructions.*	010m/01
Orbis	Multisensor smoke detectors with Apollo Approval Reference* 00008 *(Approved for use with base styles OB, OL, OD, OR, DX)*	010t/01

Bases:
45681-210 XP95 mounting base
TimeSaver bases with Apollo Approval Reference* OB
TimeSaver LX bases with Apollo Approval Reference* OL
TimeSaver diode bases with Apollo Approval Reference* OD
TimeSaver relay bases with Apollo Approval Reference* OR
TimeSaver LX diode bases with Apollo Approval Reference* DX

** The Apollo 'Approval Reference Number' identifies a group of detectors that all have the same physical construction, but have features enabled or disabled via their software, and/or regional marking variations.*

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Certificate No: 603a to EN 54-7:2000

Smoke Detector

Certificated Products		LPCB Ref. No.
AURORA S100	Conventional photoelectric smoke detector (BS100 and BSD100 mounting bases)	603a/01

Bases:
BS100 Standard base
BSD100 Schottky Diode base

Certificate No: 603b to EN 54-5:2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
AURORA S300	Conventional Class BS fixed temperature heat detector (BS100 and BSD100 bases)	603b/01
AURORA S400	Conventional Class A1R rate-of-rise heat detector (BS100 and BSD100 bases)	603b/02

Bases:
BS100 Standard base
BSD100 Schottky Diode base

Chubb Fire Ltd

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Tel: +44 (0)1274 866920
Website: www.chubb.co.uk

Certificate No: 199m to EN 54-7: 2000
Certificate No: 118h to EN 54-7: 2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
Resonance High Sensitivity Laser	Analogue addressable photoelectric laser smoke detector (B501, B501DG and B5241EFT & B524IEFT-1 bases) *Note: meets the requirements of EN 54-7: 2000 at sensitivities 7 to 9 inclusive*	118h/01
Resonance Optical	Analogue addressable optical smoke detector (B501, B501DG and B5241EFT bases) *Note: Meets EN 54-7: 2000 at Low, Normal & High sensitivity settings*	199m/02
Resonance Ionisation	Analogue addressable ionisation smoke detector (B501, B501DG and B5241EFT bases) *Note: Meets EN 54-7: 2000 at Low, Normal & High sensitivity settings*	199m/06

Bases:
B501 Analogue sensor base
B501DG Analogue sensor deep base
B524IEFT Analogue sensor isolator base

Certificate No: 199p to EN 54-5: 2000, EN 54-7: 2000 & CEA 4021: 1999

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
Resonance Combined	Analogue addressable optical/thermal smoke & heat detector (B501, B501DG and B5241EFT bases) *Note: Meets the requirements of EN 54-5: 2001 at class A1R & EN 54-7: 2000 at sensitivity settings 1 to 5*	199p/02

Bases:
B501Analogue sensor base
B501DG Analogue sensor deep base
B524IEFT Analogue sensor isolator base

Certificate No: 199n to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
Resonance Static	Class A1S analogue addressable fixed temperature heat detector (B501, B501DG and B5241EFT bases)	199n/03
Resonance Rate-of-Rise Heat	Class A1R analogue addressable high temperature rate of rise heat detector (B501, B501DG and B5241EFT bases)	199n/04

Bases:
B501 Analogue sensor base
B501DG Analogue sensor deep base
B524IEFT Analogue sensor isolator base

Certificate No: 199s/01 to EN 54-12: 2002 & GEI 1-052 Draft 2.0 11/0697

Beam Detectors

Certificated Products		LPCB Ref. No.
Resonance Optical Beam 6500F	Analogue addressable optical beam detector with short circuit isolator feature *Note: meets the requirements of EN 54-12: 2002 at sensitivity levels 1, 2, 3, 4 & Acclimate levels 1 & 2*	199s/01

Cofem S.A.

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Certificate No: 693a to EN 54-7:2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
D1H-4	Conventional ionisation smoke detector (ZDR base)	693a/01

Bases:
ZDR Standard Base

Cooper Industries Ltd

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Tel: +44 (0)1302 303222 • Fax: +44 (0)1302 367155
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Certificate No: 685b to EN 54-7:2000
Certificate No: 685d to EN 54-7:2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
CID310	Conventional ionisation smoke detector (CFS version) (CDB300 base)	685b/01
COP1310	Conventional ionisation smoke detector (CFS version) (COPC800 base)	685b/01
FXN521	Conventional ionisation smoke detector (JSB version) (FXN520 base)	685b/01
MID810	Conventional ionisation smoke detector (MDB800 base)	685b/01
COPP320	Conventional photoelectric smoke detector (CFS version) (COPC800 base)	685b/02
CPD320	Conventional photoelectric smoke detector (CFS version) (CDB300 base)	685b/02
CPDB320	Conventional photoelectric smoke detector (CFS version) (CDBB300 base)	685b/02
FXN523	Conventional photoelectric smoke detector (JSB version) (FXN520 base)	685b/02
MPD820	Conventional photoelectric smoke detector (MDB800 base)	685b/02
CAP320	Analogue addessable photoelectric smoke detector (CFS version) (CAB300 base)	685d/01
CAPB320	Analogue addressable photoelectric smoke detector (CFS version) (CABB300 base)	685d/01
COPP420	Analogue addressable photoelectric smoke detector (CFS version) (COPA800 base)	685d/01
FXN723	Analogue addressable photoelectric smoke detector (JSB version) (FXN720 base)	685d/01
MAP820	Analogue addressable photoelectric smoke detector (MAB800 base)	685d/01
CAI310	Analogue addressable ionisation smoke detector (CFS version) (CAB300 base)	685d/02
COP1410	Analogue addressable ionisation smoke detector (CFS version) (COPA800 base)	685d/02

Certificated Products		LPCB Ref. No.
FXN721	Analogue addressable ionisation smoke detector (JSB version) (FXN720 base)	685d/02
MAI810	Analogue addressable ionisation smoke detector (MAB800 base)	685d/02

Bases:
FXN520 standard conventional mounting base (JSB version)
CDB300 standard conventional mounting base (CFS version)
CDBB300 standard conventional mounting base (CFS version)
COPC800 standard conventional mounting base (CFS version)
MAB800 standard analogue addressable mounting base
FXN720 standard analogue addressable mounting base (JSB version)
COPA800 standard analogue addressable mounting base (CFS version)
CAB300 standard analogue addressable mounting base (CFS version)
CABB300 standard analogue addressable mounting base (CFS version)
MDB800 standard conventional mounting base

Certificate No: 685c to EN 54-5:2000
Certificate No: 685e to EN 54-5:2000, EN 54-7:2000, GEI 1-052, Draft 2.0, 11/06/97 and CEA 4021:1999
Certificate No: 685a to EN 54-5:2000

Point Heat detectors

Certificated Products		LPCB Ref. No.
CFR330	Conventional Class A2R heat detector (CFS version) (CDB300 base)	685a/01
CFRB330	Conventional Class A2R heat detector (CFS version) (CDBB300 base)	685a/01
COPR330	Conventional Class A2R heat detector (CFS version) (COPC800 base)	685a/01
FXN525	Conventional Class A2R heat detector (JSB version) (FXN520 base)	685a/01
MFR830	Conventional Class A2S heat detector (MDB800 base)	685a/01
CMT360	Conventional Class BS heat detector (CFS version) (CDB300 base)	685a/02
CMTB360	Conventional Class BS heat detector (CFS version) (CDBB300 base)	685a/02
COPT360	Conventional Class BS heat detector (CFS version) (COPC800 base)	685a/02
FXN524	Conventional Class BS heat detector (JSB version) (FXN520 base)	685a/02
MMT860	Conventional Class BS heat detector (MDB800 base)	685a/02
CHT390	Conventional Class CS heat detector (CFS version) (CDB300 base)	685a/03
CHTB390	Conventional Class CS heat detector (CFS version) (CDBB300 base)	685a/03
COPT390	Conventional Class CS heat detector (CFS version) (COPC800 base)	685a/03
FXN526	Conventional Class CS heat detector (JSB version) (FXN520 base)	685a/03
MHT890	Conventional Class CS heat detector (MDB800 base)	685a/03
CAH330	Analogue addressable Class P heat detector (CFS version) (CAB300 base) *Note: meets requirements of EN 54 Part 5:2000 at Classes A1R, BS, CS.*	685c/01
CAHB330	Analogue addressable Class P heat detector (CFS version) (CABB300 base) *Note: meets requirements of EN 54 Part 5:2000 at Classes A1R, BS, CS.*	685c/01
COPH430	Analogue addressable Class P heat detector (CFS version) (COPA800 base) *Note: meets requirements of EN 54 Part 5:2000 at Classes A1R, BS, CS.*	685C/01
FXN725	Analogue addressable Class P heat detector (JSB version) (FXN720 base) *Note: meets requirements of EN 54 Part 5:2000 at Classes A1R, BS, CS.*	685c/01
MAH830	Analogue addressable Class P heat detector (MAB800 base) *Note: meets requirements of EN 54 Part 5:2000 at Classes A1R, BS, CS.*	685c/01
CAPT340	Analogue addressable Class P heat detector (CFS version) (CAB300 base)	685e/01
CAPTB340	Analogue addressable Class P heat detector (CFS version) (CABB300 base)	685e/01
COPOH450	Addressable heat detector (CFS version) (COPA800 base)	685e/01
FXN722	Analogue addressable heat detector (JSB version) (FXN720 base)	685e/01
MAOH850	Analogue addressable Class A2S multisensor opto/heat detector (MAB800 base)	685e/01

Bases:
FXN720 standard analogue addressable mounting base (JSB version)
COPA800 standard analogue addressable mounting base (CFS version)
CAB300 standard analogue addressable mounting base (CFS version)
CABB300 standard analogue addressable mounting base (CFS Version)
MAB800 standard analogue addressable mounting base
FXN520 standard conventional mounting base (JSB version)
CDB300 standard conventional mounting base (CFS version)
CDBB300 standard conventional mounting base (CFS version)
COPC800 standard conventional mounting base (CFS version)
NDFXN520 standard conventional mounting base (without diode)

Detectomat GmbH

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Certificate No: 632a to EN 54-7: 2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
PL 3300 O	Analogue addressable photoelectric smoke detector with integral short circuit isolator function (30301 base)	632a/01
TL 3300 O	Analogue addressable photoelectric smoke detector with integral short circuit isolator function (30301 base)	632a/02
PL 3200 O	Analogue addressable photoelectric smoke detector (30301 base)	632a/03
TL 3200 O	Analogue addressable photoelectric smoke detector (30301 base)	632a/04

Bases:
30301 Standard mounting base

Certificate No: 632b to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
PL 3300 T	Analogue addressable Class A1 heat detector with integral short circuit isolator function (30301 base)	632b/01
PL 3200 T	Analogue addressable Class A1 heat detector (30301 base)	632b/02

Bases:
30301 Standard mounting base

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Certificate No: 506a to EN54-7:2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
FX-0311-2	(2 wire) Conventional photoelectric smoke detector (AHMB-031 Base)	506a/02
FX-0311-3	(3 w ire) Conventional photoelectric smoke detector (AHMB-031 Base)	506a/03
FX-0311-4	(4 wire) Conventional photoelectric smoke detector (AHMB-031 Base)	506a/04

Base:
AHMB-031 mounting base

Certificate No: 506b to EN54-7:2000 & CEA 4021:1999

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
FX-0315-2	(2 Wire) Optical smoke and Class A2 heat detector (AHMB-031 Base)	506b/01
FX-0315-3	(3 Wire) Optical smoke and Class A2 heat detector (AHMB-031 Base)	506b/02

Certificated Products		LPCB Ref. No.
FX-0315-4	(4 Wire) Optical smoke and Class A2 heat detector (AHMB-031 Base)	506b/03

Base:
AHMB-031 mounting base

Certificate No: 506c to EN54-5:2000

Point Heat Detector

Certificated Products		LPCB Ref. No.
FX-0316-2	(2 Wire) Conventional Class A2 rate of rise and fixed temperature heat detector (AHMB-031 Base)	506c/01
FX-0316-2	(3 Wire) Conventional Class A2 rate of rise and fixed temperature heat detector (AHMB-031 Base)	506c/02
FX-0316-4	(4 Wire) Conventional Class A2 rate of rise and fixed temperature heat detector (AHMB-031 Base)	506c/03

Base:
AHMB-031 mounting base

Everday Technology Co. Limited

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Certificate No: 512a to EN 54-7:2000

Smoke Detectors

Certificated Products		LPCB Ref. No.
EA318-2	Conventional 2 wire photoelectric smoke detector *(P/N852001 base)*	512a/01
EA318-2(LED)	Conventional 2 wire photoelectric smoke detector with remote LED output *(P/N854001 base)*	512a/02
EA318-4-12	Conventional 4 wire photoelectric smoke detector *(P/N854001 base)*	512a/03
EA318-4-24	Conventional 4 wire photoelectric smoke detector *(P/N854001 base)*	512a/04

Bases:
P/N854001 4-wire detector base
P/N852001 2-wire detector base
P/N854001 4-wire detector base
P/N852001 2-wire detector base

Certificate No: 512b to EN 54-5 and 7: 2000 and CEA4021: 1999

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
EA318-2H	Conventional 2 wire photoelectric smoke and heat detector *(P/N852001 base)*	512b/01
EA318-2H-LED	Conventional 2 wire photoelectric smoke and heat detector with remote LED output *(P/N854001 base)*	512b/02
EA318-4H-12	Conventional 4 wire photoelectric smoke and heat detector *(P/N854001 base)*	512b/03
EA318-4H-24	Conventional 4 wire photoelectric smoke and heat detector *(P/N854001 base)*	512b/04

Bases:
P/N854001 4-wire detector base
P/N852001 2-wire detector base
P/N854001 4-wire detector base
P/N852001 2-wire detector base

Certificate No: 512d to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
EA323-2	Conventional 2 wire 24VDC class A2S fixed temperature and rate-of-rise heat detector (P/N852001 base)	512d/01
EA323-2	Conventional 2 wire 24VDC class A2R fixed temperature and rate-of-rise heat detector (P/N852001 base)	512d/02
EA323-2L	Conventional 2 wire 24VDC class A2S fixed temperature and rate-of-rise heat detector with LED output (P/N854001 base)	512d/03
EA323-2L	Conventional 2 wire 24VDC class A2R fixed temperature and rate-of-rise heat detector with LED output (P/N854001 base)	512d/04
EA323-4	Conventional 4 wire 12VDC class A2S fixed temperature and rate-of-rise heat detector (P/N854001 base)	512d/05
EA323-4	Conventional 4 wire 12VDC class A2R fixed temperature and rate-of-rise heat detector (P/N854001 base)	512d/06
EA323-4	Conventional 4 wire 24VDC class A2S fixed temperature and rate-of-rise heat detector (P/N854001 base)	512d/07
EA323-4	Conventional 4 wire 24VDC class A2R fixed temperature and rate-of-rise heat detector (P/N854001 base)	512d/08

Bases:
P/N852001 2-Wire detector base
P/N854001 4-Wire detector base

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Certificate No: 092c to BS 5445: Part 7
Certificate No: 092n to EN 54-7: 2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
Z610-1	(fixed sensitivity) ionisation smoke detector (Z6-BS1, Z6-BS2, and Z6-BS4 bases)	092c/01
Z610A-1	(adjustable sensitivity) ionisation smoke detector(Z6-BS1, Z6-BS2, and Z6-BS4 bases) *Note: Meets BS5445: Part 7 (EN 54: Part 7) at all selectable sensitivity settings.*	092c/02
Z630-1	(adjustable sensitivity) optical smoke detector(Z6-BS1, Z6-BS2, and Z6-BS4 bases)	092c/03
Z630A-1	(adjustable sensitivity) optical smoke detector(Z6-BS1, Z6-BS2, and Z6-BS4 bases) *Note: Meets BS5445: Part 7 (EN 54: Part 7) at all selectable sensitivity settings.*	092c/04
ZP710-2	Analogue ionisation smoke sensor (ZP7-SB1 base) *Note: Meets BS5445: Part 7 (EN 54: Part 7) at normal sensitivity only.*	092c/05
ZN730-2	Analogue optical smoke detector(Z6-BS1 base) *Note: Meets BS5445: Part 7 (EN 54: Part 7) at normal sensitivi ty only.*	092c/06
ZP730-2	Analogue optical Smoke Sensor (ZP7-SB1 base) *Note: Meets BS5445: Part 7 (EN 54: Part 7) at all selectable sensitivity settings.*	092c/07
ZP710-2	Analogue addressable ionisation smoke detector (ZP7-SB1 mounting base) *Note: Approved for use at 'Standard' sensitivity setting only.*	092n/01
ZP730-2	Analogue addressable photoelectric smoke detector (SP7-SB1 mounting base) *Note: Approved for use at 'Standard' sensitivity setting only.*	092n/02

Bases:
Z6-BS1 surface mounting base

Z6-BS2 surface mounting base, Schottky diode
Z6-BS4 surface mounting base, diode
ZP7-SB1 standard base

Certificate No: 092a to BS 5445: Part 5
Certificate No: 292b to BS 5445: Part 8
Certificate No: 092p to EN 54-5: 2000

Point Heat Detectors

Certificated Products		**LPCB Ref. No.**
Z620-582-1	1 grade 1 rate of rise heat detector(Z6-BS1, Z6-BS2, and Z6-BS4 bases)	092a/01
Z620-581-1	1 grade 2 fixed temperature detector(Z6-BS1, Z6-BS2, and Z6-BS4 bases)	092a/02
ZP720-3	Grade 1 analogue heat sensor (ZP7-SB1 base) *Note: Meets BS5445: Part 5 (EN 54: Part 5) at sensitivity state 2 only*	092a/03
ZP720-2	Grade 1 analogue heat sensor (Z6-BS1 base)	092a/04
Z620-582-2	58 degree grade 1 rate compensated heat detector (Z6-BS1 base)	092a/05
Z620-821-1	Range 1 fixed high temperature heat detector(Z6-BS1, Z6-BS2, and Z6-BS4 bases)	092b/01
ZP720-3	Analogue addressable Class P heat detector (ZP7-SB mounting base) *Note: Approved for use at heat Class sensitivity settings 1 (Class A2) and 2 (Class A1) only.*	092p/01

Bases:
Z6-BS1 surface mounting base
Z6-BS2 surface mounting base, Schottky diode
Z6-BS4 surface mounting base, diode
ZP7-SB1 standard base

Certificate No: 092g to BS 5445:Part 7:1984 & BS 5445:Part 5:1977
Certificate No: 092k to EN 54:Part 5:2000, EN 54:Part 7:2000 and CEA 4021: 2003

Multi-criteria Detectors

Certificated Products		**LPCB Ref. No.**
ZN832-2	Analogue addressable optical smoke heat detector (ZG BS1 base) *Note: Meets BS5445 Part 7 as optical only at low and normal sensitivities and as a thermally enhanced optical detector. In addition BS5445 Part 5 grades 1,2 & 3*	092g/01
ZP732-2	Analogue addressable combined photoelectric smoke and class A1 heat detector (ZP7-SB1 base) *Note: Certificated at sensitivity profiles 1-4 for EN 54:Part 7 and sensitivity profiles 5 (A1) for EN54:Part 5.*	092k/01

Bases:
ZP7-SB1 standards base
ZG-BS1 base

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Certificate No: 262t to EN 54-7:2000
Certificate No: 092c to BS 5445: Part 7

Point Smoke Detectors

Certificated Products		**LPCB Ref. No.**
EA10E-2	Analogue addressable ionisation smoke detector (ASBE-2 Base) *Meets BS5445:Part 7 (EN 54:Part 7) at normal sensitivity setting only.*	092c/05
EA30E-2	Analogue addressable photoelectric smoke detector (ASBE-2 Base) *Meets BS5445:Part 7 (EN 54:Part 7) at all four selectable sensitivity settings.*	092c/07
SIGA-ISI	Intelligent ionisation smoke detector (SIGA-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases) *Note: Meets the requirements of EN 54-7:2000 at sensitivity settings 1.0%/ft, 2%/ft, 2.5%/ft, 3%/ft, and 3.5%/ft.*	262t/01
SIGA-PSI	Intelligent photoelectric smoke detector (SIGA-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases) *Note: Meets the requirements of EN 54-7:2000 at sensitivity settings 1.0%/ft, 2%/ft, 2.5%/ft, 3%/ft, and 3.5%/ft.*	262t/02

Certificate No: 262u to EN 54-5:2000
Certificate No: 092a to BS 5445: Part 5

Point Heat Detectors

Certificated Products		**LPCB Ref. No.**
EA20E-3	Analogue addressable Grade 1 heat detector (ASBE-2 Base) *Meets BS5445:Part 7 (EN 54:Part 7) at normal sensitivity setting only*	092a/03
SIGA-HFSI	Intelligent class A2S fixed heat detector (SIGA-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases)	262u/01
SIGA-HRSI	Intelligent class A1 rate of rise heat detector (SIGA-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases)	262u/02

Certificate No: 262c to BS 5445: Parts 5 and 7
Certificate No: 092k to EN 54:Part 5
Certificate No: 262s to EN 54-7:2000 and CEA 4021:1999

Multi-criteria Detectors

Certificated Products		**LPCB Ref. No.**
EA32E-2	Analogue addressable combined photoelectric smoke and Class A1 heat detector (ASBE-2 base) *Note: Certificated at sensitivity profiles 1-4 for EN 54: Part 7 and sensitivity profiles 5 (A1) and 6 (A2) for EN 54: Part 5.*	092k/01
SIGA-IPHSI	Intelligent thermally enhanced photoelectric and ionisation smoke detector (SIGA-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases) *Note: Meets the requirements of EN 54-7:2000 at sensitivity settings 1.0%/ft, 2%/ft, 2.5%/ft, 3%/ft, and 3.5%/ft.*	262s/01
SIGA-PHSI	Intelligent thermally enhanced photoelectric smoke detector (SIGA-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases) *Note: Meets the requirements of EN 54-7:2000 at sensitivity settings 1.0%/ft, 2%/ft, 2.5%/ft, 3%/ft, and 3.5%/ft.*	262s/02

Bases:
SIGA-SB standard base
SIGA-SB4 standard base and trim skirt
SIGA-RB relay base
SIGA-RB4 relay base and trim skirt
SIGA-IBS Isolator base
SIGA-IBS4 Isolator base and trim skirt
ASBE-2 Standard base
SIGA-IBS Isolator base
SIGA-SB Standard base
SIGA -SB4 Standard base with trim skirt
SIGA -RB Relay base
SIGA -RB4 Relay base with trim skirt

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Certificate No: 042b to BS 5445: Part 7
Certificate No: 400j to EN 54-7: 2000
Certificate No: 567a to BS 5445:Part 7
Certificate No: 042ac to BS 5445:Part 7

Point Smoke Detectors

Certificated Products		**LPCB Ref. No.**
78215-01 NM	analogue optical sensor (78200-01NM base) *Note: Meets BS 5445:Part 7 when configured to state (0)*	042b/11
78280-01NM	Optical sensor sounder (78200-01NM base) *Note: Sounder meets LPCB requirements and meets BS 5445:Part 7 when configured to to state (0).*	042b/13
17840-01	Photoelectric smoke detector (17800-01, 17801-01, 17800-02 and 17801-02 bases)	042b/14
17830-01	ionization smoke detector (17800-01, 17801-01, 17800-02 and 17801 bases)	042b/15
0-1362	Conventional Optical Smoke Detector (781590, 781591 & 781592 bases)	400e/02
I-1071	analogue addressable ionization smoke detector (781590, 781591 & 781592 bases)	400j/01
O-1371	analogue addressable optical smoke detector (781590, 781591 & 781592 bases)	400j/02
17830-01	conventional ionisation smoke detector (17800-01, 17801-01, 17800-02 and 17801-02 bases)	567a/01
17840-01	conventional photoelectric smoke detector (17800-01, 17801-01, 17800-02 and 17801-02 bases)	567a/02
Compact - O	analogue addressable optical sensor (34700 base) *Note: Meets BS 5445: Part 7:1984/EN 54: Part 7:1982 in state 0 only.*	567a/03

Bases:
78200-01NM standard base
17800-01 standard base
17801-01 standard base with diode
17800-02 low profile base
17801-02 low profile base with diode

781590 standard base
781591 detector base with relay output
781592 detector base with open collector output

Certificate No: 042a to BS 5445: Part 5:1977
Certificate No: 400h to EN 54-5: 2000
Certificate No: 567b to BS 5445: Part 5:1977
Certificate No: 042aj to EN 54-5: 2000 + A1: 2002 & CEA GEI 1 - 084
Certificate No: 042ak to EN 54-5: 2000 + A1: 2002, EN 54-3: 2001 + A1: 2002 & CEA GEI 1 - 084

Point Heat Detectors

Certificated Products		**LPCB Ref. No.**
34720	Analogue rate of rise heat sensor (34700 base) *Note: Meets the requirements of BS 5445 : Part 5 grade 1 when configured to state (1) and BS 5445 : Part 5 grade 2 when configured to state (0)*	042a/04
17850-01	Grade 1 fixed temperature heat detector (17800-01, 17801-01, 17800-02 and 17801-02 bases)	042a/05
17860-01	Grade 1 rate of rise heat detector (17800-01, 17801-01, 17800-02 and 17801-02 bases)	042a/06
S4-720	S-Quad analogue addressable Class P heat detector (S4-700 Standard base with or without S4-FLUSH semi-flush mounting kit) *Note:* *1) Meets the requirement of EN 54: Part 5 at the following settings:* *State 0 - Class A1* *State 5 - Class B*	042aj/01
S4-780	S-Quad analogue addressable Class P heat detector with sounder (S4-700 Standard base with or without S4-FLUSH semi-flush mounting kit) *Notes:* *1) Meets the requirements of EN 54: Part 5 at the following settings:* *State 0 - Class A1* *State 5 - Class B* *2) Meets the requirements of EN 54: Part 3 at the following sounder tone settings:* *High - Continuous 933 Hz* *Alternate - High 933 Hz for 0.25 secs / Low 700 Hz for 0.25 secs*	042ak/01
H-1262	Grade 1 conventional rate of rise heat detector (781590 & 781592 bases)	400c/02
H-1271	Class A1S analogue addressable fixed temperature heat detector (781590, 781591 & 781592 bases)	400h/01
H-1271	Class A1 analogue addressable rate of rise heat detector (781590, 781591 & 781592 bases)	400h/02
17850-01	Conventional grade 1 fixed temperature heat detector (17800-01, 17801-01, 17800-02 and 17801-02 bases)	567b/01
17860 -01	Conventional grade 1 rate-of-rise heat detector (17800-01, 17801-01, 17800-02 and 17801-02 bases)	567b/02
34720	Analogue addressable heat sensor (34700 and 34761 bases) *Note: Meets BS 5445: Part 5 grade 1 when configured to state (1) and BS 5445: Part 5 grade 2 when configured to state (0)*	567b/03

Bases:
34700 standard base
17800-01 standard base
17801-01 standard base with diode
17800-02 low profile base
17801-02 low profile base with diode
781590 standard base
781591 detector base and relay output
781592 detector base with open collector output
S4-700 standard base
S4-FLUSH semi-flush fixing kit

Certificate No: 400g to EN 54-7:2000, EN 54-5:2000 & CEA 4021:1999
Certificate No: 042f to BS 5445: Parts 5 and 7
Certificate No: 567d to BS 5445:Part 7:1984 and BS 5445:Part 5:1977
Certificate No: 042am to EN 54-5: 2000 + A1: 2002, EN 54-7: 2000 + A1: 2002, CEA 4021: 2003-07 & CEA GEI 1 - 084
Certificate No: 042an to EN 54-5: 2000 + A1: 2002, EN 54-7: 2000 + A1: 2000, EN 54-3: 2001 + A1:2002, CEA 4021: 2003-07 & CEA GEI 1 - 084

Multi-criteria Detectors

Certificated Products		**LPCB Ref. No.**
S4-711	S-Quad analogue addressable dual optical smoke and Class P heat multisensor detector (S4-700 Standard base with or without S4-FLUSH semi-flush mounting kit) *Note:* *1) Meets the requirement of EN 54: Part 5 and requirements of EN 54: Part 7 at the following settings:* *State 0 - Medium optical / Class A1 heat* *State 5 - Medium optical / Class B heat* *State 8 - Delayed medium optical / Class A1 heat*	042am/01
S4-711-ST	S-Quad analogue addressable dual optical smoke and Class P heat multisensor detector with strobe (S4-700 Standard base with or without S4-FLUSH semi-flush mounting kit) *Notes:* *1) Meets the requirement of EN 54: Part 5 and requirements of EN 54: Part 7 at the following settings:* *State 0 - Medium optical / Class A1 heat* *State 5 - Medium optical / Class B heat* *State 8 - Delayed medium optical / Class A1 heat* *2) The strobe function is not included within the scope of this approval*	042am/02
S4-911	S-Quad analogue addressable dual optical smoke, Class P heat and carbon monoxide multisensor detector (S4-700 Standard base with or without S4-FLUSH semi-flush mounting kit) *Notes:* *1) Meets the requirement of EN 54: Part 5 and requirements of EN 54: Part 7 at the following settings:* *State 0 - Medium optical / Class A1 heat* *2) Meets the requirements of EN 54: Part 5 at the following settings:* *State 9 - Class A1 heat* *3) Carbon monoxide detection is not included within the scope of this approval*	042am/03
S4-711-ST-VO	S-Quad analogue addressable dual optical smoke and Class P heat multisensor detector with speech and strobe (S4-700 Standard base with or without S4-FLUSH semi-flush mounting kit) *Notes:* *1) Meets the requirement of EN 54: Part 5 and requirements of EN 54: Part 7 at the following settings:* *State 0 - Medium optical / Class A1 heat* *State 5 - Medium optical / Class B heat* *State 8 - Delayed medium optical / Class A1 heat* *2) Meets the requirements of EN 54: Part 3 at the following sounder tone settings:* *High - Continuous 933 Hz* *Alternate - High 933 Hz for 0.25 secs / Low 700 Hz for 0.25 secs* *3) Speech and strobe not included in scope of approval*	042an/01
S4-771	S-Quad analogue addressable dual optical smoke and Class P heat multisensor detector with sounder (S4-700 Standard base with or without S4-FLUSH semi-flush mounting kit) *Notes:* *1) Meets the requirement of EN 54: Part 5 and requirements of EN 54: Part 7 at the following settings:* *State 0 - Medium optical / Class A1 heat* *State 5 - Medium optical / Class B heat* *State 8 - Delayed medium optical / Class A1 heat* *2) Meets the requirements of EN 54: Part 3 at the following sounder tone settings:* *High - Continuous 933 Hz* *Alternate - High 933 Hz for 0.25 secs / Low 700 Hz for 0.25 secs*	042an/02
S4-911-ST-VO	S-Quad analogue addressable optical smoke, heat and carbon monoxide multisensor detector with speech and strobe (S4-700 Standard base with or without S4-FLUSH semi-flush mounting kit) *Notes:* *1) Meets the requirements of EN 54: Part 5 and requirements of EN 54: Part 7 at the following settings:* *State 0 - Medium optical / Class A1 heat* *2) Meets the requirements of EN 54: Part 5 at the following settings:*	042an03

Certificated Products		LPCB Ref. No.
	State 9 - Class A1 heat *3) Meets the requirements of EN 54: Part 3 at the following sounder tone settings:* *High - Continuous 933 Hz* *Alternate - High 933 Hz for 0.25 secs / Low 700 Hz for 0.25 secs* *4) Carbon monoxide detection, speech and strobe not included within the scope of this approval*	
34770	Analogue optical heat sounder (34700 base) *Note: Meets BS 5445: Part 7 and BS 5445: Part 5 grade 2 in states 0, 8 and 13 and BS 5445: Part 7 and BS 5445: Part 5 grade 1 in state 12. Sounder meets LPCB requirements.*	042f/02
34710	Analogue optical heat sensor (34700 base) *Note: Meets BS 5445: Part 7 and BS 5445: Part 5 grade 2 in states 0, 8 and 13 and BS 5445: Part 7 and BS 5445: Part 5 grade 1 in state 12.*	042f/03
OTI-1973	Analogue addressable optical, heat & ionisation multi-sensor detector (781590, 781591 & 781592) *Note: Meets BS EN 54-5: 2001 at class A2S*	400g/01
OT-1373	Analogue addressable optical heat multi-sensor detector (781590, 781591 & 781592) *Note: Meets BS EN 54-5: 2001 at class A2S*	400g/02
O2T-1374	Analogue addressable optical heat multi-sensor detector (781590, 781591 & 781592) *Note: Meets BS EN 54-5: 2001 at class A2S*	400g/03
34770	Analogue addressable optical heat sounder (34700 base) *Note: Meets BS 5445: Part 7: 1984/EN 54: Part 7: 1982 and BS 5445: Part 5: 1977/EN 54: Part 5: 1976 and grade 2 in states in 0, 8 and 13*	567d/01
34710	Analogue addressable optical smoke heat sensor (34700 base) *Meets BS 5445: Part 7 and BS 5445: Part 5 grade 2 in states 0, 8 and 13 and BS 5445: Part 7 and BS 5445: Part 5 Grade 1 in state 12*	567d/02

Bases:
34700 standard base
781590 standard base
781591 detector base with relay output
781592 detector base with open collector output
S4-700 standard base
S4-FLUSH semi-flush fixing kit

Certificate No: 042h to BS 5839: Part 5: 1988

Beam Detectors

Certificated Products		LPCB Ref. No.
13474	Analogue optical beam smoke sensor (comprises 13474-01 Emitter and 13474-02 Receiver) (13470-02[1] and 13470-03[1] bases) *Note: Meets BS 5839: Part 5: 1988 when the Emitter is configured to State (0) and the Receiver is configured to State (2).*	042h/01

Bases:
13470-02 base
13470-03 base

Notes:
1) Models manufactured with white mouldings are also Certificated. These have the same model numbers with the suffix 'WH'.
2) Certificated for use with the 13493-15 angle mounting bracket..

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Certificate No: 330a to BS5445: Part 7: 2000
Certificate No: 010q to EN 54: Part 7

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
80-020 Fyreye FEO2000	Conventional optical smoke detector (80-50, 80-052, 80-054 mounting bases)	010v/01
80-120 Fyreye FEA02000	Analogue addressable optical smoke detector (80-50, 80-080, 80-090 mounting bases)	010v/02
IASCI	Conventional ionisation smoke detector (ZT110 base)	330a/01
V301	Conventional ionisation smoke detector (ZT110 base)	330a/01
ZT600	Conventional ionisation smoke detector (ZT110 base)	330a/01
IASI	Analogue ionisation smoke detector (ZT110 base)	330a/02
ZTA600	Analogue ionisation smoke detector (ZT110 base)	330a/02
IASCO	Conventional optical detector (ZT110 base)	330a/03
V302	Conventional optical smoke detector (ZT110 base)	330a/03
ZT601	Conventional optical detector (ZT110 base)	330a/03
PI100	Conventional ionisation smoke detector (PB100 Standard base)	330a/04

Bases:
80-050 FE CB Common mounting base
80-052 FE DB Diode mounting base
80-054 FE RB Relay mounting base
80-080 FEA RB Addressable relay mounting base
80-090 FE IB Negative switching isolating base
ZT110 standard base
PB100 standard base

Certificate No: 330b to BS5445: Part 5
Certificate No: 010p to EN 54: Part 5
Certificate No: 330e to EN 54-5:2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
80-030 Fyreye FEHR2000	Conventional Class A1R heat detector (80-50, 80-052, 80-054 mounting bases)	010u/01
80-032 Fyreye FEHBR2000	Conventional Class BR heat detector (80-050,80-052,80-054 mounting bases)	010u/02
80-040 Fyreye FEFH2000	Conventional Class C heat detector (80-50, 80-052, 80-054 mounting bases)	010u/03
80-130 Fryeye FEAH2000	Analogue addressable Class A2S heat detector (80-50, 80-080, 80-090 mounting bases)	010u/04
80-131 Fyreye FEAHH2000	Analogue addressable Class CS heat detector (80-50, 80-080, 80-090 mounting bases)	010u/05
IASCH	Conventional grade 2 rate of rise heat detector (ZT110 base)	330b/01
ZT602	Conventional grade 2 rate of rise heat detector (ZT110 base)	330b/01
IASH	Analogue grade 2 heat detector (ZT110 base)	330b/02
ZTA602	Analogue grade 2 heat sensor (ZT110 base)	330b/02

Bases:
80-050 FE CB Common mounting base
80-052 FE DB Diode mounting base
80-054 FE RB Relay mounting base
80-080 FEA RB Addressable relay mounting base
80-090 FE IB Negative switching isolating base
ZT110 standard base

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Certificate No: 130b to BS 5839: Part 5: 1998

Beam Detectors

Certificated Products		LPCB Ref. No.
BM5	Optical beam smoke detector *Note: Certified at sensitivity settings of 20% and 40% with the heat channel switched off*	130b/01

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Certificate No: 548c to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
JTWB-ZCD-G1 (A)	Conventional Class A1R heat detector (DZ-03 base)	548c/01
JTW-ZCD-G3N	Intelligent Class A1R Rate of Rise Heat Detector (DZ-03 base)	548c/02

Certificate No: 548d to EN 54-7: 2000

Point Smoke Detector

Certificated Products		LPCB Ref. No.
JTY-GF-GST104	Conventional Photoelectric Smoke Detector (DZ-03 base)	548d/01
JTY-GD-G3	Intelligent Photoelectric Smoke Detector (DZ-03 base)	548d/02

Bases:
DZ-03 standard detector base

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Certificate No: 117b to BS 5445 & EN 54: Part 7
Certificate No: 117h to EN 54-7:2000
Certificate No: 164a to BS 5445 & EN 54: Part 7
Certificate No: 164g to EN 54-7:2000
Certificate No: 358c to EN 54-7:2000

Point Smoke Detectors/Sensors

Certificated Products		LPCB Ref. No.
ALG-E	Analogue photoelectric smoke sensor (YBJ-RL/2NA, YBN-R/4C & YBO-R/4C bases)	117b/06
AIE-E	Analogue ionisation smoke sensor (YBJ-RL/2NA base)	117b/07
SLV-E(J)	Conventional photoelectric smoke detector (YBN-R/4C[L] base)	117h/01
SLR-E	Conventional photoelectric smoke detector (YBN-R/4, YBO-R/5 bases)	164a/06
SLR-EM	Conventional photoelectric smoke detector (YBN-R/4M, YBO-R/5Mbases)	164a/06
SLR-E3	Conventional photoelectric smoke detector (YBN-R/6, YBN-R/6SK bases)	164g/01
SLR-E3M	Conventional photoelectric smoke detector (YBN-R/6M)	164g/01
SLR-R-IS	Conventional photoelectric smoke detector (YBN-R/4IS base)	164g/02
SLK-EN	Conventional photoelectric smoke detector (YBF-RL/4H3, YBF-RL/4H5, YBF-RL/4H5H bases)	164g/03
ALG-E(NP)	Analogue addressable photoelectric smoke detector (non polling) (YBN-R/3 & YBO-R/SCI bases) [LP] *Note: Meets the requirements of EN54-7 in low and high sensitivity settings*	164g/04
ALG-E	Analogue addressable photoelectric smoke detector (YBN-R/3, YBO-R/SCI bases) [LP] *Note: Meets the requirements of EN54-7 in low and high sensitivity settings*	164g/05
AIE-E	Analogue addressable ionisation smoke sensor (YBN-R/3, & YBO-R/SCI bases) [1 LP] *Note: Meets the requirements of EN-54-7 in low and high sensitivity settings in normal and low power mode*	358c/01
AIE-E(NP)	Analogue addressable ionisation smoke sensor (non polling) (YBN-R/3 and YBO-R/SCI bases) [1 LP] *Note: Meets the requirements of EN-54-7 in low and high sensitivity settings in normal and low power mode*	358c/02

Certificate No: 117a to BS 5445 & EN 54 Part 5
Certificate No: 117c to BS 5445 & EN 54 Part 8
Certificate No: 117g to EN 54 Part 5: 2000
Certificate No: 164a to BS 5445 & EN 54: Part 7

Point Heat Detectors/Sensors

Certificated Products		LPCB Ref. No.
DFE-60E/CD	Grade 2 fixed temperature heat detector (YCA-RL/3H2, YCA-RL/5H2, AMU-B2, AMU-MB, YBC-RL/4H5, YBF-RL/3J, YBF-RL/4H5[1], YBK-RL/4H1A[1]and YBK-RL/4H2[1] bases)	117a/02
ATG-E/ASX	Grade 1 fixed temperature heat sensor (YBN-R/3[1], YBN-R/2NA and YBO-R/SCI[1] bases)	117a/06
DCD-1EM/CDX	Grade 1 Conventional rate of rise heat detector (YBN-R/4M and YBO-R/5M bases)	117a/07
ATG-E(NP)/ASX	Grade 1 fixed temperature heat sensor (YBN-R/3[1], YBN-R/2NA and YBO-R/SCI[1] bases)	117a/10
DCD-R1EM/CDX	Range 1 Conventional rate of rise high temperature heat detector (YBN-R/4m[1] and YBO-R/5m[1] bases)	117c/03
DCD-1E-IS/CDX	Class A1 conventional intrinsically safe fixed temperature and rate of rise heat detector (YBN-R/4IS[1] base)	117g/01
DFJ-AE3/CDX	Class A1S conventional fixed temperature heat detector (YCA-RL/3H2M, YBN-R/6SK and YBN-R/6 bases)	117g/02
DFJ-CE3	Class CS conventional fixed temperature heat detector (YCA-RL/3H2M, YBN-R/6SK Schottky and YBN-R/6 bases)	117g/03
DCD-AE3/CDX	Class A1R conventional rate of rise temperature heat detector (YCA-RL/3H2M, YBN-R/6SK and YBN-R/6 bases)	117g/04
DCD-AE3M	Conventional Class A1R rate of rise temperature heat detector (YBN-R/6M base)	117g/04
DFG-60BLKJ	Class A2 conventional fixed temperature water resistant heat detector	117g/05
DCD-CE3/CDX	CDX Class CR conventional rate of rise high temperature heat detector (YCA-RL/3H2M, YBN-R/6SK and YBN-R/6[1] bases)	117g/06
DCD-CE3M	Conventional Class CR rate of rise high temperature heat detector (YBN-R/6M base)	117g/06
ATG-E	Analogue addressable heat sensor (YBN-R/3[1] and YBO-R/SCI bases [1, LP]) *Note: meets the requirements of EN 54-5 at heat classes A1S, BS and CS in normal and low power mode.*	117g/07
ATG-E(NP)	Analogue addressable heat sensor (YBO-R/3[1] , YBO-RSCI/NS [1] and YBO-R/SCI[1, LP] bases) *Note: meets the requirements of EN 54-5 at heat classes A1S, BS and CS in normal and low power mode.*	117g/08
ACB-E	Analogue addressable Class P heat detector (YBN-R/3 and YBO-R/SCI[1] bases) *Note: Meets requirements of EN 54-5:2000 for classes A1R, A1S, BR, BS, CR and CS when used with ACB-E protocol and classes A1S, BS and CS when used with ATG-E protocol.*	117g/09
ACB-EW	Weather proof analogue addressable Class P heat detector (YBN-R/3[1] and YBO-R/SCI[1] bases) *Note: Meets requirements of EN 54-5:2000 for classes A1R, A1S, BR, BS, CR and CS when used with ACB-E protocol and classes A1S, BS and CS when used with ATG-E protocol.*	117g/10
DCC-1EL	Conventional Class A2R rate of heat detector (YBF-RL/4H3H[1] and YBF-RL/4H5H[1] bases)	117g/11

Certificate No: 117e to prEN 54: Part 12 (Draft 21/1/97)
Certificate No: 164e to BS 5839: Part 5
Certificate No: 164k to EN 54-12: 2002

Beam Detectors

Certificated Products		LPCB Ref. No.
SRA-ET	Optical beam smoke detector *Note: Approved at a sensitivity setting of 30% obstruction*	117e/01
SPB-E	Optical beam smoke detector *Note: Certificated at a sensitivity setting of 25% and when installed as option 2 as specified in DS0203 issue 1.2.*	164e/01
SPB-ET	Optical beam smoke detector *Note: Certificated at sensitivity setting of 25% and with SPB-ET2WI interface kit.*	164e/01
SPB-E	Conventional optical beam smoke detector *Note:* *1) Approved at sensitivity setting 50%.*	164k/01
SPB-ET	Conventional optical beam smoke detector *Notes:* *1) Approved at sensitivity setting 50%.* *2) Approved for use with SPB-ET2WI interface kit.*	164k/02

Certificate No: 117f to prEN 54: Part 7 Draft A3 (1/4/97), prEN 54: Part 5 Draft F1 (21/7/97) and CEA GEI 1-049 (11/2/97)

Multi-criteria Detectors

Approved Products		LPCB Ref. No.
ACA-E/ASX	Analogue addressable multisensor (YBN-R/3[1] base) *Note: Meets EN 54: Part 5 class A1 and B and EN 54: Part 7 at 3.0%/m sensitivity setting in normal and low power mode.*	117f/01

Bases:
YBN-R/3 base[1]
YBN-R/2NA base
YBO-R/SCI isolator base[1]
YBN-R/4IS intrinsically safe mounting base[1]
YCA-RL/3H2 addressable base
YCA-RL/5H2 master addressable base
AMU-B2 addressable base
AMU-MB master addressable base
YBC-RL/4H5 base
YBF-RL/3J slave base
YBF-RL/4H5 base[1]
YBK-RL/4H1A base[1]
YBK-RL/4H2 base[1]
YCA-RL/3H2M addressable base
YBN-R/6SK Schottky diode base
YBN-R/6 Standard Base
YBN-R/4 base[1]
YBO-R/5 base[1]
YBN-R/4M base[1]
YBO-R/5M base[1]
YBO-RSCI/NS Negative Switching Short circuit isolating base
YBF-RL/4H3H 2 wire mounting base
YBF-RL/4H5H 2 wire mounting base

[1] Bases manufactured buy Hochiki Europe. All other bases manufactured by Hochiki Corporation.
[LP] denotes detector/base combination is approved in low power mode also.

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Certificate No: 199s to EN 54-12: 2002 & GE11-052

Beam Detectors

Certificated Products		LPCB Ref. No.
TC847A1004	100m analogue addressable reflective IR smoke beam detector with self-test facility and short circuit isolator feature *Note: meets the requirements of EN 54-12: 2002 at sensitivity levels 1,2,3,4 & Acclimate levels 1 & 2*	199s/02

Certificate No: 199p to EN 54-7: 2000, EN 54-5: 2000 & CEA 4021: 1999
Certificate No: 262s to EN 54-7: 2000

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
TC840ME	Analogue addressable optical/thermal smoke & heat detector (B501, B501DG & B524IEFT bases)	199p/02

Certificated Products		LPCB Ref. No.
	Note: Meets the requirements of EN54-5: 2000 at class A1R and EN54-7: 2000 at sensitivity settings 1 to 5	
XLS-IPHSI	Intelligent thermally enhanced photelectric smoke detector (SIGI-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases) *Note: Meets the requirements of EN 54-7:2000 at sensitivity settings 1.0%/ft, 2%/ft, 2.5%/ft, 3%/ft, and 3.5%/ft.*	262s/01
XLS-PHSI	Intelligent thermally enhanced photoelectric smoke detector *Note: Meets the requirements of EN 54-7:2000 at sensitivity settings 1.0%/ft, 2%/ft, 2.5%/ft, 3%/ft, and 3.5%/ft.*	262s/02

Bases:
SIGI-IBS Isolator base
SIGA-SB Standard base
SIGA-SB4 Standard base with trim skirt
SIGA-RB Relay base
SIGA-RB4 Relay base
B501 analogue detector base
B501DG analogue deep base

Certificate No: 199n to EN 54-5: 2000
Certificate No: 199a to BS 5445:Part 5:1977/EN 54:Part 5:1976
Certificate No: 262u to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
TC830E1004	Grade 1 rate of rise heat detector (14506587-005 base)	199a/03
TC808E1002M01	Class A1S analogue addressable fixed temperature heat detector (B501, B501DG and B524IEFT bases)	199n/03
TC808E1028M01	Class A1R analogue addressable rate of rise heat detector (B501, B501DG and B524IEFT bases)	199n/04
TC808E1051M01	Class BS analogue addressable high temperature heat detector (B501, B501DG and B524IEFT bases)	199n/05
XLS-HFSI	Intelligent class A2S fixed heat detector ((SIGI-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases)	262u/01
XLS-HRSI	Intelligent class A1 rate of rise heat detector (SIGI-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases)	262u/02

Bases:
14506587-005 conventional detector base
SIGI-IBS Isolator base
SIGA-SB Standard base
SIGA -SB4 Standard base with trim skirt
SIGA -RB Relay base
SIGA -RB4 Relay base with trim skirt

Certificate No: 199m to EN 54-7:2000
Certificate No: 199b to BS 5445:Part 7:1984/EN 54:Part 7:1982
Certificate No: 262t to EN 54-7: 2000
Certificate No: 118b to BS 5445: Part 7
Certificate No: 118h to EN 54-7:2000

Point Smoke Detectors/Sensors

Certificated Products		LPCB Ref. No.
TC842B1007	Intrinsically safe analogue photoelectric smoke sensor (B501 base) *Note: Meets BS 5445:Part 7 (EN 54-7:) in 'normal' sensitivity setting*	118b/11
TC846A1005	Analogue addressable laser optical detector (B501, B501DG & B524IEFT bases) *Note: meets requirements of EN 54: Part 7 at sensitivity settings of 7 to 9 inclusive*	118h/01
TC846A1005	Analogue addressable laser optical detector (B501, B501DG & B524IEFT bases) *Note: meets requirements of EN 54: Part 7 at sensitivity settings of 7 to 9 inclusive*	118h/01
TC804E1030	Conventional photoelectric smoke detector (14506587-005 base)	199b/05
TC807E1011	Analogue ionisation smoke sensor (B501 base) *Note: Meets BS 5445:Part 7 (EN 54-7:) i with 'low', 'normal' and 'high' sensitivities*	199b/07

Certificated Products		LPCB Ref. No.
TC805E1013	Conventional ionisation smoke detector (14506587-005 base)	199b/08
TC806E1012M01	Analogue addressable optical detector (B501, B501DG and B524IEFT bases) *Note: Meets EN54-7: 2000 with 'low', 'medium' and 'high' sensitivities*	199m/02
TC806E1012M01	Analogue addressable optical detector (B501, B501DG & B524IEFT bases) *Note: Meets EN54-7:2000 with 'low', 'medium' and 'high' sensitivities*	199m/02
TC807E1011	Analogue addressable ionisation smoke detector (B501 & B524IEFT-1 bases) *Note: Meets EN54-7:2000 at High, Normal & Low sensitivity settings*	199m/06
TC842B1007	Intrinsically safe analogue addressable photoelectric smoke detector (501 base) *Note: Meets EN54-7: 2000 at High, Normal & Low sensitivity settings.*	199m/07
XLS-ISI	Intelligent ionisation smoke detector (SIGI-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases) *Note: Meets the requirements of EN 54-7:2000 at sensitivity settings 1.0%/ft, 2%/ft, 2.5%/ft, 3%/ft, and 3.5%/ft.*	262t/01
XLS-PSI	Intelligent photoelectric smoke detector (SIGI-IBS, SIGA-SB, SIGA-SB4, SIGA-RB, and SIGA-RB4 bases) *Note: Meets the requirements of EN 54-7:2000 at sensitivity settings 1.0%/ft, 2%/ft, 2.5%/ft, 3%/ft, and 3.5%/ft.*	262t/02

Bases:
B501 analogue detector base
B501DG analogue deep base
B524IEFT analogue short circuit isolator base
14506587-005 conventional resistor base
B524IEFT-1 analogue short circuit isolator base
SIGI-IBS Isolator base
SIGA-SB Standard base
SIGA -SB4 Standard base with trim skirt
SIGA -RB Relay base
SIGA -RB4 Relay base with trim skirt

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Certificate No: 506a to EN 54-7: 2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
AHS-871	Conventional photoelectric smoke detector (AHMB-L mounting base)	506a/01
AH-0311-2	(2 wire) Conventional photoelectric smoke detector (AHMB-031 Base)	506a/02
AH-0311-3	(3 wire) Conventional photoelectric smoke detector (AHMB-031 Base)	506a/03
AH-0311-4	(4 wire) Conventional photoelectric smoke detector (AHMB-031 Base)	506a/04

Bases:
AHMB-031 mounting base
AHMB-L mounting base

Certificate No: 506b to EN 54-7: 2000 & CEA 4021:1999

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
AH-0315-2	(2 Wire) Optical smoke and class A2 heat detector (AHMB-031 Base)	506b/01
AH-0315-3	(3 Wire) Optical smoke and class A2 heat detector (AHMB-031 Base)	506b/02
AH-0315-4	(4 Wire) Optical smoke and class A2 heat detector (AHMB-031 Base)	506b/03

Bases:
AHMB-031 mounting base

Certificate No: 506c to EN 54-Part 5: 2000

Point Heat Detector

Certificated Products		LPCB Ref. No.
AH-0316-2	(2-wire) Conventional Class A2 rate of rise and fixed temperature heat detector (AHMB-031 Base)	506c/01
AH-0316-3	(3-wire) Conventional three wire rate of rise and fixed temperature heat detector (AHMB-031 Base)	506c/02
AH-0316-4	(4-wire) Conventional four wire rate of rise and fixed temperature heat detector (AHMB-031 Base)	506c/03

Bases:
AHMB-031 mounting base

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Certificate No: 054e to CEA 4022: 1999-12 (en)

Certificated Products		LPCB Ref. No.
HART XL	High sensitivity smoke detector (HSSD)	054e/01
	Approved configurations: Detection unit / integral LED display or LCD display Detection unit / integral LED display / remote LCD display	

Notes:
1) The detector has been assessed for compliance with clause 5.15 Fire sensitivity (room protection).
2) The detector has been assessed with PVC (P10.0250) and ABS (B000931) sampling pipes.
3) The approval of the detector is conditional upon the following requirements:
   -The detector shall be supplied with power from a power supply complying with the requirements of BS EN 54-4.
   -Design, Installation and commissioning shall be performed in accordance with Kidde Fire Protection Limited Installation, operation & maintenance manual (TM0042) with per hole sensitivities of better than 5%/m, as predicted by the SNIFF Version 3.0 design tool.

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Certificate No: 603a to EN 54-7: 2000

Smoke Detector

Certificated Products		LPCB Ref. No.
FC600/O	Conventional photoelectric smoke detector	603a/01

Base:
FC600/BR1000 Resistor mounting base

Certificate No: 603b to EN 54-5: 2001

Point Heat Detector

Certificated Products		LPCB Ref. No.
FC600/TMAX/78	Conventional Class BS fixed temperature heat detector	603b/01
FC600/TDIFF/57	Conventional Class A1R rate of rise heat detector	603b/02

Base:
FC600/BR1000 Resistor mounting base

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Certificate No: 603a to EN 54-7:2000

Smoke Detectors

Certificated Products		LPCB Ref. No.
MAT/OS/01	Conventional photoelectric smoke detector	603a/01

Bases:
MAT/SB-EX/01 Resistor mounting base
MAT/DB-UK/01 Diode base

Certificate No: 603b to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
MAT/HH/01	Conventional Class BS fixed temperature heat detector	603b/01
MAT/RH/01	Conventional Class A1R rate of rise heat detector	603b/02

Bases:
MAT/SB-EX/01 Resistor mounting base
MAT/DB-UK/01 Diode base

Morley-IAS Fire Systems

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Certificate No: 199n to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
MI-FHSE	Class A1S analogue addressable fixed temperature heat detector (B501, B501DG and B524IEFT bases	199n/03
MI-RHSE	Class AIR analogue addressable rate of rise heat detector (B501, B501DG and B524IEFT bases)	199n/04
MI-HTSE	Class BS analogue addressable high temperature heat detector (B501, B501DG and B524IEFT bases)	199n/05
HRZ-1005T	Class A2S conventional fixed temperature heat detector (HRZ-1000BSD base)	199n/10
HRZ-1004T	Class BS conventional fixed temperature heat detector (HRZ-1000BSD base)	199n/11
HRZ-1005	Conventional rate of rise heat detector (HRZ-1000BSD base)	199n/12

Bases:

B501	standard analogue detector base
B501DG	analogue deep base
B524IEFT	analogue short circuit isolator base
HRZ-1000BSD	Standard base with Schottky diode

Certificate No: 199p to EN 54-7: 2000, EN 54-5: 2000 & CEA 4021: 1999

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
MI-PTSE	Analogue addressable optical/thermal smoke & heat detector (B501, B501DG & B524IEFT bases) *Meets the requirements of EN54-5: 2000 at class A1R and EN54-7: 2000 at sensitivity settings 1 to 5*	199p/02
HRZ-1002	Conventional photo thermal detector (HRZ-1000BSD base)	199p/04

Bases:

B501:	standard analogue detector base
B501DG	analogue deep base
B524IEFT	analogue short circuit isolator base
HRZ-1000BSD	Standard base with Schottky diode

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Certificate No: 041c to BS 5445: Part 7
Certificate No: 041f to EN54-7: 2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
ST-I	Conventional ionisation smoke detector (STB-4)	041c/05
ST-P	Conventional photoelectric smoke detector (STB-4)	041c/06
ST-I-P	Conventional ionisation smoke detector (STB-4 base)	041c/07
ST-P-P	Conventional photoelectric smoke detector (STB-4 base)	041c/08
ST-P-AS	Analogue photoelectric smoke sensor (STB-4 base) *Note: Meets BS 5445 Part 7 at low, normal and high sensitivity settings.*	041c/09
ST-I-AS	Analogue ionisation smoke sensor (STB-4 base) *Note: Meets BS 5445 Part 7 at low, normal and high sensitivity settings.*	041c/10
ST-P-DA	Dual alarm photoelectric smoke detector (STB-5DA base)	041c/11
EV-P	Analogue addressable optical smoke detector (STB-4EV and STB-4SE EV bases) *Note: Meets the requirements of EN 54-7 at 'Lowest' and 'Highest' sensitivity settings only.*	041f/01
EV-DP	Analogue addressable double optical smoke detector (STB-4EV and STB-4SE EV bases) *Note: Meets the requirements of EN 54-7 at 'Highest' sensitivity setting only.*	041f/02
EVC-P	Conventional optical smoke detector (STB-4, STB-4-SE, STB-4-SE24VR bases)	041f/03
NID 58-AW	Analogue ionisation smoke sensor[1] (3RB-5-AW base)	47/19
2KC-AW	Analogue photoelectric smoke sensor[1] (3RB-5-AW base)	47/22

Certificate No: 041a to BS 5445 Part 5
Certificate No: 041b to BS 5445: Part 8
Certificate No: 041h to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
NHD-G1(4T)	Grade 1 fixed temperature heat detector (RB4 and RB-3R bases)	041a/01
NHD-G2(4T)	Grade 2 fixed temperature heat detector (RB4 and RB-3R bases)	041a/02
NHD-G3(4T)	Grade 3 fixed temperature heat detector (RB4 and RB-3R bases)	041a/03
ST-H-AS	Analogue heat sensor (RB4 base) *Note: Certificated when configured to response grade 1, 2 or 3 only*	041a/04
NHD-GH1(4T)	Range 1 fixed temperature heat detector (RB4 and RB-3R bases)	041b/01
EV-H-A1R	Analogue addressable class A1R heat detector (STB-4EV and STB-4SE EV bases)	041h/01
EV-H-CS	Analogue addressable class CS heat detector (STB-4EV and STB-4SE EV bases)	041h/02
TCA-AW	Analogue heat sensor[1] (3RB-5-AW base)	47/20

Bases:
RB4 standard base
RB/3 standard base
RB/3R resistor base
RB6 standard base
3RB-5-AW[1] addressable base
STB-4 mounting base
STB-5DA mounting base
STB-4EV mounting base
STB-4SE EV mounting base

Note:
[1] For exclusive use of Wormald Ansul

Certificate No: 041g to EN 54-5: 2000, EN 54-7: 2000 and CEA4021: 1999

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
EV-PH	Analogue addressable optical smoke/class A1R heat detector (STB-4EV and STB-4SE EV bases) *Note: Meets the requirements of EN 54-7 at 'Lowest' and 'Highest' sensitivity settings.*	041g/01

Bases:
STB-4EV mounting base
STB-4SE EV mounting base

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Certificate No: 118b to BS 5445: Part 7
Certificate No: 199b to BS 5445: Part 7
Certificate No: 199m to EN 54-7: 2000
Certificate No: 118h to EN 54-7:2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
LPX-751 VIEW	Smoke Sensor (B501 base) *Note: Meets BS 5445: Part 7 (EN 54 Part 7) in low sensitivity mode setting AL9=1%/f*	118b/10
IDX-751	Intrinsically Safe analogue photoelectric smoke sensor (B501 base) *Note: Meets BS 5445: Part 7 (EN54: Part 7) at 'Normal' sensitivity settings*	118b/11
FSL-751E	Analogue addressable photoelectric laser smoke detector (B501, B501DG & B5241EFT bases) *Note: meets the requirements of EN 54:Part 7 at sensitivity settings of 7 to 9 inclusive.*	118h/01
SD-651E	Conventional photoelectric smoke detector (B401 base)	199b/05
CPX-751E	Analogue ionisation sensor (B501 base)	199b/07
CP-651E	Conventional ionisation detector (B401 base)	199b/08

Certificated Products		LPCB Ref. No.
SDX-751EM	Analogue optical smoke detector smoke detector (B501, B501DG and B5241EFT bases) *Note: Meets prEN54-7 with 'low', 'medium' and 'high' sensitivity settings*	199m/02
SD-851E	Conventional photoelectric smoke detector (B401 base)	199m/03
IDX-751	Intrinsically safe analogue addressable photoelectric smoke detector (501 base) *Note: Meets EN54-7: 2000 at High, Normal & Low sensitivity settings*	199m/07

Bases:
B501 base
B401 base
B501DG deep base
B5241EFT short circuit isolator base

Certificate No: 199n to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
FDX-551EM	Class A1S analogue addressable fixed temperature heat detector (B501, B501DG and B5241EFT bases)	199n/03
FDX-551REM	Class A1R analogue addressable high temp rate of rise heat detector (B501, B501DG and B5241EFT bases)	199n/04
FDX-551HTEM	Class BS analogue addressable high temperature heat detector (B501, B501DG and B5241EFT bases)	199n/05
FD-851RE	Conventional Class A1R rate of rise heat detector (B401 base)	199n/07
FD-851HTE	Conventional Class BS heat detector (B401 base)	199n/08
FD-851TE	Conventional class A2S fixed temperature heat detector (B401, B401R, B401RSD, B401SD, B401DG bases)	199n/14

Bases:
B501 base
B401 base
B401R standard base with resistor
B401RSD standard base with resistor and schottky diode
B401SD standard base with schottky diode
B401DG deep base

Certificate No: 199p to EN 54-7 : 2000, EN 54-5 : 2000 & CEA 4021 : 1999-06

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
SDX-751TEM	analogue addressable optical/thermal smoke & heat detector (B501, B501DG and B5241EFT bases)	199p/02
SD-851TE	conventional photoelectric/thermal detector (B401 base) *Note: Meets the requirements of EN54-7: 2000 at "High", 'Medium' and 'Low' sensitivity settings*	199p/03

Bases:
B501 base
B401 base

Novar GmbH

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Certificate No: 400e to BS 5445: Part 7: 1984
Certificate No: 400m to EN 54-7: 2000 & pr EN 54-17 Draft (July 2002)

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
O-1362	Conventional optical smoke detector (781590, 781591 and 781592 bases)	400e/02
O-802371	Analogue addressable optical smoke detector with integral short circuit isolator function (805590 and 805591 bases)	400m/01

Bases:
781590 standard base
781591 detector base with relay output
781592 detector base with open collector output
805590 base for series IQ8quad detectors
805591 base for series IQ8quad detectors with relay output

Certificate No: 400c to BS 5445: Part 5
Certificate No: 400h to EN 54-5: 2000
Certificate No: 400k to EN 54-5: 2000 & pr EN 54-17 Draft (July 2002)

Point Heat Detectors

Certificated Products		LPCB Ref. No.
TD-1262	Grade 1 conventional rate of rise heat detector (781590 and 781592 bases)	400c/02
TM-803171	Analogue addressable Class A1S heat detector (805590 and 805591 base)	400h/03
TD-803271	Analogue addressable Class A1 heat detector (805590 and 805591 base)	400h/04
TM-802171	Analogue addressable Class A1S heat detector with integral short circuit isolator function (805590 and 805591 bases)	400k/01
TM-802271	Analogue addressable Class A1 heat detector with integral short circuit isolator function (805590 and 805591 bases)	400k/02

Bases:
781590 standard base
781592 detector base with open collector output
805590 base for series IQ8quad detectors
805591 base for series IQ8quad detectors with relay output

Certificate No: 400g to EN 54-7:2000, EN 54-5:2000 & CEA4021:1999
Certificate No: 400n to EN 54-5: 2000, EN 54-7: 2000, pr EN 54-17 Draft (July 2002) & CEA 4021: 1999

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
OTI-1973	Analogue addressable optical, heat & ionisation multi-sensor detector (781590, 781591 and 781592 bases). *Note:Meets EN 54-5: 2000 at class A2S.*	400g/01
OT-1373	Analoque addressable optical heat multi-sensor detector (781590, 781591 and 781592 bases) *Note:Meets EN 54-5:2000 at class A2S*	400g/02
O2T-1374	Analogue addressable optical heat multi-sensor detector (781590, 781591 and 781592 bases) *Note:Meets EN 54-5:2000 at class A2S.*	400g/03
O2T-803374	Analogue addressable smoke & heat detector (805590 and 805591 bases) *Note:Meets EN 54-5:2000 at class A2S.*	400g/04
O-803371	Analogue addressable optical smoke detector (805590 and 805591 bases)	400j/03
O2T-802374	Analogue addressable smoke & heat detector (805590 and 805591 base)	400n/01

Certificated Products		LPCB Ref. No.
	Note: Meets EN 54-5: 2000 at Class B	

Bases:
781590 standard base
781591 detector base with relay output
781592 detector base with open collector output
805590 base for series IQ8quad detectors
805591 base for series IQ8quad detectors with relay output

Pittway Tecnologica SpA

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Certificate No: 199b to BS 5445: Part 7
Certificate No: 199m to EN 54-7:2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
2151E	Conventional Photoelectric Smoke Detector (B401 base)	199b/05
1251E	Analogue ionisation smoke sensor (B501 base) *Note: Meets BS 5445: Part 7 (EN54: Part 7) with 'Low','Normal' and 'High' sensitivity settings.*	199b/07
1151E	Ionisation smoke detector (B401, B401R and B401SD bases)	199b/08
ECO1003	Conventional photoelectric smoke detector (ECO1000DB, ECO1000DBR and ECO1000DBRSD)	199m/01
2251EM	Analogue optical smoke detector (B501, B501DG and B5241EFT bases) *Note: Meets prEN54-7 with 'low', 'medium' and 'high' sensitivity settings*	199m/02
2351E	Conventional photoelectric smoke detector (B401, B40DG, B401R, B401SD and B401RSD bases) *Note: Meets the requirements of EN54-7:2000 at 'low', 'medium' and 'high' sensitivity settings*	199m/03
ECO2003	Analogue addressable photoelectric smoke detector (ECO2000B base) *Note: Meets the requirements of EN54-7:2000 at 'low', 'medium' and 'high' sensitivity settings*	199m/04
Vision 2020P	Conventional photoelectric detector (2020B, 2020DB, 2020BSD, 2020DBSD bases)	199m/05
125E	Analogue addressable ionisation smoke detector (B501 & B524IEFT-1 bases) *Note: Meets EN54-7: 2000 at High, Normal & Low sensitivity settings*	199m/06
2251EIS	Intrinsically safe analogue addressable photoelectric smoke detector (501 base) *Note: Meets EN54-7: 2000 at High, Normal & Low sensitivity settings.*	199m/07
2151E	Conventional photoelectric smoke detector (B401, B401R and B401SD bases)	199m/09

Bases:
2020B standard base
2020DB deep base
2020BSD standard base with schottky diode
2020DBSD deep base with schottky diode
B401 standard base
B401DG deep base
B401R standard base with 470 ohm resistor
B401SD standard base with schottky diode
B401RSD standard base with 470 ohm resistor and schottky diode
B501 standard analogue detector base
B501DG analogue sensor deep base
B524IEFT analogue sensor isolator base
B524IEFT-1 analogue short circuit isolator base
ECO1000B standard base.
ECO1000BSD standard base with schottky diode.
ECO1000BR standard base, 470 ohm resistor.
ECO1000BRSD standard base, 470 ohm resistor and schottky diode.
ECO1000BR680 standard base, 680 ohm resistor.
ECO1000BR680SD standard base, 680 ohm resistor and schottky diode.
ECO1000BR1000 standard base, 1000 ohm resistor.
ECO1000BR1000SD standard base, 1000 ohm resistor and schottky diode.

ECO1000DB deep base
ECO1000DBR deep base with 470 ohm resistor
ECO1000DBRSD deep base with 470 ohm resistor and schottky diode
ECO2000B mounting base.

Certificate No: 199a to BS 5445-5:1977/EN 54-5:1976
Certificate No: 199n to EN 54-5: 2000

Point Heat Detectors

Certificated Products		**LPCB Ref. No.**
5451E	Grade 1 rate of rise heat detector (B401, B401R and B401SD bases)	199a/03
ECO1005	Class A1R conventional thermal detector (ECO1000B, ECO1000BSD, ECO1000BR, ECO1000BRSD, ECO1000BR680, ECO1000BR680SD, ECO1000BR1000, ECO1000BR1000SD, ECO1000DB, ECO1000DBR and ECO1000DBRSD bases)	199n/01
ECO2005	Class A1 addressable heat detector (ECO2000B base)	199n/02
5251EM	Class A1S analogue addressable fixed temperature heat detector (B501, B501DG and B5241EFT bases)	199n/03
5251REM	Class A1R analogue addressable high temp rate of rise heat detector (B501, B501DG and B5241EFT bases)	199n/04
5251HTEM	Class BS analogue addressable high temperature heat detector (B501, B501DG and B5241EFT bases)	199n/05
ECO1005T	Class A2S conventional fixed temperature heat detector (ECO1000B, ECO1000BSD, ECO1000BR, ECO1000BRSD, ECO1000BR680, ECO1000BR680SD, ECO1000BR1000, ECO1000BR1000SD, ECO1000DB, ECO1000DBR and ECO1000DBRSD bases)	199n/06
5351E	Class A1R conventional rate of rise heat detector (B401, B401DG, B401R, B401SD, & B401RSD bases)	199n/07
4351E	Class BS conventional heat detector (B401, B401 DG, B401R, B401SD, & B401RSD bases)	199n/08
ECO1004T	Class BS conventional high temperature heat detector (ECO1000DB, ECO1000DBR, ECO1000DBRSD, ECO1000B, ECO1000BSD, ECO1000BR, ECO1000BRSD, ECO1000BR680, ECO1000BR680SD, ECO1000BR1000 & ECO1000BR1000SD bases)	199n/09
Vision 2020F	Class A2S conventional fixed temperature heat detector (2020B, 2020DB, 2020BSD, 2020DBSD bases)	199n/10
Vision 2020HF	Class BS conventional fixed temperature heat detector (2020B, 2020DB, 2020BSD, 2020DBSD bases)	199n/11
Vision 2020R	Conventional rate of rise heat detector (2020B, 2020DB, 2020BSD, 2020DBSD bases)	199n/12
5451EIS	Intrinsically safe conventional A1R heat detector (B401 base)	199n/13
5351TE	Conventional class A2S fixed temperature heat detector (B401, B401R, B401RSD, B401SD, B401DG bases)	199n/14

Bases:
2020B standard base
2020DB deep base
2020BSD standard base with schottky diode
2020DBSD deep base with schottky diode
B401 standard base
B401DG deep base
B401R standard base with 470 ohm resistor
B401SD standard base with schottky diode
B401RSD standard base with 470 ohm resistor and schottky diode
B401R1000 standard base with 1000 ohm resistor
B401DGR deep base with 470 ohm resistor
B401DGR1000 deep base with 1000 ohm resistor
B401DGSD deep base with schottky diode
B501 standard analogue detector base
B501DG analogue sensor deep base
B524IEFT analogue sensor isolator base
ECO1000B standard base.
ECO1000BSD standard base with schottky diode.
ECO1000BR standard base, 470 ohm resistor.
ECO1000BRSD standard base, 470 ohm resistor and schottky diode.
ECO1000BR680 standard base, 680 ohm resistor.
ECO1000BR680SD standard base, 680 ohm resistor and schottky diode.
ECO1000BR1000 standard base, 1000 ohm resistor.
ECO1000BR1000SD standard base, 1000 ohm resistor and schottky diode.
ECO2000B mounting base.
ECO1000DB deep base.
ECO1000DBR deep base with 470 ohm resistor
ECO1000DBRSD deep base with 470 ohm resistor and schottky diode.

Certificate No: 199p to EN 54-7 : 2000, EN 54-5 : 2000 & CEA 4021 : 1999

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
ECO1002	Conventional photo-thermal detector (ECO1000B, ECO1000BSD, ECO1000BR, ECO1000BRSD, ECO1000BR680, ECO1000BR680SD, ECO1000BR1000, ECO1000BR1000SD, ECO1000DB, ECO1000DBR and ECO1000DBRSD bases) *Note :Meets the requirements of EN54:5-2000 at class A1R and EN54:7:2000 at pre-set sensitivity*	199p/01
2251TEM	Analogue addressable optical/thermal smoke & heat detector (B501, B501DG and B5241EFT bases) *Note: Meets the requirements of EN 54-5:2000 at class A1R and EN 54-7:2000 at sensitivity settings 1 to 5*	199p/02
2351TEM	Conventional optical/thermal detector (B401, B40DG, B401R, B401SD, &B401RSD bases) *Note: Meets the requirements of EN54-5:2000 at class A1R and EN54-7:2000 at 'High' 'Medium' and 'Low' sensitivity settings.*	199p/03
Vision 2020PT	Conventional photo thermal detector (2020B, 2020DB, 2020BSD and 2020DBSD bases)	199p/04

Bases:
2020B standard base
2020DB deep base
2020BSD standard base with schottky diode
2020DBSD deep base with schottky diode
B401 standard base
B401DG deep base
B401R standard base with 470 ohm resistor
B401SD standard base with schottky diode
B401RSD standard base with 470 ohm resistor and schottky diode
B401R1000 standard base with 1000 ohm resistor
B401DGR deep base with 470 ohm resistor
B401DGR1000 deep base with 1000 ohm resistor
B401DGSD deep base with schottky diode
B501 standard analogue detector base
B501DG analogue sensor deep base
B524IEFT analogue sensor isolator base
ECO1000B standard base.
ECO1000BSD standard base with schottky diode.
ECO1000BR standard base, 470 ohm resistor.
ECO1000BRSD standard base, 470 ohm resistor and schottky diode.
ECO1000BR680 standard base, 680 ohm resistor.
ECO1000BR680SD standard base, 680 ohm resistor and schottky diode.
ECO1000BR1000 standard base, 1000 ohm resistor.
ECO1000BR1000SD standard base, 1000 ohm resistor and schottky diode.
ECO1000DB deep base
ECO1000DBR deep base with 470 ohm resistor
ECO1000DBRSD deep base with 470 ohm resistor and schottky diode.
ECO2000B mounting base.

Certificate No: 199s to BS EN 54-12:2002 and CEA GEI 1-052 Draft 2.0 11/06/97

Beam Detectors

Certificated Products		LPCB Ref. No.
6500	Analogue optical beam detector with short circuit isolator feature *Note: meets the requirements of BS EN 54-12: 2002 at sensitivity levels 1,2,3,4 and Acclimate levels 1 & 2*	199s/01
6500S	Analogue optical beam detector with self test facility and short circuit isolator feature *Note: meets the requirements of BS EN 54-12: 2002 at sensitivity levels 1,2,3,4 and Acclimate levels 1 & 2*	199s/02

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Certificate No: 201f to EN 54-7:2000
Certificate No: 201p to EN 54-7: 2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
3000/ION	Conventional ionisation smoke detector (3000/BASE)	201f/01
3000/OP	Conventional optical smoke detector (3000/BASE)	201f/02
6000/OP	Analogue addressable optical smoke detector (6000/BASE and 6000/DIB bases) *Note: Meets requirements of EN 54: 7: 2000 at medium 'office' sensitivity only.*	201f/03
3000/OP Mk II	Conventional optical smoke detector (3000/BASE)	201f/04
6000/OP	MK II Analogue addressable optical smoke detector (6000/BASE and 6000/DIB bases) *Note:* *1) Meets requirements of EN 54-7: 2000 at the following mode settings:* *i. Normal sensitivity model*	201p/01

Bases:
6000/BASE standard low profile base
6000/DIB isolator base

Certificate No: 201g to EN 54-5: 2000
Certificate No: 201r to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
3000/TEMP56	Conventional class A1 rate of rise and fixed temperature heat detector (3000/BASE)	201g/01
3000/TEMP64	Conventional class A2 rate of rise fixed temperature (3000/BASE)	201g/02
6000/TEMP	Analogue addressable heat detector (6000/BASE and 6000/DIB bases) *Note: Meets requirements of EN 54: 5: 2000 at A1 and A2 classification settings only.*	201g/03
6000/TEMP	Analogue addressable heat detector (6000/BASE & 6000/DIB bases) *Note: Meets requirements of EN 54-5: 2000 at Class A1 (High sensitivity) and A2 (Normal sensitivity).*	201r/01

Bases:
3000/BASE standard base
6000/BASE standard low profile base
6000/DIB isolator base

Certificate No: 201h to EN 54- 7: 2000 and CEA 4021: 2003
Certificate No: 201j to EN 54:Part 5: 2000, EN 54-7: 2000 and CEA 4021: 2003
Certificate No: 201q to EN 54-5: 2000, EN 54-7: 2000 and CEA 4021
Certificate No: 201s to EN 54-5: 2000, EN 54-7: 2000 and CEA 4021

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
6000/OPHT	Analogue addressable optical smoke detector with thermal enhancement (6000/BASE and 6000/DIB bases) *Note:* *1) Meets requirements of EN 54: 7: 2000 and CEA 4021 at the following mode settings only:* *i. Medium sensitivity combination* *ii. Low sensitivity combination* *iii. High performance optical mode*	201h/01
3000/OPHT	Mk II conventional optical smoke and Class A2 heat detector (3000/BASE)	201j/01
6000/OPHT	Mk II Analogue addressable optical smoke and Class A2 heat multisensor detector	201q/01

Certificated Products		LPCB Ref. No.
	(6000/BASE & 6000/DIB bases). *Note:* *1) Meets requirements of EN 54-7: 2000 and CEA 4021 at the following mode settings only:* *i. Normal sensitivity mode* *ii. Low sensitivity mode*	
6000/OPHTCO	Analogue addressable optical smoke, CO and Class A2 heat multisensor detector (6000/BASE & 6000/DIB bases) *Notes:* *1) Meets requirements of EN 54-7: 2000 and CEA 4021 at the following mode settings only:* *i. Normal sensitivity mode* *ii. Low sensitivity mode* *2) The CO element is not LPCB approved*	201s/01

Bases:
3000/BASE standard base
6000/BASE standard low profile base
6000/DIB isolator base

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Certificate No: 331b to EN 54-3:2001, EN 54-5:2000, EN 54-7:2000, GEI 1-052:Draft 2.0 and CEA 4021:1999-06
Certificate No: 331a to BS 5445 Parts 5 and 7

Multi-criteria Detectors

Certificated Products		LPCB Ref. No.
Multipoint	Combined heat and smoke detector (26-0001 base) *Notes: Certificated in modes 'Heat 1' and 'Smoke 2' only. Heat 1 meets the requirements of BS 5445: Part 5 grade 1 and Smoke 2 meets the requirements of BS 5445: Part 7*	331a/01
203-0001 Sita200plus	Multipoint Intelligent Addressable Optical smoke, heat detector and sounder, incorporating short circuit isolator and auxiliary input/output. *Note: Approved for use with smoke sensitivities SM0-SM3, heat sensitivities HMO -HM3 and sound output settings SP0-SP7 when set to medium and high volume only*	331b/01
203-0003 Sita200plus	Sita200plus Multipoint Intelligent Addressable Optical smoke, heat detector, incorporating short circuit isolator and auxiliary input/output. *Note: Approved for use with smoke sensitivities SM0-SM3 and heat sensitivities HM0-HM3.*	331b/02

Bases:
26-0001 base

Sareme UAB

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Certificate No: 512d to EN 54-5: 2000

Heat Detectors

Certificated Products		LPCB Ref. No.
EA323-2	Conventional 2 wire 24 VDC class A2S fixed temperature and rate-of-rise heat detector (P/N854001 base)	512d/01
EA323-4	Conventional 4 wire 12VDC class A2S fixed temperature and rate-of-rise heat detector	512d/05

Certificated Products		LPCB Ref. No.
	(P/N854001 base)	

Bases:
P/N852001 2-Wire detector base
P/N854001 4-Wire detector base

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E-mail: enquiries@sensa.org • Website: www.sensa.org

Certificate No: 648a to LPCB test schedule 109819/1.1
Certificate No: 648b to LPCB Test Schedule E120263/1.3

Linear Heat Detection System

Certificated Products		LPCB Ref. No.
LTS200	Fibre Optic Linear Heat Detection System consisting of:- - LTS200 Sensor Control Unit. - SensorTube (Part No. 00.000011) Optical Fibre sensor. *The approval is conditional on the following:* *- The linear heat detection system is installed, configured and commissioned in accordance with the manufacturer's instructions.* *- The optical fibre sensor does not exceed a maximum length of 2 km and is connected in a loop configuration with the break detect option enabled.* *- The zone/alarm configuration parameters are set, in accordance with the manufacturer's* *instructions (User Manual Page 40), to give an alarm response equivalent to Class A1R specified in EN 54-5: 2000.*	648a/01
LTS240	Fibre Optic Linear Heat Detection System consisting of: - DTS240 Sensor Control Unit. - SensorTube (Part No. 00.000011) Optical Fibre sensor. *The approval is conditional on the following:* *-The linear heat detection system is installed, configured and commissioned in accordance with the manufacturer's instructions.* *- The optical fibre sensor does not exceed a maximum length of 4 km and is connected in a loop configuration with the break detect option enabled.* *- The zone/alarm configuration parameters are set, in accordance with the manufacturer's instructions(User Manual Page 30), to give an alarm response equivalent to Class A1R specified in EN 54-5: 2000.*	648b/01

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Certificate No: 126a to BS 5445: Part 7
Certificate No: 126r to BS 5445: Part 7: 1984 / EN 54: Part 7: 1982
Certificate No: 126x to EN 54:7:2000
Certificate No: 126ab to EN 54-7: 2000 and CEA GEI 1-052: DRAFT 2.0, 11/06/97

Point Smoke Detectors

Approved Products		LPCB Ref. No.
DO1101A-Ex	Photoelectric smoke detector, conventional (DB1101A base)	126a/07
DO1101A	Photoelectric smoke detector, conventional (DB1101A base)	126a/08
DOT1131A	Photoelectric smoke detector with thermal enhancement, addressable (DB1131A base) *Notes: Meets the requirements of BS5445: Part 7 (EN54: Part 7) in normal and high sensitivity settings only. Detector incorporates line isolation facility.*	126a/09
DO1151A	Photoelectric smoke detector, addressable (DB1151A base)[1]	126a/10
DO1152A	Photoelectric smoke detector, addressable (DB1151A base)[1]	126a/11
DOT1151A	Photoelectric smoke detector with thermal enhancement, addressable (DB1151A base)[1]	126a/12
DOT1152A	Photoelectric smoke detector with thermal enhancement, addressable (DB1151A base)[1]	126a/13
DO1131A	Photoelectric smoke detector, addressable (DB1131A base) *Note: Detector incorporates line isolation facility*	126a/14
DOT1151A-Ex	Photoelectric smoke detector with thermal enhancement, addressable (DB1151A) *Note: Meets the requirements of BS5445: 7 at low, medium and high sensitivity only*	126a/15
FDO241	Analogue addressable photoelectric smoke detector (FDB221, FDB201, FDB291 and FDB292 bases)	126ab/01
FDO221	Analogue addressable photoelectric smoke detector (FDB221, FDB201, FDB291 and FDB292 bases)	126ab/02
OP320A	Photoelectric smoke detector, addressable (SO320 base)	126r/01
OH320A	Photoelectric smoke detector with thermal enhancement, addressable (SO320 base)	126r/02
OP320C	Conventional photoelectric smoke detector (SO320 base)	126r/03
OH320C	Conventional photoelectric smoke detector with thermal enhancement (SO320 base)	126r/04
R970	Scattered light smoke detector (Z94 base) *Note: Meets requirements of EN 54-7 at standard (2.5%m) and increased (1.7%/m) sensitivity setting*	126x/01
F910	Ionisation smoke detector (ZA6/9, Z74A, Z74, Z94, Z94I, Z94SI, Z94MI, Z94B, Z94D bases)	18/24
F906	Ionisation smoke detector (ZA6/9, Z74A, Z74, Z94, Z94I, Z94SI, Z94MI, Z94B, Z94D bases)	18/27
F911	Ionisation smoke detector (Z91C, ZA6/9Ex, Z94C bases)	18/31
R716I	Optical smoke detector (Z74A, Z74, Z94, Z94B, Z94D, Z94I, Z94SI, Z94MI bases)	18/70
F716I	Ionisation smoke detector (Z74A, Z74, Z94, Z94B, Z94D, Z94I, Z94SI, Z94MI bases)	18/71
F930	Ionisation smoke detector (Z94, Z94B, Z94D, Z94I, Z94SI, Z94MI bases)	18/76
R930	Photoelectric smoke detector (Z94, Z94B, Z94D, Z94I, Z94SI, Z94MI bases)	18/77

Bases:
DB1101 base for conventional addressing
DB1151 base for interactive fire detectors
DBZ1191 base for feeding in surface wiring
DBZ1192 base for use in damp environments
ZAS6 base
Z74A base
Z74 base
ZA6/9 base adapter
ZA6/9Ex base adapter

Z94 base
Z94I addressable base
Z94SI slave to master addressable base
Z94MI master addressable base
Z94B base
Z94D base
Z94C base
DB1131A base
DB1101A base
DB1131A base
DB1151A base
DFB1190 base
FDB221 base
FDB201 base "Collective"
FDB291 base attachment surface
FDB292 base attachment surface wet

Certificate No: 126b to BS 5445: Part 5
Certificate No: 126c to BS 5445: Part 8
Certificate No: 126e to BS 5445: Parts 5 and 8
Certificate No: 126q to BS 5445: Part 5:1997 / EN 54: Part 5:1976
Certificate No: 126aa to EN 54-5: 2000 and CEA GEI 1-052: Draft 2.0, 11/06/97

Point Heat Detectors

Approved Products		**LPCB Ref. No.**
FDT241	Analogue addressable rate of rise heat detector (FDB221, FDB201, FDB291 and FDB292 bases) *Note: Meets EN 54-5: 2000 at Class A1R, A1S, BR and BS.*	126aa/01
FDT221	Analogue addressable rate of rise heat detector (FDB221, FDB201, FDB291 and FDB292 bases) *Note: Meets EN 54-5: 2000 at Class A1R and BR.*	126aa/02
DT1101A-Ex	Grade 1 rate of rise heat detector, conventional (DB1101A base)	126b/02
DT1101A	Grade 1 rate of rise heat detector, conventional (DB1101A base)	126b/03
DT1131A	Grade 1 rate of rise heat detector, addressable (DB1131A base) *Note: Detector incorporates line isolation facility*	126b/04
DT1102A-Ex	Range 1 rate of rise high temperature heat detector, conventional (DB1101A base)	126c/02
DT1102A	Range 1 rate of rise high temperature heat detector, conventional (DB1101A base) *Note: Detector incorporates line isolation facility*	126c/03
DT1152A	Rate of rise heat detector addressable (DB1151A base) *Note: Meets BS 5445: Part 5: grade 1 and BS 5445: Part 8, range 1. Detector incorporates line isolation facility*	126e/02
DT1151A-Ex I.S.	Rate of rise heat detector, addressable (DB1151A) *Note: Meets BS 5445: Part 5: grade 1 and BS 5445: Part 8: range 1*	126e/03
HI322C	Grade 2 rate of rise heat detector, conventional (SO320 base)	126q/01
HI322A	Grade 2 rate of rise heat detector, addressable (SO320 base)	126q/02
HI320A	Grade 1 rate of rise heat detector, addressable (SO320 base)	126q/03
HI320C	Conventional grade 1 rate of rise heat detector (SO320 base)	126q/04
D716	Grade 2 rate of rise heat detector (Z74 and Z74A bases)	18/22
D900	Grade 1 rate of rise heat detector (ZA6/9, Z74A, Z74, Z94, Z94I, Z94SI, Z94MI, Z94B, Z94D bases)	18/23
D920	Range 1 rate of rise heat detector (ZA6/9, Z74A, Z74, Z94, Z94I, Z94SI, Z94MI, Z94B, Z94D bases)	18/25
D901	Grade 1 rate of rise heat detector (Z91C, ZA6/9Ex, Z94C bases)	18/32
D921	Range 1 rate of rise heat detector (Z91C, ZA6/9Ex, Z94C bases)	18/33

Bases:
DB1101 base for conventional addressing
DB1151 base for interactive fire detectors
DBZ1191 base for feeding in surface wiring
DBZ1192 base for use in damp environments
ZAS6 base
Z74A base
Z74 base
ZA6/9 base adapter
ZA6/9Ex base adapter
Z94 base
Z94I addressable base
Z94SI slave to master addressable base
Z94MI master addressable base

Z94B base
Z94D base
Z94C base
DB1131A base
DB1101A base
DB1131A base
DB1151A base
DFB1190 base
FDB221 base
FDB201 base “Collective”
FDB291 base attachment surface
FDB292 base attachment surface wet

Certificate No: 126k to BS 5839: Part 5
Certificate No: 126ag to EN 54-12: 2002 and CEA GEI 1-052: Draft 2.0, 11/06/97

Beam Detectors

Certificated Products		**LPCB Ref. No.**
FDL241-9	Analogue addressable beam detector (FDLB291 base) *Note:* *Certified at sensitivity setting 30%, 50% and 65%*	126ag/01
DLO1191	Optical beam smoke detector (DLB1191A base)	126k/01

Bases:
FDLB291 base
DLB1191A base

Certificate No: 126s to prEN 54-10: 1997
Certificate No: 126af to EN 54-10: 2002 and CEA GEI 1-052: Draft 2.0, 11/06/97

Flame Detectors

Certificated Products		**LPCB Ref. No.**
FDF241-9	Analogue addressable infra red flame detector (FDFB291 base) *Note: Meets EN 54-10: 2002 at Class 1 and 2 only*	126af/01
FDF221-9	Analogue addressable infra red flame detector (FDF291 base) *Note: Meets EN54-10: 2002 at class 1 and 2 only*	126af/02
DF1192	Analogue addressable infra red flame detector (DFB 1190 base) *Notes: Certificated in "increased" & "standard" sensitivity settings - Class 1 and 2 respectively.*	126s/01
DF1191	Analogue addressable infra red flame detector (DFB 1190 base) *Notes: Certificated in "increased" & "standard" sensitivity settings - Class 1 and 2 respectively.*	126s/02
DF1101- Ex	Conventional I.S. infra red flame detector (DFB 1190 base) *Notes: Certificated in "increased" & "standard" sensitivity settings - Class 1 and 2 respectively.*	126s/03
DF1151- Ex	Analogue addressable I.S. infra red flame detector (DFB 1190 base) *Notes: Certificated in "increased" & "standard" sensitivity settings - Class 1 and 2 respectively.*	126s/04
S610	Infrared flame detector[(1)] (FKS6.1 base)	18/19
S2406	Infrared flame detector[(2)]	18/72
S2406Ex	Intrinsically safe infrared flame detector[(2)"]	18/73

Notes:
1) S610 detectors shall be installed in accordance with the Rules for Automatic Fire Alarm Installations for the Protection of Property and also in accordance with the following special requirements;
   - The detector must be placed at the best possible location, i.e. looking straight down on to the protected area or object.
   - If objects (not entire areas) are protected, blinds and/or shielding must be used to keep stray light away from the sensor.
   - The sensitivity and/or response delay must be properly adjusted to the prevailing conditions at the place of installation.
   - There should be inspection and maintenance every 2-3 months, depending on the environmental conditions. If there is excessive dust or grease in the air, the optical lens must be cleaned.
2) S2406 and S2406Ex detectors shall be installed in accordance with the Cerberus document x164c, dated December 1989.
3) Approved in "increased" and "standard" sensitivity settings- Class 1 and 2 respectively

Bases:
DB1101 base for conventional addressing

DB1151 base for interactive fire detectors
DBZ1191 base for feeding in surface wiring
DBZ1192 base for use in damp environments
ZAS6 base
Z74A base
Z74 base
ZA6/9 base adapter
ZA6/9Ex base adapter
Z94 base
Z94I addressable base
Z94SI slave to master addressable base
Z94MI master addressable base
Z94B base
Z94D base
Z94C base
DB1131A base
DB1101A base
DB1131A base
DB1151A base
DFB 1190 base
FDFB291 base

System Sensor

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Certificate No: 118b to BS5445: Part 7
Certificate No: 118h to EN 54-7:2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
1151EIS	Intrinsically safe ionisation smoke sensor (B401 base).	118b/09
LZR-1	Analogue addressable smoke detector (B501 base) *Notes: Meets BS5445: Part 7 (EN54: Part7) in 'Low' sensitivity mode setting AL 9=1%/ft*	118b/10
2251EIS	Intrinsically Safe analogue photoelectric smoke sensor (B501 base) *Note: Meets BS 5445: Part 7 (EN54: Part 7) at 'Normal' sensitivity settings*	118b/11
7251	Analogue addressable photoelectric laser smoke detector (B501, B501DG, B524IEFT, B524IEFT-1 bases) *Note: meets requirements of EN 54: Part 7 at sensitivities 7 to 9 inclusive*	118h/01

Bases:
B401 conventional detector base
B501 analogue sensor base
B501DG deep base
B524IEFT short circuit isolator base
B524IEFT-1 short circuit isolator base

Certificate No: 118a to BS5445: Part 5

Point Heat Detectors

Certificated Products		LPCB Ref. No.
5451EIS	Grade 1 rate of rise intrinsically safe heat detector (B401 base)	118a/04

Bases:
B401 conventional detector base

Certificate No: 118j to EN 54-12:2002

Beam Detectors

Certificated Products		LPCB Ref. No.
6500R	Conventional optical beam detector *Note meets the requirements of BS EN 54-12: 2002 at sensitivity levels 1,2,3,4 & Acclimate levels 1 & 2*	118j/03
6500RS	Conventional optical beam detector with self test facility *Note meets the requirements of BS EN 54-12: 2002 at sensitivity levels 1,2,3,4 & Acclimate levels 1 & 2*	118j/04

System Sensor, Honeywell International (I) Pvt Ltd

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Certificate No: 550a to EN 54-7:2000

Point Smoke Detectors

Certificated Products		LPCB Ref. No.
2351E	Conventional photoelectric smoke detector (B401, B401DG, B401R, B401SD, B401RSD, B401R1000, B401DGR, B401DGR1000 & B401DGSD bases) *Note: Meets the requirements of EN54-7:2000 at low, medium & high sensitivity settings.*	550a/01
EC01003	Conventional photoelectric smoke detector (ECO1000B, ECO1000BSD, ECO1000BR, ECO1000BRSD, ECO1000BR680, ECO1000BR680SD, ECO1000BR1000 & ECO1000BR1000SD bases)	550a/02

Bases:
B401 standard base
B401DG deep base
B401R standard base with schottky diode
B401SD standard base with schottky diode
B401RSD standard base with 470 ohm resistor and schottky diode
B401R1000 standard base with 1000 ohm resistor
B401DGR deep base with 470 ohm resistor
B401DGR1000 deep base with 1000 ohm resistor
B401DGSD deep base with schottky diode
ECO1000B standard base
ECO1000BSD standard base with schottky diode
ECO1000BR standard base, 470 ohm resistor
ECO1000BRSD standard base, 470 ohm resistor and schottky diode
ECO1000BR680 standard base, 680 ohm resistor
ECO1000BR680SD standard base, 680 ohm resistor and schottky diode
ECO1000BR1000 standard base, 1000 ohm resistor
ECO1000BR1000SD standard base, 1000 ohm resistor and schottky diode

Certificate No: 550b to EN 54-5:2000, EN 54-7:2000 & CEA 4021: 1999

Multi Criteria Detectors

Certificated Products		LPCB Ref. No.
2351TEM	Conventional optical/thermal detector (B401, B401DG, B401R, B401SD, B401RSD, B401R1000, B401DGR, B401DGR1000 & B401DGSD bases) *Note: Meets the requirements of EN54-5:2000 at Class A1R and EN54-7:2000 at low, medium & high sensitivity settings.*	550b/01

Certificated Products		LPCB Ref. No.
ECO1002	Conventional photo-thermal detector (ECO1000B, ECO1000BSD, ECO1000BR, ECO1000BRSD, ECO1000BR680, ECO1000BR680SD, ECO1000BR1000 & ECO1000BR1000SD bases) *Note: Meets the requirements of EN 54-5:2000 at class A1R at pre-set sensitivity.*	550b/02

Bases:
B401 standard base
B401DG deep base
B401R standard base with schottky diode
B401SD standard base with schottky diode
B401RSD standard base with 470 ohm resistor and schottky diode
B401R1000 standard base with 1000 ohm resistor
B401DGR deep base with 470 ohm resistor
B401DGR1000 deep base with 1000 ohm resistor
B401DGSD deep base with schottky diode
ECO1000B standard base
ECO1000BSD standard base with schottky diode
ECO1000BR standard base, 470 ohm resistor
ECO1000BRSD standard base, 470 ohm resistor and schottky diode
ECO1000BR680 standard base, 680 ohm resistor
ECO1000BR680SD standard base, 680 ohm resistor and schottky diode
ECO1000BR1000 standard base, 1000 ohm resistor
ECO1000BR1000SD standard base, 1000 ohm resistor and schottky diode

Certificate No: 550c to EN 54-5:2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
5351	Class A1R conventional rate of rise heat detector (B401, B401DG, B401R, B401SD, B401RSD, B401R1000, B401DGR, B401DGR1000 & B401DGSD bases) *Note: Meets the requirements of EN54-5:2000 at class A1R.*	550c/01
4351E	Class BS conventional heat detector (B401, B401DG, B401R, B401SD, B401RSD, B401R1000, B401DGR, B401DGR1000 & B401DGSD bases) *Note: Meets the requirements of EN54-5:2000 at class BS.*	550c/02
ECO1005	Conventional A1R rate-of-rise heat detector (ECO1000B, ECO1000BSD, ECO1000BR, ECO1000BRSD, ECO1000BR680, ECO1000BR680SD, ECO1000BR1000 & ECO1000BR1000SD bases)	550c/03

Bases:
B401 standard base
B401DG deep base
B401R standard base with schottky diode
B401SD standard base with schottky diode
B401RSD standard base with 470 ohm resistor and schottky diode
B401R1000 standard base with 1000 ohm resistor
B401DGR deep base with 470 ohm resistor
B401DGR1000 deep base with 1000 ohm resistor
B401DGSD deep base with schottky diode
ECO1000B standard base
ECO1000BSD standard base with schottky diode
ECO1000BR standard base, 470 ohm resistor
ECO1000BRSD standard base, 470 ohm resistor and schottky diode
ECO1000BR680 standard base, 680 ohm resistor
ECO1000BR680SD standard base, 680 ohm resistor and schottky diode
ECO1000BR1000 standard base, 1000 ohm resistor
ECO1000BR1000SD standard base, 1000 ohm resistor and schottky diode

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Certificate No: 143a to BS 5445: Part 7
Certificate No: 143m to pr EN 54-7
Certificate No: 143aa to EN 54:Part 7:2000

Point Smoke Detectors

Approved Products		LPCB Ref. No.
MF901	Analogue addressable low profile ionisation smoke detector (M600/900 base) *Note: Meets the requirements of BS 5445 : Part 7 at high and normal sensitivity settings only*	143a/03
MR901	Analogue addressable low profile photoelectric smoke detector (M600/900 base) *Note: Meets the requirements of BS 5445 : Part 7 at HIGH and NORMAL sensitivity settings only.*	143a/04
MR901T	Analogue low profile high performance optical smoke detector (M600/900 base) *Note: Meets BS 5445 : Part 7 at High and Normal sensitivity settings only.*	143a/08
601P	Conventional optical smoke detectgor (MUB and 5B mounting bases) *Bases* *MUB Universal mounting base* *5B 5" Universal mounting base*	143aa/01
601I	Conventional ionisation smoke detector (MUB and 5B mounting bases) *Bases* *MUB Universal mounting base* *5B 5" Universal mounting base*	143aa/02
801I MX	Digital addressable ionisation smoke sensor (801B, 801IB, 801RB and 801SB bases) *Note: Meets prEN54 Part 7 in High and Normal sensitivity settings only.*	143m/01

Bases:
M500Ex intrinsically safe addressable base
M600/900 base
801B minerva universal mounting base
801IB addressable isolator base
801RB addressable relay base
801SB addressable sounder base

Certificate No: 143e to BS 5445: Part 5 and BS 5445: Part 8
Certificate No: 143s to prEN 54 Part 5: (Draft F1 21-07-97)
Certificate No: 143ab to EN 54:Part 5:2000

Point Heat Detectors

Approved Products		LPCB Ref. No.
H600	Grade 3 fixed temperature heat detector	10/28
H601	Grade 3 fixed temperature heat detector	10/29
H602	Grade 3 fixed temperature heat detector	10/30
H900	Range 2 fixed temperature heat detector	10/31
H901	Range 2 fixed temperature heat detector	10/32
H902	Range 2 fixed temperature heat detector	10/33
601H-R	Conventional Class A1R heat detector (MUB and 5B mounting base)	143ab/01
601H-F	Conventional Class A1S heat detector (MUB and 5B mounting bases)	143ab/02
MD601Ex	Conventional intrinsically safe Class A1R rate of rise heat detector (MUBEx base)	143ab/04
MD611Ex	Conventional intrinsically safe Class A1S fixed temperature heat detector (MUBEx base)	143ab/05
MD901	Analogue low profile heat sensor (M600/900 base) *Note: Meets BS 5445 : Part 5, grade 1, 2 or 3 and BS 5445 : Part 8, range 2.*	143e/01
801H MX	Digital addressable heat sensor (801B, 801IB, 801RB and 801SB bases) *Note: meets the requirements of prEN54 Part 5 for classes A1R, A2S and CR.*	143s/01

Bases:
M500Ex intrinsically safe addressable base

M600/900 base
801B minerva universal mounting base
801IB addressable isolator base
801RB addressable relay base
801SB addressable sounder base
MUBEx Intrinsically safe detector base

Certificate No: 143d to CEA Document:Test Methods for point Infrared-Flame Detectors:October 1978
Certificate No: 143k to prEN 54-10:1997

Flame Detectors

Certificated Products		**LPCB Ref. No.**
S111	Infrared flame detector[1]	10/25
S112	Infrared flame detector[1]	10/26
S121	Infrared flame detector[1]	10/27
S161	Infrared flame detector [2]	143d/01
S231i+ class 1	Conventional 2-wire intrinsically safe IR flame detector	143k/01
S241i+ class 1	4-20mA current intrinsically safe IR flame detector	143k/02
S251i+ class 1	Analogue addressable intrinsically safe IR flame detector	143k/03
S231f+ class 1	Conventional 2-wire flame proof IR flame detector	143k/04
S241f+ class 1	4-20mA current flame proof IR flame detector	143k/05
S251f+ class 1	Analogue addressable flame proof IR flame detector	143k/06
S261f+ class 1	Relay flame proof IR flame detector	143k/07
S271i+ class 1	Analogue triple IR flame detector with MX interface	143k/08
S271f+ class 1	Analogue flame proof triple IR flame detector with MX interface	143k/09
601F class 2	Conventional flame detector (5B and MUB bases)	143k/10
601FEx class 2	Conventional intrinsically safe flame detector (5B and MUB bases)	143k/11
801F class 2	MX analogue addressable flame detector (5B,5BI, 801IB and MUB bases)	143k/12
801FEx class 2	Analogue addressable intrinsically safe MX flame detector (5B,5BI, 801IB and MUB bases)	143k/13

[1] S111 range flame detectors shall be installed in accordance with Thorn Security publication 'User Manual IR-111,112 and 121'.
[2] S161 flame detectors shall be installed in accordance with Thorn Security publication 'S161 Installation Guide: 01A-04-I5'.

Bases:
M600/900 base
801B minerva universal mounting base
801IB addressable isolator base
801RB addressable relay base
801SB addressable sounder base
MUB standard mounting base
5B standard mounting base
5BI addressable isolator base
801IB addressable isolator base

Certificate No: 143r to prEN 54 Part 7: Draft A3 (01-04-97) E to prEN 54 Part 5: Draft F1 (21-07-97)
Certificate No: 143t to LPCB Test Schedule 68297/29.0
Certificate No: 143z to EN 54-7:2000 and CEA 4021:1999
Certificate No: 143ac to LPS 1265 and EN 54-5: 2000

Multi-criteria Detectors

Certificated Products		**LPCB Ref. No.**
601CH	Conventional thermally enhanced carbon monoxide detector - Class A1R (5B and 4B universal bases)	143ac/01
MDU601Ex	Conventional intrinsically safe thermally enhanced carbon monoxide detector - Class A1R (MUBEx and DHM69 bases)	143ac/02
801PH MX	Digital addressable optical and heat detector (801B, 801IB, 801RB and 801SB Bases) *Note: Approved with the following mode configuration: - optical smoke detector at High and Normal sensitivity - rate of rise heat detector at Class A1R - fixed temperature heat detector at Class A2S - heat enhanced optical smoke detector at High and Normal sensitivity - optical smoke detector using FastLogic at High and Normal sensitivity*	143r/01
801CH MX	Digital addressable carbon monoxide and heat detector (801B, 801IB, 801RB and 801SB Bases) *Note: Approved with the following mode configurations: - carbon monoxide fire detector at High and Normal sensitivity - rate of rise heat detector at class A1R - fixed temperature heat detector at class A2S - heat enhanced carbon monoxide fire detector at High and*	143t/01

Certificated Products		LPCB Ref. No.
	Normal sensitivity - heat enhanced carbon monoxide fire detector at High and Normal sensitivity and rate of rise heat detector at class A1R	
601PH	Conventional high performance optical detector (MUB and 5B mounting bases)	143z/01
MR601TEx	Conventional intrinsically safe high performance optical smoke detector with heat enhancement (MUBEx base)	143z/02

Conditions of approval:
1) The 801CH should only be installed in accordance with the manufacturers recommendations.
2) The 801CH shall not be set only as a carbon monoxide fire detector where there is a specific risk of rapid burning / flaming fires.
3) Refer to technical publication 17A-02-DET for limitations on the use of carbon monoxide fire detection.

Bases:
DHM69 Deck-head mounting base
MUBEx Intrinsically safe universal mounting base
5B 5" universal mounting base
4B 4" universal mounting base
M500Ex intrinsically safe addressable base
M600/900 base
801B minerva universal mounting base
801IB addressable isolator base
801RB addressable relay base
801SB addressable sounder base
MUBEx Intrinsically safe detector base

Certificate No: 143i to Test Schedule 67288/1.1

Carbon Monoxide Fire Detectors

Approved Products		LPCB Ref. No.
MU901	Addressable carbon monoxide fire detector *Note: Meets requirements of test schedule 67288/1.1 with detector set at normal and high sensitivity.*	143i/01

Conditions of approval:
1) The MU901 is designed to detect a product of combustion other than smoke and as such should be installed only in accordance with the manufacturer's recommendations.
2) The detector is not to be specified where there is a specific risk of rapid burning / flaming fires (unless suitable smoke, heat or flame detectors are used in conjunction). Refer to technical publication 01B-04-D1.
3) The safety procedures for the investigation of alarms from carbon monoxide fire detectors and TIB0378 are distributed to all tyco operating companies and relevant staff.

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Certificate No: 305b to GEI 1 - 048 30-01-97
Certificate No: 305c to CEA 4022: 1999

Aspirating Smoke Detectors

Certificated Products		LPCB Ref. No.
VESDA LaserPLUS	High sensitivity aspirating smoke detector	305b/01

Certificated Products		LPCB Ref. No.
	Approved Configurations: *VLP-012 LaserPLUS detector with Display & Programmer* *VLP-002 LaserPLUS detector with Display* *VLP-400 LaserPLUS detector with Fire/OK LEDs only* *VLP-401 LaserPLUS detector with Programmer & Fire/OK LEDs* *VLP-100 LaserPLUS detector with OEM cover* *Approved remote units:* *VRT-100 Remote Programmer* *VRT-200 Remote LaserPLUS Display unit (with 7 relays)* *VRT-300 VESDAnet socket* *VRT-500 Remote Relay unit (with 7 relays)* *VRT-600 Remote LaserPLUS Display unit (without relays)*	
VESDA LaserSCANNER	High sensitivity aspirating smoke detector *Approved Configurations:* *VLS-600 LaserSCANNER with 7 relays and Fire/OK LEDs* *VLS-204 LaserSCANNER with 7 Relays and Display Module* *VLS-214 LaserSCANNER with 7 Relays, Display and Program Module* *VLS-700 LaserSCANNER with 12 relays and Fire/OK LEDs* *VLS-304 LaserSCANNER with 12 Relays and Display Module* *VLS-314 LaserSCANNER with 12 Relays, Display and Program Module* *VLS-100 LaserSCANNER with 7 Relays and OEM cover* *VLS-500 LaserSCANNER with 12 Relays and OEM cover* *Approved Remote Units:* *VRT-400 Remote Scanner Display with 7 relays* *VRT-700 Remote Scanner Display with no relays* *VRT-800 Remote Scanner Display with 12 relays* *VRT-900 Remote Scanner Relays -12 relays* *VRT-E00 Remote Scanner Relays - 7 relays* *The following note applies to the LaserSCANNER detector.* *1. Scanner valve functionality and endurance was assessed as described in LPCB test schedule 68087/1.*	305b/02
VESDA LaserCOMPACT	High sensitivity aspirating smoke detector *Approved Configurations:* *VLC-500 LaserCOMPACT Relays only (RO) version* *VLC-505 LaserCOMPACT VESDAnet (VN) version* *VLC-400 LaserCOMPACT Apollo (AP) version* *VLC-800 LaserCOMPACT Tyco (MX) version* *Approved remote units with the VLC-505 LaserCOMPACT VESDAnet (VN) version:* *VRT-J00 Remote LaserCOMPACT display (with 7 relays)* *VRT-K00 Remote LaserCOMPACT display (no relays)* *VRT-500 Remote Relay unit (with 7 relays)* *The following notes apply to LaserPLUS, LaserSCANNER and LaserCOMPACT detectors.* *1. For compliance with clause 4.13 of GEI-1-048 the detectors shall be supplied with power from a power supply complying with the requirements of EN54 Part 4.* *2. The approval of the detectors is conditional upon the following requirements:* • *Design, Installation and Commissioning are performed in accordance with VESDA System Design Manual by installers accredited by the manufacturer.* • *Each area is protected by a minimum of 2 holes.* *3. The detectors have been assessed for compliance with clause 5.15 Fire Sensitivity (room protection).* *4. Remote Display, Programme, Relay modules are also approved for mounting in a 19" sub rack.*	305b/03
LaserFOCUS VLF 250	High sensitivity aspirating smoke detector *The following notes apply to LaserFOCUS detectors* *1. For compliance with CEA 4022, the detector shall be supplied with power from a power supply complying with EN54-4.* *2. The approval of the detector is conditional upon the following requirements:* • *Design, installation and commissioning are performed in accordance with the VESDA system design manual by installers accredited by the manufacturer.* • *Each area is protected by a minimum of 2 holes.* *3. The detector has been assessed for compliance with clause 5.15 Fire sensitivity (room protection).*	305c/01
LaserFOCUS VLF500	High sensitivity aspirating smoke detector *Notes:*	305c/02

Certificated Products		LPCB Ref. No.
	1. For compliance with CEA 4022, the detector shall be supplied with power from a power supply complying with EN 54-4. *2. The approval of the detector is conditional upon the following requirements:* *· Design, installation and commissioning are performed in accordance with the VESDA system design manual by installers accredited by the manufacturer.* *· Each area is protected by a minimum of 2 holes.* *3. The detector has been assessed for compliance with clause 5.15 Fire sensitivity (room protection).*	

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Certificate No: 512d to EN 54-5: 2000

Point Heat Detectors

Certificated Products		LPCB Ref. No.
10-0003	Conventional 2 wire 24VDC class A2S fixed temperature and rate-of-rise heat detector with LED output (P/N854001 base)	512d/03
10-0003	Conventional 2 wire 24VDC class A2R fixed temperature and rate-of-rise heat detector with LED output (P/N854001 base)	512d/04

Bases:
P/N854001 4-Wire detector base

Wagner Alarm-und Sicherungssysteme GMBH

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Certificate No: 574a to CEA 4022: 1999-12-Requirements and Test Methods for Aspirating Smoke Detectors

Certificated Products	LPCB Ref. No.
TITANUS 3000	574a/01
TITANUS SUPER.SENS/rev.a	574a/02
TITANUS SUPER.Sens/a.G	574a/03
TITANUS SUPER.SENS X	574a/04

Notes:
1) The detector has been assessed for compliance with clause 5.15 Fire sensitivity (Room Protection).
2) The approval of the detector is conditional upon the following requirements:
   - The detector shall be supplied with power from a power supply conforming with the requirements of BS EN 54-4
   - The detector shall be installed with sampling pipe conforming to EN 50086-1 to at least Class 1131
   - Design, installation and commissioning shall be performed in accordance with Wagner technical manual (69-30-176 for TITANUS SUPER.SENS and 69-30-0165 for TITANUS 3000).

This section lists self-contained alarms approved for use in houses and other dwellings. Requirements for alarms in dwellings included in the Building Regulations (England and Wales) make reference to smoke, heat and carbon monoxide alarms in accordance with the standards listed below. The LPCB's list of approved products in this section is intended to help specifiers select equipment that complies with these regulatory requirements.

The following standards are used for certification:

- BS 5446-1: 2000 *Fire detection and fire alarm devices for dwellings Part 1 Specification for smoke alarms* (see note 1)
- BS 5446-2: 2003 *Fire detection and fire alarm devices for dwellings Part 2 Specification for heat alarms*
- BS 5446-3: 2005 *Specification for smoke alarm kits for deaf and hard of hearing people*
- EN 14604:2005 *Smoke alarm devices*
- BS 7860:1996 *Carbon monoxide detectors (electrical) for domestic use* (see note 2)
- EN 50291:2001 *Carbon monoxide detectors (electrical) in domestic premises* (see note 2)

For domestic applications, care needs to be taken over the correct choice of the type of detector, its siting and the batteries' condition in order to maintain the alarm in accordance with the manufacturer's requirements. Further guidance is available from LPCB if required. Regular factory inspections and product auditing ensures high manufacturing standards are consistently maintained.

Note:

1. EN 14604:2005 supersede BS 5446-1:2000 which will be withdrawn in July 2008. Information concerning the date of withdrawal of conflicting standards in the forward to EN 14604:2005 is incorrect. The correct data is given in the National forward to the UK version of BS EN 14604 gives the date of withdrawal of BS 5446:1:2000 as July 2008.
2. EN50291:2001 supersede BS 7860:1996 which will be withdrawn April 2006.

Everday Technology Co. Limited

No.8, Lane, 492 Ba-Der Street, Shulin 238, Taipei Hsien, Taiwan ROC
Tel: +886 2 2668 9668 • Fax: +862 2 2668 9666
E-mail: sales@everday.com • Website: www.everday.com

Certificate No: 512c to BS5446-1:2000

Smoke Alarm

Certificated Products		**LPCB Ref. No.**
M816VS	Stand alone photoelectric smoke alarm detector with RF transmitter. *Note: The RF transmitter is not approved.*	512c/01

Eyston Company Ltd

27 Zhen Tian South Road, Wei Xing Industrial Zone, Yan Tian, Feng Gang, Dongguan, Guangdong, Peoples Republic of China
Tel: +852 25573135 • Fax: +852 28970249
E-mail: tracylo@eyston.com • Website: www.eyston.com

Certificate No: 679a to BS 5446-1: 2000

Smoke Alarm

Certificated Products		**LPCB Ref. No.**
SD-176H	Battery operated ionisation smoke alarm with alarm silence feature	679a/01

Certificated Products		LPCB Ref. No.
SD-196H	Battery operated photoelectric smoke alarm with alarm silence feature	679a/02

FireAngel Ltd (A Division of Sprue Aegis plc)

The TechnoCentre, Puma Way, Coventry CV1 2TT UK
Tel: +44 (0)24 7623 6600 • Fax: +44 (0)24 7623 6603
Website: www.fireangel.co.uk

Certificate No: 651b to BS 7860:1996

Carbon Monoxide Alarm

Certificated Products		LPCB Ref. No.
CO-828	Carbon Monoxide Alarm - LCD	651b/01
CO-808	Carbon Monoxide Alarm - LED	651b/02

Certificate No: 651a to BS 5446-1:2000

Smoke Alarm

Certificated Products		LPCB Ref. No.
EZ-212	Hard Wired Smoke Alarm	651a/01
SI-1	9v battery powered ionisation smoke alarm	651a/02
SO-1	9v battery powered optical smoke alarm	651a/03
SI-6	9v battery powered ionisation smoke alarm with 10 year lithium batter	651a/04
SO-6	9v battery powered optical smoke alarm feature with 10 year lithium battery	651a/05

Kidde Fyrnetics Limited

No. 3 Industrial Estate, Changan, Dongguan, Guandong, Peoples Republic of China

Enquiries to: Kiddle Safety Europe Ltd
Tel: +44 (0)1753 685148 • Fax: +44 (0)1753 685096
E-mail: info@kiddesafety.co.uk • Website: www.kiddesafetyeurope.co.uk

Certificate No: 636a to BS 5446:Part 1: 2000

Smoke Alarm

Certificated Products		LPCB Ref. No.
1SF23/9HI Slick Fit	240V AC mains operated ionisation smoke alarm with standard 9V DC battery back-up	636a/01
1SF23/9HIR Slick Fit	240V AC mains operated ionisation smoke alarm with 9V DC rechargeable back-up	636a/02
2SF23/9HI Slick Fit	240V AC mains operated optical smoke alarm with standard 9V battery back-up	636a/03
2SF23/9HIR Slick Fit	240V AC mains operated photo smoke alarm wth 9V DC rechargeable battery back-up.	636a/04

This section lists manual call points, approved for use in fire detection and fire alarm systems in buildings. The following standards are currently used for certification schemes:

- EN 54-11:2001 *Manual call points*
- ISO 7240-11:2005 *Manual Call Point*
- BS 5839-2:1983 *Specification for manual call points*

Specifiers should be aware that EN 54-11 allows two types manual call points (i.e. Type A & Type B) which have slightly different means of operation. Some installation rules or codes of practice may only allow one type to be used. (e.g. BS 5839-1: 2002 recommends only Type A manual call points).

Due to changes in the applicable standard the list also includes equipment approved to the requirements of the draft standard prEN 54-11. Products currently listed as approved to the draft prEN54-11 may remain listed until November 2006 or the expiry of the current certificate.

Notes:

1. EN 54-11: 2001 supersedes BS 5839-2: 1983 which should have been withdrawn in November 2003. It is intended that the listing of manual call points certified to BS 5839-2 will be maintained until November 2006. However, it is recommended that manual call points are certificated to EN 54-11: 2001 as soon as possible as these dates may be changed when the standard is harmonised for the Construction Products Directive.

2. Since the LPCB uses national and international standards for the listing of products, in some instances, the requirements of these standards may conflict with the recommendations of local codes of practice. If full compliance with an installation code of practice is necessary, confirmation should be obtained that the listed products also comply with the appropriate codes of practice.

Apollo Fire Detectors Limited

36 Brookside Road, Havant, Hampshire PO9 1JR UK
Tel: +44 (0)2392 492412 • Fax: +44 (0)2392 492754

Sales Enquiries Germany,

Apollo Deutschland GmbH
Tel: +49 5241 330 60 • Fax: +49 5241 330 629
E-mail: info@apollo-feuer.de

Sales Enquiries Spain,

Apollo Espana
Tel: +34 627 988 061 • Fax: +34 949 335 289
E-mail: apollo.espana@apollo-fire.com

Sales Enquiries, China

Apollo Fire Detectors Limited,, Shanghai respresentative office
Tel: +86 21 5237 0922 • Fax: +86 21 5237 0920
E-mail: tony.ye@apollo-fire.com

Certificate No: 010d to BS 5839: Part 2:1983
Certificate No: 010n to EN 54: Part 11: 2001

Certificated Products		**LPCB Ref. No.**
55000-900 XP95	Analogue addressable flush and surface mounted manual call point *Certificated with Apollo, Series 90 and XP95 communication protocols*	010d/06
55000-940 XP95	Analogue addressable intrinsically safe manual call point *Certificated with Apollo, Series 90 and XP95 communication protocols*	010d/03
55000-950 XP95	Analogue addressable waterproof manual call point	010d/04

Certificated Products		LPCB Ref. No.
	Certificated with Apollo, Series 90 and XP95 communication protocols	
58000-900 Discovery	Analogue addressable flush and surface mounted manual call point *Certificated with Series 90, XP95 and Discovery digital communication protocols*	010d/05
58000-910 Discovery	Analogue addressable flush mounted manual call point *Certificated with Series 90, XP95 and Discovery digital communication protocols*	010d/05
58000-920 Discovery	Analogue addressable surface mounted manual call point *Certificated with Series 90, XP95 and Discovery digital communication protocols*	010d/05
59000-910 XPlorer	Analogue addressable surface mounted manual call point *Certificated with Series 90 and XP95 digital communication protocols* *Certificated with the Burgess V3NCSET7 Mk 1 microswitch*	010n/01

Emirates Fire Fighting Equipment Factory (FIREX)

Industrial Area 13, Sharjah, UAE
Tel: +971 6 5340300 • Fax: +971 6 5340090
E-mail: firex@emirates.net.ae • Website: www.firexuae.com

Certificate No: 506d to EN54-11:2001

Certificated Products		LPCB Ref. No.
FX-0217	Conventional indoor surface/flush mounting manual call point *Note: Approved for surface mount use when used with the AHMB-0217 back box*	506d/01

Accessories
AHMB-0217 back box for surface mounting

Fulleon Limited

Llantarnam Park, Cwmbran, Gwent NP44 3AW UK
Tel: +44 (0)1633 628500 • Fax: +44 (0)1633 866346
E-mail: sales@fulleon.co.uk • Website: www.fulleon.com

Certificate No: 378a to BS 5839 : Part 2
Certificate No: 378c to EN 54: Part 11: 2001

Certificated Products		LPCB Ref. No.
CX/G/R/NB	Conventional re-settable indoor manual call point, flush mounted*	378c/01
CX/G/R/BB	Conventional re-settable indoor manual call point, with surface mount back box*	378c/01
CX/P/R/NB	Conventional indoor manual call point, flush mounted*	378c/02
CX/P/R/BB	Conventional indoor manual call point, with surface mount back box*	378c/02

* Approved with V4NCSET7 Mk1 or V4NSET7-UL micro switches only.

Accessories
/BB surface mounted (plastic back box)

GE Security (Africa) trading as Ziton

Ziton House, 555 Voortrekker Road, Maitland 7405, Republic of South Africa
Tel: +27 21 5066000 • Fax: +27 21 5066100

UK Sales Enquiries: Ziton Limited
Tel: +44 (0)1908 281981 • Fax: +44 (0)1908 282554

Certificate No: 092d to BS5839: Part 2

Certificated Products		LPCB Ref. No.
ZP785-2	Addressable flush and surface mounted manual call point	092d/01

GE Security Inc, trading as Edwards Systems Technology

5 North Main Street, Pittsfield, Maine 04967, USA
Tel: +1 207 487 3104 • Fax: +1 207 487 5526

European Sales:

Rudford Estate, Ford Aerodrome, Arundel, West Sussex BN18 0BE UK
Tel: +44 (0)1903 711 440 • Fax: +44 (0)1903 711 448
E-mail: info@estinternational.com

Certificate No: 092d to BS 5839 : Part 2
Certificate No: 262g to BS 5839 : Part 2
Certificate No: 262p to EN 54-11: 2000

Certificated Products		LPCB Ref. No.
SIGI-271	Manual call point	262g/01
EA785-2	Manual call point	092d/01
SIGI-271	Digital addressable indoor manual call point, surface or flush mounted	262p/01

Accessories
SR3T-P Surface mounted box
ETT1-P Flush mounted box

Gent By Honeywell

140 Waterside Road, Hamilton Industrial Park, Leicester LE5 1TN UK
Tel: +44 (0)116 246 2000 • Fax: +44 (0)116 246 2300
E-mail: gent_enquiry@gent.co.uk • Website: www.gent.co.uk

Middle East Sales Enquiries:

Novar International (Midle East) LLC, UAE
Tel: +971 4 3244240 • Fax: +971 4 3241343

India Sales Enquiries:

MK India, Chennai, India
Tel: +91 44 626 9991 • Fax: +91 44 626 9992

Far East Sales Enquiries:

MK Electric (Singapore) Pte. Limited, Singapore
Tel: +65 64616388 • Fax: +65 64616372

Asia Sales Enquiries

MK Electric (China) Ltd, Peoples Republic of China
Tel: +852 28341988 • Fax: +852 21519467

South East Asia Sales Enquiries

MK Electric (Malaysia) Sdn Bnd, Malaysia
Tel: +60 35592549 • Fax: +60 35504259

Certificate No: 042c to BS 5839: Part 2
Certificate No: 567c to BS 5839: Part 2

Certificated Products		LPCB Ref. No.
1195 OR	Flush and surface mounted manual call point	042c/01
34800	Flush and surface mounted addressable manual call point *Note: Approved for flush mounting when using 13480-29 flush mounting plate*	042c/03
78150-52NM	Flush and surface mounted addressable manual call point. *Note: Approved for flush mounting when using 78150-98NM flush mounting plate*	042c/05
34800	Flush and surface mounted addressable manual call point (indoor) *Note: Approved for flush mounting when using 13480-29 flush mounting plate*	567c/01

GLT Exports Limited

Detection House, 72-78 Morfa Road, Swansea SA1 2EN UK
Tel: +44 (0)1792 455175 • Fax: +44 (0)1792 455176
E-mail: ghassan@gltexports.com • Website: www.gltexports.com

Certificate No: 330c to BS 5839: Part 2

Certificated Products		LPCB Ref. No.
ZT/MCP	Conventional manual call point	330c/01
ZT-MCP/AD	Addressable manual call point	330c/02

Hochiki Europe (UK) Limited

Grosvenor Road, Gillingham Business Park, Gillingham, Kent ME8 0SA UK
Tel: +44 (0)1634 260133 • Fax: +44 (0)1634 260132
Website: www.hochikieurope.com

Certificate No: 164c to BS 5839 Part 2
Certificate No: 164j to EN 54-11: 2001

Certificated Products		LPCB Ref. No.
MCP-E	Addressable manual call point[1,2]	164c/01
MCP-W	Waterproof addressable manual call point[1,2]	164c/02
HCP-E	Addressable Manual Call Point (SR and SR1T mounting boxes)	164j/01
HCP-EF	Addressable Manual Call Point - French - (SR and SR1T mounting boxes)	164j/02
HCP-E(DPS)	Addressable Manual Call Point - with Dual Pole Switching - (SR and SR1T mounting boxes)	164j/03

Note:
1) Approved in normal mode only
2) Include Swedish and Finnish language variants

Accessories:
SR Surface mounting plastic box
SR1T Surface mounting plastic box c/w 1 terminal

Honeywell Control Systems Limited (Bracknell)

Honeywell House, Arlington Business Park, Bracknell, Berkshire RG12 1EB UK
Tel: +44 (0)1344 656000 • Fax: +44 (0)1344 656240
E-mail: uk.infocentre@honeywell.com • Website: www.honeywell.com

Certificate No: 199c to BS 5839: Part 2

Certificated Products		LPCB Ref. No.
SSDH500KAC	Analogue addressable manual call point	199c/01

Horing LIH Industrial Co Ltd

No. 17-6, Ai-Chien Road, Hu-Hsi Village, Yuan-Shan Hsiang (264), Ilan Hsien, Taiwan ROC
Tel: +886 2 22487599 • Fax: +886 2 22407752

Certificate No: 506d to EN 54-11: 2001

Certificated Products		LPCB Ref. No.
AH-0217	Conventional indoor surface/flush mounting manual call point *Note: Approved for surface mount use when used with the AHMB-0217 back box*	506d/01

Accessories:
AHMB-0217 back box for surface mounting

KAC Alarm Company Limited
15-19 Trescott Road, Trafford Park, Smallwood, Redditch, Worcester B98 7AH UK
Tel: +44 (0)1527 406655 • Fax: +44 (0)1527 406677
E-mail: sales@kac.co.uk OR marketing@kac.co.uk • Website: www.kac.co.uk

Certificate No: 166a to BS 5839: Part 2

World Series Manual Call Points - certificated to BS 5839: Part 2

Certificated Products		**LPCB Ref. No.**
WR2001	Indoor manual call point, flush mounted (single pole changeover)	166a/06
WR2012	Indoor manual call point, flush mounted	166a/07
WR2004	Indoor manual call point, flush mounted	166a/08
WR2061	Indoor manual call point, flush mounted	166a/09
WR2072	Indoor manual call point, flush mounted	166a/10
WR3001	Indoor manual call point, flush mounted (single pole changeover)	166a/11
WR4001	Outdoor manual call point (single pole changeover)	166a/12
WR4072	Outdoor manual call point with series monitoring resistor	166a/13
WR2101	Indoor manual call point (single pole changeover)	166a/14
WR3061	Indoor manual call point, flush mounted	166a/15
WR3072	Indoor manual call point, flush mounted	166a/16
WR3101	Indoor manual call point, flush mounted (single pole changeover)	166a/17
WR4061	Outdoor manual call point series and LED shunt resistor	166a/18
WR3631	Indoor manual call point (SR3T-P mounting box)	166a/27
WR4061	R1-R2 (2.5W resistors) outdoor manual call point	166a/28
WR4031	Outdoor manual call point (0.6 W resistors)	166a/29
WR7/2001	Rainproof manual callpoint (single pole changeover) surface mounted	166a/30
WR7/2004	Rainproof manual callpoint (series monitoring resistor) surface mounted	166a/31
WR7/2012	Rainproof manual callpoint (2-series monitoring resistors) surface mounted	166a/32
WR7/2061	Rainproof manual callpoint (series monitoring resistor and LED) surface mounted	166a/33
WR7/2072	Rainproof manual callpoint (series monitoring resistor) surface mounted	166a/34
WR7/2101	Rainproof manual callpoint (single pole - close on alarm) surface mounted	166a/35
WR7/3001	Rainproof manual callpoint (single pole changeover) surface mounted	166a/36
WR7/3061	Rainproof manual callpoint (series monitoring resistor and LED) surface mounted	166a/37
WR7/3072	Rainproof manual callpoint (series monitoring resistor) surface mounted	166a/38
WR7/3101	Rainproof manual callpoint (single pole - close on alarm) surface mounted	166a/39

Accessories for indoor manual call points:

/SR	Surface mounted (plastic mounting box)
/SR2T-P	Surface mounted (plastic mounting box)[1]
/SR3T-P	Surface mounted (plastic mounting box)[1]
/SR4T-P	Surface mounted (plastic mounting box)[1]
/MR	Surface mounted (metal mounting box)
/ETT	European terminal tray ETT1[1] & ETT2[1] and ETT3[2]
/G	Grip forks[2]
/L	Earth continuity link (KL1)
BZR/1	Bezel[2]
BZR/2	Bezel Type 2[2]
M141	Spacer Piece[2]
BZR/3	Bezel Type 3[2]
PTR	Pattress with no terminals[2]
PTRE	Pattress with earth terminal[2]
PTR2T	Pattress with 2 terminals[2]
PTR2TE	Pattress with 2 terminals plus earth terminal[2]
PTR3T	Pattress with 3 terminals[2]
PTR3TE	Pattress with 3 terminals plus earth terminal[2]

(1) For use with World Series class 3000 products
(2) For use with World Series

World Series Manual Call points are approved with the following switch combinations:

	Otehall 382430	Otehall 95/89S	Otehall 382431	Honeywell V5T010TB3X144	Honeywell V5T020TBX145	Burgess XG3	Burgess GA43
WR2001 WR7/2001	✓			✓		✓	
WR2101 WR7/2101		✓	✓		✓		✓
WR2004 WR7/2004	✓			✓		✓	
WR2012 WR7/2012		✓	✓		✓		✓
WR2061 WR7/2061		✓	✓		✓		✓
WR2072 WR7/2072		✓	✓		✓		✓
WR3001 WR7/3001	✓			✓		✓	
WR3061 WR7/3061		✓	✓		✓		✓
WR3072 WR7/3072		✓	✓		✓		✓
WR3101 WR7/3101		✓	✓		✓		✓
WR3631		✓	✓		✓		✓

Certificate No: 166b to EN 54-1:2001

Manual Call Points - certificated to BS EN 54:11:2001

Certificated Products		**LPCB Ref. No.**
WR2001	Indoor manual call point, flush mounted (single pole changeover).	166b/01
WR2012	Indoor manual call point, flush mounted.	166b/02
WR2004	Indoor manual call point, flush mounted.	166b/03
WR2061	Indoor manual call point, flush mounted.	166b/04
WR2072	Indoor manual call point, flush mounted.	166b/05
WR2101	Indoor manual call point, flush mounted.	166b/06
WR3001	Indoor manual call point, flush mounted (single pole changeover).	166b/07
WR3101	Indoor manual call point, flush mounted.	166b/08
WR3061	Indoor manual call point, flush mounted.	166b/09
WR3072	Indoor manual call point, flush mounted.	166b/10
WR3631	Indoor manual call point, flush mounted.	166b/11
WR4001	Outdoor manual call point, (single pole changeover).	166b/12
WR4061	R1-R2 (2.5W resistors) Outdoor manual call point.	166b/13
WR4061	Outdoor manual call point with LED and series and shunt resistors.	166b/14
WR4031	Outdoor manual call point.	166b/15
WR4072	Outdoor manual call point with series monitoring resistor.	166b/16
WR7/2001	Rainproof manual call point (single pole change over, surface mounted).	166b/25
WR7/2004	Rainproof manual call point with series monitoring resistor, surface mounted.	166b/26
WR7/2012	Rainproof manual call point with two series monitoring resistors, surf ace mounted.	166b/27
WR7/2061	Rainproof manual call point (series monitoring resistors & LED) surface mounted.	166b/28
WR7/2072	Rainproof manual call point with series monitoring resistor, surface mounted.	166b/29
WR7/2101	Rainproof manual call point, surface mounted.	166b/30
WR7/3001	Rainproof manual call point single pole changeover.	166b/31
WR7/3061	Rainproof manual call point with LED and series and shunt resistors, surface mounted.	166b/32
WR7/3072	Rainproof manual call point with series monitoring resistor, surface mounted.	166b/33
WR7/3101	Rainproof manual call point, surface mounted.	166b/34
MCP545-1	Indoor surface mounting addressable manual call point	166b/35
MCP545-2	Indoor flush mounting addressable manual call point	166b/36
MCP545-3	Outdoor surface mounting addressable manual call point	166b/37
MCP545-4	Outdoor surface mounting addressable manual call point	166b/38
MCP1A-Rxxxxx	Indoor/Outdoor surface/flush mounting conventional call point	166b/39
MCP1B-Rxxxxx	Indoor/Outdoor surface/flush mounting conventional call point	166b/40
MCP2A-Rxxxxx	Indoor/Outdoor surface/flush mounting conventional call point	166b/41
MCP2B-Rxxxxx	Indoor/Outdoor surface/flush mounting conventional call point	166b/42

Notes:
*1) **xxx** xx indicates the series resistor value. **039** xx (lowest 39), **4K7** xx (highest 4.7 k)*
*2) xxx **S** x (Surface mounted) xxx **F** x (Flush mounted)*

Certificated Products		LPCB Ref. No.
	*3) xxxx **G** (Glass element) xxxx **F** (Flexible element)* *4) The MCP1-2 Series manual call points LPCB Ref. No. 166b/39-166b/42 are approved with three* *micro-switches (Honeywell ZM10E50A01, Otehall 294/20/150/G and Burgess X4G310K1BBAQ)*	
MCP3A-R000xx	Indoor/Outdoor surface/flush mounting conventional call point	166b/43
MCP4A-R000xx	Indoor/Outdoor surface/flush mounting conventional call point	166b/44
MCP5A-RP01xx	Indoor/Outdoor surface/flush mounting addressable call point (System Sensor 500 series protocol)	166b/45
MCP5A-RP03xx	Indoor/Outdoor surface/flush mounting addressable call point (Honeywell 500 series protocol)	166b/47
MCP7A-RC01xx	Indoor/Outdoor surface/flush mounting conventional call point	166b/49
MCP7B-RC01xx	Indoor/Outdoor surface/flush mounting conventional call point *Notes:* *1) **S** x (Surface mounted) **F** x (Flush mounted)* *2) x **G** (Glass element) x **F** (Flexible element)* *3) The MCP3-7 Series manual call points LPCB Ref. No. 166b/43-166b/50 are approved with three micro-switches (Honeywell ZM10E50A01, Otehall 294/20/150/G and Burgess X4G310K1BBAQ)*	166b/50
WCP1A-RxxxSx	Outdoor surface mounting conventional waterproof call point	166b/51
WCP1B-RxxxSx	Outdoor surface mounting conventional waterproof call point	166b/52
WCP2A-RxxxSx	Outdoor surface mounting conventional waterproof call point	166b/53
WCP2B-RxxxSx	Outdoor surface mounting conventional waterproof call point *Notes:* *1) **xxx** Sx indicates the series resistor value. **039** Sx (lowest 39), **4K7** Sx (highest 4.7 k)* *2) xxxS **G** (Glass element) xxxS **F** (Flexible element)* *3) The WCP1-2 Series waterproof manual call points LPCB Ref. No.166b/51-166b/54 are approved with Honeywell micro switch ZW10F90AW1*	166b/54
WCP3A-R000Sx	Outdoor surface mounting conventional waterproof call point	166b/55
WCP4A-R000Sx	Outdoor surface mounting conventional waterproof call point	166b/56
WCP5A-RP01Sx	Outdoor surface mounting addressable waterproof call point (System Sensor 500 series protocol)	166b/57
WCP5A-RP03Sx	Outdoor surface mounting addressable waterproof call point (Honeywell 500 series protocol)	166b/59
WCP7A-RC01Sx	Outdoor surface mounting conventional waterproof call point	166b/61
WCP7B-RC01Sx	Outdoor surface mounting conventional waterproof call point *Notes:* *1) **G** (Glass element) **F** (Flexible element)* *2) The WCP3-7 Series waterproof manual call points LPCB Ref. No. 166b/55-166b/62 are approved with Honeywell micro switch ZW10F90AW1*	166b/62
MCP1A-Rxxxxx-01IS	Indoor/Outdoor surface/flush mounting conventional call point	166b/39
MCP1B-Rxxxxx-01IS	Indoor/Outdoor surface/flush mounting conventional call point	166b/40
MCP2A-Rxxxxx-01IS	Indoor/Outdoor surface/flush mounting conventional call point	166b/41
MCP2B-Rxxxxx-01IS	Indoor/Outdoor surface/flush mounting conventional call point *Notes: 1. **xxx** xx indicates the series resistor value. **039** xx (lowest 39), **4K7** xx (highest 4.7 k)* *2. xxx **S** x (Surface mounted) xxx **F** x (Flush mounted)* *3. xxxx **G** (Glass element) xxxx **F** (Flexible element)* *4. The MCP1-2 Series manual call points LPCB Ref. No. 166b/39-166b/42 are approved with three micro-switches* *(Honeywell ZM10E50A01, O tehall 294/20/150/G and Burgess X4G310K1BBAQ)*	166b/42
MCP3A-R000xx-01IS	Indoor/Outdoor surface/flush mounting conventional call point	166b/43
MCP4A-R000xx-01IS	Indoor/Outdoor surface/flush mounting conventional call point	166b/44
MCP7A-RC01xx-01IS	Indoor/Outdoor surface/flush mounting conventional call point	166b/49
MCP7B-RC01xx-01IS	Indoor/Outdoor surface/flush mounting conventional call point *Notes: 1. **S** x (Surface mounted) **F** x (Flush mounted)* *2. x **G** (Glass element) x **F** (Flexible element)* *3. The MCP3-7 Series manual call points LPCB Ref. No. 166b/43-166b/50 are approved with three micro-switches* *(Honeywell ZM10E50A01, Otehall 294/20/150/G and Burgess X4G310K1BBAQ)*	166b/50

Accessories:

SR	Surface mounting plastic box [(1)]
SR1T	Surface mounting plastic box c/w 1 terminal[(1)]
SR2T	Surface mounting plastic box c/w 2 terminal[(1)]
SR3T	Surface mounting plastic box c/w 3 terminal[(1)]
SR4T	Surface mounting plastic box c/w 4 terminal[(1)]
MR	Surface mounting metal box[(1)]
ETT	European Terminal Tray ETT 1, 2 & 3[(1)]

L	Earth Continuity Link[1]
BZR/1	Bazel Type 1[1]
BZR/2	Bazel Type 2[1]
BZR/3	Bazel Type 3[1]
M141	Spacer Piece[1]
PTR	Pattress PTR, PTRE, PTR2T, PTR2TE, PTR3T & PTR3TE[1]
C	Hinged Cover[1]

Note:
1) The above accessories are only supplied with MCP/WCP1-7 Series manual call points LPCB Ref. No. 166b/39-166b/62

World Series Manual Call points are approved with the following switch combinations:

	Otehall 382430	Otehall 95/89S	Otehall 382431	Honeywell V5T010TB3X144	Honeywell V5T020TBX145	Burgess XG3	Burgess GA43
WR2001 WR7/2001	✓			✓		✓	
WR2101 WR7/2101		✓	✓		✓		✓
WR2004 WR7/2004	✓			✓		✓	
WR2012 WR7/2012		✓	✓		✓		✓
WR2061 WR7/2061		✓	✓		✓		✓
WR2072 WR7/2072		✓	✓		✓		✓
WR3001 WR7/3001	✓			✓		✓	
WR3061 WR7/3061		✓	✓		✓		✓
WR3072 WR7/3072		✓	✓		✓		✓
WR3101 WR7/3101		✓	✓		✓		✓
WR3631		✓	✓		✓		✓

Certificate No: 166e to EN 54-11: 2001 and EN 54-17: 2005

Certificated Products		**LPCB Ref. No.**
MCP5A-RP02xx	Indoor/Outdoor surface/flush mounting addressable call point with short circuit isolator (System Sensor 500 series protocol)	166e/01
MCP5A-RP04xx	Indoor/Outdoor surface/flush mounting addressable call point with short circuit isolator (Honeywell 500 series protocol) *Notes:* *1) **S** x (Surface mounted) **F** x (Flush mounted)* *2) x **G** (Glass element) x **F** (Flexible element)* *3) The above manual call points are approved with three micro-switches (Honeywell ZM10E50A01, Otehall 294/20/150/G and Burgess X4G310K1BBAQ)*	166e/02
WCP5A-RP02Sx	Outdoor surface mounting addressable waterproof call point with short circuit isolator (System Sensor 500 series protocol)	166e/03
WCP5A-RP04Sx	Outdoor surface mounting addressable waterproof call point with short circuit isolator (Honeywell 500 series protocol) *Notes:* *1) **G** (Glass element) **F** (Flexible element)* *2) The above waterproof manual call points are approved with Honeywell microswitch ZW10F90AW1*	166e/04

Accessories:

SR	Surface mounting plastic box
SR1T	Surface mounting plastic box c/w 1 terminal
SR2T	Surface mounting plastic box c/w 2 terminal
SR3T	Surface mounting plastic box c/w 3 terminal
SR4T	Surface mounting plastic box c/w 4 terminal
MR	Surface mounting metal box

ETT	European Terminal Tray ETT 1, 2 & 3
L	Earth Continuity Link
BZR/1	Bazel Type 1
BZR/2	Bazel Type 2
BZR/3	Bazel Type 3
M141	Spacer Piece
PTR	Pattress PTR, PTRE, PTR2T, PTR2TE, PTR3T & PTR3TE
C	Hinged Cover

Morley-IAS Fire Systems

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Certificate No: 199c to BS 5839: Part 2: 1983

Certificated Products		**LPCB Ref. No.**
MI-MCP	Addressable manual call point	199c/01

Certificate No: 166e to EN 54-11: 2001 and EN 54-17: 2005

Certificated Products		**LPCB Ref. No.**
M1-MCP-xxxx-1	Indoor/Outdoor surface/flush mounting addressable call point with short circuit isolator (Honeywell 500 series protocol) *Notes:* *1) **S** x (Surface mounted) **F** x (Flush mounted)* *2) x **G** (Glass element) x **F** (Flexible element)* *3) The above manual call point is approved with three micro-switches (Honeywell ZM10E50A01, Otehall 294/20/150/G and Burgess X4G310K1BBAQ)*	166e/02

Accessories:

SR	Surface mounting plastic box
SR1T	Surface mounting plastic box c/w 1 terminal
SR2T	Surface mounting plastic box c/w 2 terminal
SR3T	Surface mounting plastic box c/w 3 terminal
SR4T	Surface mounting plastic box c/w 4 terminal
MR	Surface mounting metal box
ETT	European Terminal Tray ETT 1, 2 & 3
L	Earth Continuity Link
BZR/1	Bazel Type 1
BZR/2	Bazel Type 2
BZR/3	Bazel Type 3
M141	Spacer Piece
PTR	Pattress PTR, PTRE, PTR2T, PTR2TE, PTR3T & PTR3TE
C	Hinged Cover

Nittan (UK) Limited

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E-mail: sales@nittan.co.uk • Website: www.nittan.co.uk

Certificate No: 041d to BS 5839: Part 2

Certificated Products		**LPCB Ref. No.**
NCP-AS-2LU	Addressable manual call point	041d/01

Notifier Fire Systems

Charles Avenue, Burgess Hill, West Sussex RH15 9UF UK
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Certificate No: 166e to EN 54-11: 2001 and EN 54-17: 2005

Certificated Products		LPCB Ref. No.
M700KAC/-xx	Indoor/Outdoor surface/flush mounting addressable call point with short circuit isolator (System Sensor 500 series protocol) *Notes:* *1) **S** x (Surface mounted) **F** x (Flush mounted)* *2) x **G** (Glass element) x **F** (Flexible element)* *3) The above manual call point is approved with three micro-switches (Honeywell ZM10E50A01, Otehall 294/20/150/G and Burgess X4G310K1BBAQ)*	166e/01

Accessories:

SR	Surface mounting plastic box
SR1T	Surface mounting plastic box c/w 1 terminal
SR2T	Surface mounting plastic box c/w 2 terminal
SR3T	Surface mounting plastic box c/w 3 terminal
SR4T	Surface mounting plastic box c/w 4 terminal
MR	Surface mounting metal box
ETT	European Terminal Tray ETT 1, 2 & 3
L	Earth Continuity Link
BZR/1	Bazel Type 1
BZR/2	Bazel Type 2
BZR/3	Bazel Type 3
M141	Spacer Piece
PTR	Pattress PTR, PTRE, PTR2T, PTR2TE, PTR3T & PTR3TE
C	Hinged Cover

Pittway Tecnologica SpA

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E-mail: sandro_bonin@systemsensor.com • Website: www.systemsensoreurope.com

European Sales Enquiries:

System Sensor Europe
Tel: +44 (0)1527 406700 • Fax: +44 (0)1527 406699

Certificate No: 199c to BS 5839: Part 2

Addressable manual call point

Approved Products		LPCB Ref. No.
M500KAC	Addressable manual call point	199c/01

Approved with the following accessories:

/SR3T-P	Surface mounting box
/ ETT	European terminal tray (ETT1 and ETT2)
/L	Earth continuity link KL1
BZR1	Bezel
BZR2	Bezel type 2
M141	Spacer piece

Certificate No: 199h to EN 54-11:2001

Approved Products		LPCB Ref. No.
ECO2001	Analogue addressable manual call point	199h/01

Protec Fire Detection plc

Protec House, Churchill Way, Nelson, Lancashire BB9 6RT UK
Tel: +44 (0)1282 717171 • Fax: +44 (0)1282 717273
E-mail: sales@protec.co.uk • Website: www.protec.co.uk

Certificate No: 201m to EN 54-11: 2001

Certificated Products		LPCB Ref. No.
6000/MCP	Analogue addressable indoor break glass unit	201m/01

Accessories

N 63-111-48 Surface mounting back box

Safety Technology International (Europe) Limited

Unit 49G Pipers Road, Park Farm Industrial Estate, Redditch, Worcestershire B98 0HU UK
Tel: +44 (0)1527 520999 • Fax: +44 (0)1527 501999
E-mail: sales@sti-europe.com • Website: www.sti-europe.com

Certificate No: 653a to EN 54-11:2001

Certificated Products		LPCB Ref. No.
Series 01	Conventional Type A re-settable indoor flush/surface mounted manual call point	653a/01

Accessories
SR01 red surface mounting box

Siemens Switzerland Ltd., Building Technologies Group

Gubelstrasse 22, CH-6301 Zug, Switzerland
Tel: +41 1 922 6111 • Fax: +41 1 922 6450

Certificate No: 126w to EN 54-11:2001
Certificate No: 166a to BS 5839: Part 2
Certificate No: 166b to EN 54-11:2001
Certificate No: 126ac to EN 54-11: 2001 and CEA GEI 1-052: Draft 2.0, 11/06/97

Certificated Products		LPCB Ref. No.
DM1154 Ex	Addressable interactive manual call point	126w/01
DM1101	Conventional indoor/outdoor manual call point	126w/02
MT320C	Conventional indoor/outdoor manual call point	126w/03
DM1131	Analogue addressable indoor/outdoor manual call point.	126w/04
DM1151	Interactive indoor/outdoor manual call point	126w/05
DM1104	Conventional indoor and outdoor manual call point	126w/06
DM1134	Addressable indoor and outdoor manual call point	126w/07
DM1154	Interactive indoor and outdoor manual call point	126w/08

Certificated Products		LPCB Ref. No.
DM1104H	Conventional indoor and outdoor manual call point (DMZ1197-AC)	126w/09
DM1134H	Analogue addressable indoor and outdoor manual call point (DMZ1197-AC)	126w/10
DM1154H	Interactive indoor and outdoor manual call point (DMZ1197-AC)	126w/11
DM1154H-Ex	Addressable interactive manual call point (DMZ1197-AC)	126w/12
DM1101	Indoor manual callpoint (DMZ 1191 mounting box)	166a/05
MT320C		166b/07
DM1101	Indoor manual call point, flush mounted (DMZ1191 mounting box)	166b/11
DM1151	Addressable manual call point	126d/01
DM1131	Addressable manual call pont	126d/02
FDM221	Digital addressable indoor/outdoor manual call point (FDMC291 and FDMK291)	126ac/01
FDM223	Digital addressable indoor/outdoor manual call point (DMZ1197-AC and DMZ1195)	126ac/02
FDM223H	Digital addressable indoor/outdoor manual call point	126ac/03

Accessories:

FDMC291 protective cover
FDMK291 key with cover
DMZ1197-AC protective cover
DMZ1195 key

Thorn Security Limited, trading as Tyco Electronic Product Group (TEPG)

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E-mail: mashbury@tycoint.com • Website: www.tycofire.com/tycoepg

Certificate No: 166a to BS 5839: Part 2
Certificate No: 143w to EN 54-11 : 2001
Certificate No: 143g to BS 5839: Part 2
Certificate No: 166b to EN 54-1:2001

Certificated Products		LPCB Ref. No.
CP920	Addressable flush and surface mounted manual call point	143g/01
CP930	Addressable weatherproof manual call point	143g/02
CP200	Indoor manual call point	166a/09
CP210	Indoor manual call point	166a/09
CP230	Outdoor manual call point	166a/18
CP220Ex	Outdoor manual call point	166a/28
CP540Ex	Outdoor manual call point (0.6W resistors)	166a/29
CP820	Indoor addressable manual call point	143w/01
CP830	Weatherproof addressable manual call point	143w/02
MCP200	Indoor/Outdoor surface/flush mounting conventional call point	166b/41
MCP210	Indoor/Outdoor surface/flush mounting conventional call point	166b/41
MCP230	Outdoor surface mounting conventional waterproof call point	166b/53
MCP250M	Indoor/Outdoor surface/flush mounting conventional call point, marine model	166b/41
MCP260M	Outdoor surface mounting conventional waterproof call point, marine model	166b/53

This section lists devices, used for functions other than fire detection, which are approved for connection to a detection circuit or other transmission path of a fire detection system. For example, the following devices which may be connected to a fire detection system, are considered as line units:

- input/output interfaces,
- short circuit isolators.

In the absence of applicable agreed standards these devices are currently tested to requirements and tests specified by the LPCB.

Notes:

1. Since the LPCB uses national and international standards for the listing of products, in some Instances, the requirements of these standards may conflict with the recommendations of local codes of practice. If full compliance with an installation code of practice is necessary, confirmation should be obtained that the listed products also comply with the appropriate codes of practice.

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Apollo Fire Detectors Limited,, Shanghai representative office
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Certificate No: 010e to LPCB test schedule 62449/1.3
Certificate No: 010f to EFSG/F/95/007
Certificate No: 010k to CEA GEI 1-052:Draft 2: 1997

Approved Products		**LPCB Ref. No.**
45681-321 XP95	Negative short circuit isolating base *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/04
45681-323 XP95	Positive short circuit isolating base *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/03
55000-700 XP95	Short circuit isolator (45681-211 mounting base)	010e/01
55000-710 XP95	Positive short circuit isolator (45681-211 mounting base) *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/01
55000-720 XP95	Negative short circuit isolator (45681-211 mounting base) *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/02
55000-840 XP95	Analogue addressable switch monitor plus with isolator -flush mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/05
55000-841 XP95	Analogue addressable switch monitor plus with isolator -surface mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/05
55000-842 XP95	Analogue addressable switch monitor with isolator -flush mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/06
55000-843 XP95	Analogue addressable switch monitor with isolator -surface mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/06
55000-844 XP95	Analogue addressable Zone monitor unit with isolator -flush mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/10

Approved Products		LPCB Ref. No.
55000-845 XP95	Analogue addressable zone monitor unit with isolator -surface mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/10
55000-846 XP95	Analogue addressable input/output unit with isolator flush mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/07
55000-847 XP95	Analogue addressable input/output unit with isolator -surface mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/07
55000-848 XP95	Analogue addressable output unit with isolator flush mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/08
55000-849 XP95	Analogue addressable output unit with isolator -surface mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/08
55000-851 XP95	Analogue addressable sounder controller unit with isolator -flush mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/09
55000-852 XP95	Analogue addressable sounder controller unit with isolator -surface mounted *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/09
55000-855	Single Channel Protocol Translator	010f/01
55000-856	Dual Channel Protocol Translator	010f/02
55000-588 XP95	Analogue addressable 3 Channel Input/Output unit with short circuit isolator *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/11
55000-589 XP95	Analogue addressable 3 Channel Input/Output unit *Approved with Apollo Series 90, XP95 and Discovery digital communication protocols*	010k/12

GE Security (Africa) trading as Ziton

Ziton House, 555 Voortrekker Road, Maitland 7405, Republic of South Africa
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UK Sales Enquiries:

Ziton Limited
Tel: +44 (0)1908 281981 • Fax: +44 (0)1908 282554

Certificate No: 092j to GEI 1-052: Draft 2

Certificated Products		LPCB Ref. No.
ZP760-2	Short circuit isolator (ZP760-SB mounting base)	092j/01
A60E-2	Analogue addressable line isolator module	092j/02

Certificate No: 092q to CEA GEI 1-084 - 08/08/2000 Draft

Certificated Products		LPCB Ref. No.
A45E-2	Analogue addressable single input interface module	092q/01
A50E-2	Analogue addressable line relay module	092q/02

GE Security Inc, trading as Edwards Systems Technology

5 North Main Street, Pittsfield, Maine 04967, USA
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European Sales:

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E-mail: info@estinternational.com

Certificate No: 262d to EFSG/F/95/007

Approved Products		**LPCB Ref. No.**
SIGA-CC1	Single input signal module *Note: Approved using personality code 5*	262d/01
SIGA-CC2	Dual input signal module *Note: Approved using personality code 7*	262d/02
SIGA-CT1I	Single input module *Note: Approved using personality codes 3, 4 and 18*	262d/03
SIGA-CT2I	Dual input module *Note: Approved using personality codes 3, 4 and 18*	262d/04

Certificate No: 92j to GEI 1-052:Draft 2.1 (11-06-97)

Certificated Products		**LPCB Ref. No.**
EA760-2	Short circuit isolator (EA760-SB mounting base)	092j/01

Gent By Honeywell

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E-mail: gent_enquiry@gent.co.uk • Website: www.gent.co.uk

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India Sales Enquiries

MK Electric Enquiries, India
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Far East Sales Enquiries

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Asia Sales Enquiries

MK Electric (China) Ltd, Peoples Republic of China
Tel: +852 28341988 • Fax: +852 21519467

South East Asia Sales Enquiries

MK Electric (Malaysia) Sdn Bnd, Malaysia
Tel: +60 35592549 • Fax: +60 35504259

Certificate No: 42b to CEA GEI 1-084

Approved Products		**LPCB Ref. No.**
808610	12 Relay transponder	400b/01
808611	32 LED output transponder	400b/02
808613	4 Detection zones/2 relay output transponder	400b/03
808614	1 Detection zone transponder	400b/04

Certificate No: 042ap to prEN 54-18: 2005

Certificated Products		**LPCB Ref. No.**
34410	Analogue addressable zone module (loop powered)	042ap/01
34450	Analogue addressable four channel interface module (loop powered)	042ap/02
34415	Analogue addressable single channel interface module (loop powered)	042ap/03

Global System Technology Plc

Enterprise Glade, Bath Lane, Moira, South Derbyshire DE12 6BD UK
Tel: +44 (0)1283 225 478 • Fax: +44 (0)1283 220 690
E-mail: info@gst.uk.com • Website: www.gst.uk.com

Certificate No: 548h to CEA GEI 1-084: 08.08.2000
Certificate No: 548f to CEA GEI 1-052 - Draft 2.0

Certificated Products		LPCB Ref. No.
I-9300	Analogue addressable input module	548h/01
I-9301	Analogue addressable single input/output module	548h/02
C-9503	Loop isolator	548f/01

Gulf Security Technology Co. Ltd (Manufacturing Division of Global System Technology PLC)

No. 80 Changjiang East Road, Economic & Technological Development Zone, Qinhuangdao, Hebei Province 066004, Peoples Republic of China
Tel: +86 0335 8502528 • Fax: +86 0335 8508942

Certificate No: 548h to CEA GEI 1-084: 08.08.2000
Certificate No: 548f to CEA GEI 1-052 - Draft 2.0

Certificated Products		LPCB Ref. No.
GST-LD-8300	Analogue addressable input module	548h/01
GST-LD-8301	Analogue addressable single input/output module	548h/02
GST-LD-8322	Loop isolator	548f/01

Hochiki Europe (UK) Limited

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Certificate No: 164b to EFSG/F/95/007
Certificate No: 164d to GEI-052 Draft 2.0
Certificate No: 164f to GEI-084

Approved Products		LPCB Ref. No.
CHQ-B	Dual sounder controller	164b/01
CHQ-MZ	Mini zone monitor	164b/02
CHQ-R	Dual relay controller	164b/03
CHQ-S	Dual switch monitor	164b/04
CHQ-Z	Dual zone monitor	164b/05
CHQ-SCI-S	Short circuit isolator	164b/06
YBO-R/SCI	Isolator base	164d/01
CHQ-SIO	Input/output module	164f/01

Honeywell Control Systems Limited (Bracknell)

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Certificate No: 199d to LPCB test schedule

Certificated Products		LPCB Ref. No.
TC809E1019	Analogue addressable monitor module	199d/01
TC810E1008	Analogue addressable control module	199d/02
TC811E1007	Isolation module	199d/03
TC809E1027	Analogue addressable mini monitor module	199d/04

Morley-IAS Fire Systems

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Certificate No: 199e to EFSG/F/95/007

Certificated Products		LPCB Ref. No.
MI-MM3E	Micro monitor module	199e/01

Certificate No: 199q to CEA GEI 1-052 Draft 2.0,CEA GEI 1-084 Draft (08-08-00) & prEN 54-17 Draft (July 2002)

Certificated Products		LPCB Ref. No.
MI-DMMI	Analogue addressable single channel input module with short circuit isolator	199q/01
MI-DMM2I	Analogue addressable dual channel input module with short circuit isolator	199q/02
MI-D2ICMO	Analogue addressable dual channel input and single channel output module with short circuit isolator	199q/03
MI-DCMO	Single channel output module with short circuit isolator	199q/04
MI-DCM0240	Single channel 240V output module with short circuit isolator	199q/05
MI-DCM0240-DIN	Single channel 240V output module, DIN rail mount with short circuit isolator	199q/06

Certificate No: 199r to CEA GEI 1-052 Draft 2.0: 11.06.97 & prEN 54-17 Draft: July 2002

Certificated Products		LPCB Ref. No.
MI-DISO	Short circuit isolator module	199r/01

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E-mail: sales@notifiersystems.co.uk • Website: www.notifierfiresystems.co.uk

Certificate No: 199d to LPCB test schedule

Approved Products		LPCB Ref. No.
MMX-1E	Monitor module	199d/01
CMX-2E	Control module	199d/02
MMX-101E	Mini monitor module	199d/04
ISO-XE	Short circuit isolator	199d/03

Certificate No: 199q to CEA GEI 1-052 Draft 2.0, CEA GEI 1-084 Draft (08-08-00) and prEN 54-17 Draft (July 2002)

Certificated Products		LPCB Ref. No.
M710	Analogue addressable single channel input module with short circuit isolator	199q/01
M720	Analogue addressable dual channel input module with short circuit isolator	199q/02
M721	Analogue addressable dual channel input and single channel output module with short circuit isolator	199q/03
M701	Single channel output module with short circuit isolator	199q/04
M701-240	Single channel 240V output module with short circuit isolator	199q/05
M701-240-DIN	Single channel 240V output module, DIN rail mount with short circuit isolator	199q/06

Certificate No: 199r to CEA GEI 1-052 Draft 2.0: 11.06.97 & prEN 54-17 Draft: July 2002

Certificated Products		LPCB Ref. No.
M700X	Short circuit isolator module	199r/01

Novar GmbH

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Certificate No: 400b to CEA GEI 1-084

Approved Products		LPCB Ref. No.
808610	12 Relay transponder	400b/01
808611	32 LED output transponder	400b/02
808613	4 Detection zones/2 relay output transponder	400b/03
808614	1 Detection zone transponder	400b/04

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Tel: +39 040 94 90111 • Fax: +39 040 38 2137
E-mail: sandro_bonin@systemsensor.com • Website: www.systemsensoreurope.com

European Sales Enquiries:

System Sensor Europe
Tel: +44 (0)1527 406700 • Fax: +44 (0)1527 406699

Certificate No: 199e to EFSG/F/95/007
Certificate No: 199j to CEA GEI 1-052
Certificate No: 199r to CEA GEI 1-052 Draft 2.0 (11-06-97) and prEN 54-17 Draft (July 2002)
Certificate No: 199q to CEA GEI 1-052 Draft 2.0, CEA GEI 1-084 Draft (08-08-00) and prEN 54-17 Draft (July 2002)
Certificate No: 199d to LPCB test schedule

Certificated Products		LPCB Ref. No.
M500ME	Monitor module	199d/01
M500CHE	Control module	199d/02
M500XE	Short circuit isolator	199d/03
M501ME	Mini monitor module	199d/04
M503ME	Micromonitor module	199e/01
ECO2000M	Analogue addressable input module	199j/01
M200XE	Short circuit isolator module	199r/01
M210E	Analogue addressable single channel input module with short circuit isolator	199q/01
M220E	Analogue addressable dual channel input module with short circuit isolator	199q/02
M221E	Analogue addressable dual channel input and single channel output module with short circuit isolator	199q/03
M201E	Single channel output module with short circuit isolator	199q/04
M201E-240	Single channel 240V output module with short circuit isolator	199q/05
M201E-240-DIN	Single channel 240V output module, DIN rail mount with short circuit isolator	199q/06
B524IEFT-1	Short circuit isolator base	199j/02
ISO524-1	Short circuit isolator module	199j/03
M210E-CZ	Analogue addressable conventional zone interface module	199q/07

Protec Fire Detection plc

Protec House, Churchill Way, Nelson, Lancashire BB9 6RT UK
Tel: +44 (0)1282 717171 • Fax: +44 (0)1282 717273
E-mail: sales@protec.co.uk • Website: www.protec.co.uk

Certificate No: 201c to LPCB test schedule

Approved Products		LPCB Ref. No.
AN/AD Mark 4	Short circuit isolator.	201c/01

Siemens Switzerland Ltd., Building Technologies Group

Gubelstrasse 22, CH-6301 Zug, Switzerland
Tel: +41 1 922 6111 • Fax: +41 1 922 6450

Manufacturing at:

Siemens Building Technologies AG, Volketswil Factory, Industriestrasse 22, CH-8604 Volketswil, Switzerland
Tel: +41 1 922 6111 • Fax: +41 1 922 6450

UK Sales:
Tel: +44 (0)1189 783703 • Fax: +44 (0)1189 775750
Website: www.sibt.com/www.uk.cerberus.com

Certificate No: 126j to EFSG/F/94/002
Certificate No: 126m to EFSG/F/95/007
Certificate No: 126p to CEA GEI 1-052 Draft 2

Approved Products		LPCB Ref. No.
DC1131	Input module	126m/01
DC1134	Output module	126m/02
DC1157	Input module	126m/03
DC1192	Input/output module	126m/04
DC1151	Input module	126j/01
DC1154	Output module	126j/02
DC1131-AA	Input module	126p/01
DC1134-AA	Output module	126p/02
DC1136-AA	Output module	126p/03
DC1154-AA	Output module	126p/04
DC1156-AA	Output module	126p/05

Approved Products		LPCB Ref. No.
DC1157-AA	Input module	126p/06
EB322A	Input module	126p/01
AB322A	Output module	126p/02
ABI322A	Output module	126p/03
CB320A	Input module	126t/02

Certificate No: 126ae to CEA GEI 1-052: Draft 2.0, 11/06/97

Certificated Products		LPCB Ref. No.
FDCL221	Analogue addressable line separator	126ae/01

Accessories:

TS35 standard top hat rail

Certificate No: 126ad to CEA GEI 1-084 : 08/08/00 and CEA GEI 1-052: Draft 2.0, 11/06/97

Certificated Products		LPCB Ref. No.
FDCI222	Analogue addressable input module (FDCM291)	126ad/01
FDCIO222	Analogue addressable input/output module (FDCM291)	126ad/02

Accessories:

FDCM291 mounting foot

Thorn Security Limited, trading as Tyco Electronic Product Group (TEPG)

160 Billet Road, Walthamstow, London E17 5DR UK
Tel: +44 (0)20 8919 4000 • Fax: +44 (0)20 8919 4040
E-mail: mashbury@tycoint.com • Website: www.tycofire.com/tycoepg

Certificate No: 143p to GEI 1-052 11-06-97 Draft 2.0
Certificate No: 143ad to GEI 1-84:08-08-2000

Certificated Products		LPCB Ref. No.
RM520	Relay module	10/87
SM520	Addressable sounder driver module	10/88
DM520	Conventional detector module	10/89
LI520	Line isolator module	10/90
CM520	Contact monitoring module	10/101
SB520	Sounder booster module	10/102
801IB MX	Digital addressable isolator base	143p/01
801RB MX	Digital addressable relay base	143p/02
DIM800	Detector input module	143p/03
RIM800	Relay interface module	143p/04
SNM800	Sounder notification module	143p/05
MIM800	Mini input module	143p/06
CIM800	Contact input module	143p/07
LAV800	Extinguishing module	143p/08
HVR800	High voltage relay module *For use with RIM800 relay interface module*	143p/09
5BI	5" Isolator Base	143p/10
MIO800	Small addressable multi input/output module	143p/11
BDM800	Loop powered beam etector interface module. Approved when used in conjuction with the FIRERAY 2000/50R/100R beam detectors and BTM800 thermal module.	143ad/01
SAM800	Loop powered base address module	143ad/02

Certificated Products	LPCB Ref. No.

Note: Approved for use with the 801SB sounder base and 801RB relay base

This section lists sounders approved for use in fire detection and fire alarm systems. EN 54-3: 2001 *Sounders* is currently used for approval schemes. Since there was no applicable standard before the publication of this standard, the list includes sounders approved to the draft prEN 54-3 and to the LPCB's own special requirements. It is intended that sounders currently listed as approved to the draft standard prEN54-3 or LPCB's own special requirements may remain listed until October 2006 as indicated in the Foreword to EN 54-3: 2001. However, EN 54-3: 2001 is now a harmonised standard for the Construction Products Directive and CE marking was required for the European market by 30 June 2005. It is therefore recommended that sounders are certificated to EN 54-3: 2001 as soon as possible.

Notes:
1. Since the LPCB uses national and international standards for the listing of products, in some Instances, the requirements of these standards may conflict with the recommendations of local codes of practice. If full compliance with an installation code of practice is necessary, confirmation should be obtained that the listed products also comply with the appropriate codes of practice.

Cranford Controls Limited

Unit 2, Waterbrook Estate, Waterbrook Road, Alton, Hampshire GU34 2UD UK
Tel: +44 (0)1420 592444 • Fax: +44 (0)1420 592445
E-mail: sales@cranfordcontrols.com • Website: www.cranfordcontrols.com

Certificate No: 546a to EN 54-3: 2001

Certificated Products		**LPCB Ref. No.**
VTG-32E-SB	Conventional indoor Type A sounder *Notes:* *1) The sounder is approved in red and white colours (-R and -W suffixes)* *2) Certified to EN54-3: 2001 with the following selectable tones:* *1 - LF Sweep frequency (800-1000Hz in 0.5sec)* *21 - German DIN tone Sweep (1200-500Hz @ 1Hz)* *22 - French tone AFNOR (554Hz for 100ms and 440Hz for 400ms)* *2nd Stage tone for all above (800Hz continuous tone)*	546a/01
VTG-32E-DB	Conventional outdoor Type B sounder *Notes:* *1) The sounder is approved in red and white colours (-R and -W suffixes)* *2) Certified to EN54-3: 2001 with the following selectable tones:* *1 - LF Sweep frequency (800-1000Hz in 0.5sec)* *21 - German DIN tone Sweep (1200-500Hz @ 1Hz)* *22 - French tone AFNOR (554Hz for 100ms and 440Hz for 400ms)* *2nd Stage tone for all above (800Hz continuous tone)*	546a/01
VPR-DT	Conventional outdoor Type B sounder (116-007FR mounting base) *Note:* *1) Certified to EN54-3: 2001 with the following selectable tones:* *1 - Evacuate Tone (500-1200Hz Rising Sweep over 3.5 Sec 0.5 Sec off)* *2 - Alert Tone (970Hz Continuous Tone)*	546a/02

Base:
116-077FR Viper Mounting Base

Emirates Fire Fighting Equipment Factory (FIREX)

Industrial Area 13, Sharjah, UAE
Tel: +971 6 5340300 • Fax: +971 6 5340090
E-mail: firex@emirates.net.ae • Website: www.firexuae.com

Certificate No: 506e to EN 54-3:2001

Certificated Products		LPCB Ref. No.
FX-0218	Conventional fire alarm bell	506e/01

Fulleon Limited

Llantarnam Park, Cwmbran, Gwent NP44 3AW UK
Tel: +44 (0)1633 628500 • Fax: +44 (0)1633 866346
E-mail: sales@fulleon.co.uk • Website: www.fulleon.com

Certificate No: 378b to prEN 54: Part 3: 1997

Approved Products		LPCB Ref. No.
ROLP Roshni	LP Sounder *Notes:* *1) The sounder is approved in red and white colours.* *2) Using Deep, U-shaped, and shallow sounder bases in red and white colours.* *3) Meets the requirements of prEN 54-3 at tone patterns 3 and 8 only.*	378b/01

Gent By Honeywell

140 Waterside Road, Hamilton Industrial Park, Leicester LE5 1TN UK
Tel: +44 (0)116 246 2000 • Fax: +44 (0)116 246 2300
E-mail: gent_enquiry@gent.co.uk • Website: www.gent.co.uk

Middle East Sales Enquiries:

Novar International (Middle East) LLC, UAE
Tel: +971 4 3244240 • Fax: +971 4 3241343

India Sales Enquiries:

MK India, Chennai
Tel: +91 44 626 9991 • Fax: +91 44 626 9992

Far East Sales Enquiries:

MK Electric (Singapore) Pte. Limited, Singapore
Tel: +65 64616388 • Fax: +65 64616372

Asia Sales Enquiries

MK Electric (China) Ltd, Peoples Republic of China
Tel: +852 28341988 • Fax: +852 21519467

South East Asia Sales Enquiries

MK Electric (Malaysia), Malaysia
Tel: +60 35592549 • Fax: +60 35504259

Certificate No: 042j to LPCB test schedule 64297/1.0

Approved Products		LPCB Ref. No.
12511-37	Alarm Sounder	34/29
12511-52	Alarm Sounder	34/30
34203	Alarm Sounder, 3 way	042j/02

Approved Products		LPCB Ref. No.
78400-03NM	Alarm Sounder, 3-way	042j/06

Certificate No: 042ah to EN 54-3:2001

Certificated Products		LPCB Ref. No.
S3-SN-R	Red LP Indoor Analogue Addressable Sounder	042ah/01
S3-SN-W	White LP Indoor Analogue Addressable Sounder	042ah/02
S3IP-SN-R	Red Outdoor Analogue Addressable Sounder	042ah/03
S3IP-SN-W	White Outdoor Analogue Addressable System Sounder	042ah/04
S2IP-SN-R	Red Outdoor Analogue Addressable System Sounder	042ah/05
S2IP-SN-W	White Outdoor Analogue Addressable System Sounder 3 Way	042ah/06
S2IP-SN-R3	Red Outdoor Analogue Addressable System Sounder 3 Way	042ah/07
S2IP-SN-W3	White LP Outdoor Analogue Addressable Sounder/Strobe Red Lens	042ah/08
S3-SN-ST-RR	Red LP Indoor Analogue Addressable Sounder/Strobe Red Lens	042ah/09
S3-SN-ST-WR	White LP Indoor Analogue Addressable Sounder/Strobe Red Lens	042ah/10
S3IP-SN-ST-RR	Red Outdoor Analogue Addressable Sounder/Strobe Red Lens	042ah/11
S3IP-SN-ST-WR	White Outdoor LP Analogue Addressable Sounder/Strobe Red Lens	042ah/12
S3IP-SN-ST-RW	Red Outdoor Analogue Addressable Sounder/Strobe 2 Way White Lens	042ah/13
S31P-SN-ST-WA	White Outdoor Analogue Addressable Sounder/Strobe 2 Way Amber Lens	042ah/14
S3-VO-R	Red LP Indoor Voice Analogue Addressable Sounder	042ah/15
S3-VO-W	White LP Indoor Voice Analogue Addressable Sounder	042ah/16
S3IP-VO-R	Red LP Outdoor Voice Analogue Addressable Sounder	042ah/17
S3IP-VO-W	White LP Outdoor Voice Analogue Addressable Sounder	042ah/18
S2IP-VO-R	Red Outdoor Voice Analogue Addressable Sounder	042ah/19
S2IP-VO-W	White Outdoor Voice Analogue Addressable Sounder	042ah/20
S3-VO-ST-RR	Red LP Indoor Voice Analogue Addressable Sounder/Strobe Red Lens	042ah/21
S3-VO-ST-WR	White LP Indoor Voice Analogue Addressable Sounder/Strobe Red Lens	042ah/22
S3IP-VO-ST-RR	Red Outdoor Voice Analogue Addressable Sounder/Strobe Red Lens	042ah/23
S3IP-VO-ST-WR	White LP Outdoor Voice Analogue Addressable Sounder/Strobe Red Lens	042ah/24

Global System Technology Plc

Enterprise Glade, Bath Lane, Moira, South Derbyshire DE12 6BD UK
Tel: +44 (0)1283 225 478 • Fax: +44 (0)1283 220 690
E-mail: info@gst.uk.com • Website: www.gst.uk.com

Certificate No: 548e to EN 54-3:2001

Certificated Products		LPCB Ref. No.
C-9403	Conventional sounder strobe *Notes:Meets the requirements of EN 54-3: 2001 at the following tones:* *Fixed tone: 1.35Hz (400ms on / 340ms off)*	548e/01
I-9403	Intelligent sounder strobe *Notes:Meets the requirements of EN 54-3: 2001 at the following tones:* *Mode I (for pre alarm): 0.61Hz (430ms on / 1200ms off)* *Mode II (for fire alarm): 1.30Hz (430ms on / 340ms off)*	548e/02

Gulf Security Technology Co. Ltd (Manufacturing Division of Global System Technology PLC)

No. 80 Changjiang East Road, Economic & Technological Development Zone, Qinhuangdao, Hebei Province 066004, Peoples Republic of China
Tel: +86 0335 8502528 • Fax: +86 0335 8508942

Certificate No: 548e to EN 54-3:2001

Certificated Products		LPCB Ref. No.
GST-HX-F8502	Conventional sounder strobe *Notes: Meets the requirements of EN 54-3: 2001 at the following tones:* *Fixed tone: 1.35Hz (400ms on / 340ms off)*	548e/01
GST-HX- M8502	Intelligent sounder strobe *Notes: Meets the requirements of EN 54-3: 2001 at the following tones:* *Mode I (for pre alarm): 0.61Hz (430ms on / 1200ms off)* *Mode II (for fire alarm): 1.30Hz (430ms on / 340ms off)*	548e/02

Hochiki Europe (UK) Limited

Grosvenor Road, Gillingham Business Park, Gillingham, Kent ME8 0SA UK
Tel: +44 (0)1634 260133 • Fax: +44 (0)1634 260132
Website: www.hochikieurope.com

Certificate No: 164h to EN 54 3:2001

Certificated Products		LPCB Ref. No.
YBO-BS	Loop powered base sounder (YBN-R/3 and YBO-R/SCI bases) *Note: Approved to EN 54-3 with the following tones:* *H1 - 925/628 at 2Hz* *H4 - (French) 554: 100ms / 440: 400ms* *H5 - (Swedish) 660: 150ms / Off: 150ms* *8 - Whoop 500-1200 3s/0.5s* *12 - Sweep 800/970 at 1Hz* *15 - Sweep 2400-2850 at 1Hz* *17 - 970:ISO8201 0.5s* *18 - 2850:ISO820 0.5s*	164h/01
YBO-BS(WHT)	Loop powered base sounder White version (YBN-R/3 and YBO-R/SCI bases) *Note: Approved to EN 54-3 with the following tones:* *H1 - 925/628 at 2Hz* *H4 - (French) 554: 100ms / 440: 400ms* *H5 - (Swedish) 660: 150ms / Off: 150ms* *8 - Whoop 500-1200 3s/0.5s* *12 - Sweep 800/970 at 1Hz* *15 - Sweep 2400-2850 at 1Hz* *17 - 970:ISO8201 0.5s* *18 - 2850:ISO820 0.5s*	164h/01
CHQ-WS2	Loop powered wall sounder (YBN-R/3 and YBO-R/SCI bases) *Note: Approved to EN 54-3 with the following tones:* *H1 - 925/628 at 2Hz* *H4 - (French) 554: 100ms / 440: 400ms* *H5 - (Swedish) 660: 150ms / Off: 150ms* *8 - Whoop 500-1200 3s/0.5s* *12 - Sweep 800/970 at 1Hz* *15 - Sweep 2400-2850 at 1Hz* *17 - 970:ISO8201 0.5s* *18 - 2850:ISO820 0.5s*	164h/02
CHQ-WS2(WHT)	Loop powered wall sounder - white version (YBN-R/3 and YBO-R/SCI bases) *Note: Approved to EN 54-3 with the following tones:* *H1 - 925/628 at 2Hz* *H4 - (French) 554: 100ms / 440: 400ms* *H5 - (Swedish) 660: 150ms / Off: 150ms* *8 - Whoop 500-1200 3s/0.5s* *12 - Sweep 800/970 at 1Hz* *15 - Sweep 2400-2850 at 1Hz* *17 - 970:ISO8201 0.5s* *18 - 2850:ISO820 0.5s*	164h/02
CHQ-WS2/W	Loop powered wall sounder weatherproof version (YBN-R/3, YBO-R/SCI and WS2-WPK base) *Note: Approved to EN 54-3 with the following tones:* *H1 - 925/628 at 2Hz* *H4 - (French) 554: 100ms / 440: 400ms* *H5 - (Swedish) 660: 150ms / Off: 150ms*	164/02

Certificated Products		LPCB Ref. No.
	8 - Whoop 500-1200 3s/0.5s *12 - Sweep 800/970 at 1Hz* *15 - Sweep 2400-2850 at 1Hz* *17 - 970:ISO8201 0.5s* *18 - 2850:ISO820 0.5s*	

Bases:
YBN-R/3 Analogue mounting base
YBO-R/SCI Isolator base
WS2-WPK Weatherproof kit

Honeywell Control Systems Limited (Bracknell)

Honeywell House, Arlington Business Park, Bracknell, Berkshire RG12 1EB UK
Tel: +44 (0)1344 656000 • Fax: +44 (0)1344 656240
E-mail: uk.infocentre@honeywell.com • Website: www.honeywell.com

Certificate No: 166c to EN 54-3:2001
Certificate No: 166d to EN 54-3:2001 and CEA GEI 1-052 Draft 2.0: 11.06.97

Certificated Products		LPCB Ref. No.
SSDHWMSST-XX-P03	Intelligent wall mounted sounder strobe *Notes: 1. **x**x indicates body colour. **R** =Red, **W** =Bright White* *2. x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166c/09
SSDHWMSOU-XX-PO3	Intelligent wall mounted sounder *Note: 1. **xx** indicates body colour. **RR** =Red, **WW** =Bright White*	166c/10
SSDHIBSST-XX-P03	Intelligent integrated detector base sounder strobe *Notes: 1. **x**x indicates body colour. **R** =Red, **W** =Bright White, **D** =Detector White, **K** =Black* *2. x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166c/11
SSDHIBSOU-XX-P03	Intelligent integrated detector base sounder *Note: 1. **xx** indicates body colour. **RR** =Red, **WW** =Bright White, **DD** =Detector White, **KK** =Black*	166c/12
SSDHWMSST-XX-P04	Intelligent wall mounted sounder strobe with short circuit isolator *Notes: 1. **x**x indicates body colour. **R** =Red, **W** =Bright White* *2. x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166d/01
SSDHWMSOU-XX-P04	Intelligent wall mounted sounder with short circuit isolator *Note: 1. **xx** indicates body colour. **RR** =Red, **WW** =Bright White*	166d/02
SSDHIBSST-XX-P04	Intelligent integrated detector base sounder strobe with short circuit isolator *Notes: 1. **x**x indicates body colour. **R** =Red, **W** =Bright White, **D** =Detector White, **K** =Black* *2. x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166d/03
SSDHIBSOU-XX-P04	Intelligent integrated detector base sounder with short circuit isolator *Note: 1. **xx** indicates body colour. **RR** =Red, **WW** =Bright White, **DD** =Detector White, **KK** =Black*	166d/04

Horing LIH Industrial Co Ltd

No. 17-6, Ai-Chien Road, Hu-Hsi Village, Yuan-Shan Hsiang (264), Ilan Hsien, Taiwan ROC
Tel: +886 2 22487599 • Fax: +886 2 22407752

Certificate No: 506e to EN 54-3: 2001

Certificated Products		LPCB Ref. No.
AH-0218	Conventional fire alarm bell	506e/01

Hosiden Besson Limited

St Josephs Close Trading Estate, St Josephs Close, Hove, East Sussex BN3 7EZ UK
Tel: +44 (0)1273 860000 • Fax: +44 (0)1273 777501
E-mail: info@hbl.co.uk • Website: www.hbl.co.uk

Certificate No: 715a to EN 54: Part 3: 2001

Approved Products		LPCB Ref. No.
Banshee MT	Sounder (892 shallow base version and deep base version) *Note: Certified to EN 54-3: 2001 with the following tones:* *Sound 2 Banshee LF* *Sound 13 Banshee HF (and Bedlam)* *Sound 19 Slow Whoop (Dutch)* *Sound 20 DIN Klung (German)* *Sound 21 AFNOR (French)*	715a/01

KAC Alarm Company Limited

15-19 Trescott Road, Trafford Park, Smallwood, Redditch, Worcester B98 7AH UK
Tel: +44 (0)1527 406655 • Fax: +44 (0)1527 406677
E-mail: sales@kac.co.uk OR marketing@kac.co.uk • Website: www.kac.co.uk

Certificate No: 166c to EN 54-3:2001
Certificate No: 166d to EN 54: Part 3: 2001 and CEA GEI 1-052 Draft 2.0: 11.06.97

Certificated Products		LPCB Ref. No.
EMA1224B4R	4 Tone wall mounting conventional sounder, red. *Note: Meets the requirements of EN 54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/01
EMA1224B4W	4 Tone wall mounting conventional sounder, white *Note: Meets the requirements of EN 54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/02
SOU-SSR-4	4 Tone surface mounting conventional sounder with sealing kit, red *Note: Meets the requirements of EN 54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/03
SOU-SSW-4	4 Tone surface mounting conventional sounder with sealing kit, white *Note: Meets the requirements of EN 54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/04
SOU-LPR-4	4 Tone low profile mounting conventional sounder, red *Note: Meets the requirements of EN 54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/05
SOU-LPW-4	4 Tone low profile mounting conventional sounder, white. *Note: Meets the requirements of EN 54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/06
SOU-SR-4	4 Tone surface mounting conventional sounder, red. *Note: Meets the requirements of EN 54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/07
SOU-SW-4	4 Tone surface mounting conventional sounder, white. *Note: Meets the requirements of EN 54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/08
WMSST-xx-P01	Intelligent wall mounted sounder strobe *Notes:* *1) **x**x indicates body colour. **R** =Red, **W** =Bright White* *2) x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166c/09
WMSOU-xx-P01	Intelligent wall mounted sounder *Note:* *1) **xx** indicates body colour. **RR** =Red, **WW** =Bright White*	166c/10
IBSST-xx-P01	Intelligent integrated detector base sounder strobe *Notes:* *1) **x**x indicates body colour. **R** =Red, **W** =Bright White, **D** =Detector White, **K** =Black* *2) x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166c/11
IBSOU-xx-P01	Intelligent integrated detector base sounder	166c/12

Certificated Products		LPCB Ref. No.
	Note: *1) **xx** indicates body colour. **RR** =Red, **WW** =Bright White, **DD** =Detector White, **KK** =Black*	
DBSST-xx-P01-C	Intelligent non-integrated detector base sounder strobe *Notes:* *1) **x x** indicates body colour. **R** =Red, **W** =Bright White* *2) x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166c/13
DBSOU-xx-P01-C	Intelligent non-integrated detector base sounder *Note:* *1) **xx** indicates body colour. **RR** =Red, **WW** =Bright White*	166c/14
EMA1224FR	Conventional Type A wall mounted sounder (red) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/15
EMA1224FW	Conventional Type A wall mounted sounder (white) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/16
SOU-LPR-14	Conventional Type A wall mounted sounder with low profile mounting box (red) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/17
SOU-LPW-14	Conventional Type A wall mounted sounder with low profile mounting box (white) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/18
SOU-SR-14	Conventional Type A wall mounted sounder with mounting box (red) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/19
SOU-SW-14	Conventional Type A wall mounted sounder with mounting box (white) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/20
SOU-SSR-14	Conventional Type B wall mounted sounder with mounting box & sealing kit (red) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/21
SOU-SSW-14	Conventional Type B wall mounted sounder with mounting box & sealing kit (white) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/22
DBS-14	Conventional Type A sounder base (white) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/23
DBS-R-14	Conventional Type A sounder base (white), supplied with red lid *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/24
DBS-W-14	Conventional Type A sounder base (white), supplied with white lid *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/25
DBS1224FW	Conventional Type A wall mounted sounder *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/26
DBS-4	Conventional Type A sounder base (white) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/27
DBS-R-4	Conventional Type A sounder base (white), supplied with red lid *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/28
DBS-W-4	Conventional Type A sounder base (white), supplied with white lid *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/29
DBS1224B4W	Conventional Type A wall mounted sounder *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/30
WMSST-xx-P02	Intelligent wall mounted sounder strobe with short circuit isolator *Notes:* *1) **x x** indicates body colour. **R** =Red, **W** =Bright White* *2) x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166d/01
WMSOU-xx-P02	Intelligent wall mounted sounder with short circuit isolator *Note:* *1) **xx** indicates body colour. **RR** =Red, **WW** =Bright White*	166d/02
IBSST-xx-P02	Intelligent integrated detector base sounder strobe with short circuit isolator *Notes:* *1) **x x** indicates body colour. **R** =Red, **W** =Bright White, **D** =Detector White, **K** =Black* *2) x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166d/03
IBSOU-xx-P02	Intelligent integrated detector base sounder with short circuit isolator *Note:* *1) **xx** indicates body colour. **RR** =Red, **WW** =Bright White, **DD** =Detector White, **KK***	166d/04

Certificated Products		LPCB Ref. No.
	=Black	
DBSST-xx-P02-C	Intelligent non-integrated detector base sounder strobe with short circuit isolator *Notes:* *1) **x** x indicates body colour. **R** =Red, **W** =Bright White* *2) x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166d/05
DBSOU-xx-P02-C	Intelligent non-integrated detector base sounder with short circuit isolator *Note:* *1) **xx** indicates body colour. **RR** =Red, **WW** =Bright White*	166d/06

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Certificate No: 717a to EN 54-3:2001

Certificated Products		LPCB Ref. No.
18-980502	Conventional Sounder with LED Strobe (Red Head / Red Base) (18-980467, 18-980513, 18-980468 & 18-980514 bases) *Notes:* *1) The above sounder is Type A when used the with the shallow base & Type B when used with the deep base only* *2) Meets requirements of EN 54-3:2001 at tones 1,2,3,6,7 & 13*	717a/01
18-980516	Sounder with LED Strobe (Red Head / White Base) (18-980467, 18-980513, 18-980468 & 18-980514 bases) *Notes:* *1) The above sounder is Type A when used the with the shallow base & Type B when used with the deep base only* *2) Meets requirements of EN 54-3:2001 at tones 1,2,3,6,7 & 13*	717a/02
18-980505	Conventional Sounder with LED Strobe (Amber Head / Red Base) (18-980467, 18-980513, 18-980468 & 18-980514 bases) *Notes:* *1) The above sounder is Type A when used the with the shallow base & Type B when used with the deep base only* *2) Meets requirements of EN 54-3:2001 at tones 1,2,3,6,7 & 13*	717a/03
18-980517	Conventional Sounder with LED Strobe (Amber Head / White Base) (18-980467, 18-980513, 18-980468 & 18-980514 bases) *Notes:* *1) The above sounder is Type A when used the with the shallow base & Type B when used with the deep base only* *2) Meets requirements of EN 54-3:2001 at tones 1,2,3,6,7 & 13*	717a/04
18-980527	Conventional Sounder (Red) (18-980467, 18-980513, 18-980468 & 18-980514 bases) *Notes:* *1) The above sounder is Type A when used the with the shallow base & Type B when used with the deep base only* *2) Meets requirements of EN 54-3:2001 at tones 1,2,3,6,7 & 13*	717a/05
18-980528	Conventional Sounder (White) (18-980467, 18-980513, 18-980468 & 18-980514 bases) *Notes:* *1) The above sounder is Type A when used the with the shallow base & Type B when used with the deep base only* *2) Meets requirements of EN 54-3:2001 at tones 1,2,3,6,7 & 13*	717a/06

Bases:
18-980467 Shallow base (red)
18-980513 Shallow base (white)
18-980468 Deep base (red)
18-980514 Deep base (white)

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Certificate No: 166c to EN 54-3:2001
Certificate No: 166d to EN 54-3:2001 and CEA GEI 1-052 Draft 2.0: 11.06.97

Certificated Products		LPCB Ref. No.
MI-WSDB-X-XX	Intelligent wall mounted sounder strobe *Notes: 1. **x**-xx indicates body colour. **R** =Red, **W** =Detector White* *2. x-**xx** indicate lens colour. **RD** =Red, **AM** =Amber, **GR** =Green, **BL** =Blue, **CL** =Clear*	166c/09
MI-WSD-X	Intelligent wall mounted sounder *Note: 1. **x** indicates body colour. **R** =Red, **W** =Detector White*	166c/10
MI-IBSDB-X-XX	Intelligent integrated detector base sounder strobe *Notes: 1. **x**-xx indicates body colour. **R** =Red, **W** =Detector White, **PW** =Pure White, **B** =Black* *2. x-**xx** indicate lens colour. **RD** =Red, **AM** =Amber, **GR** =Green, **BL** =Blue, **CL** =Clear*	166c/11
MI-IBSD-X	Intelligent integrated detector base sounder *Note: 1. **x** indicates body colour. **R** =Red, **W** =Detector White, **PW** =Pure White, **B** =Black*	166c/12
MI-WSDB-X-XX-I	Intelligent wall mounted sounder strobe with short circuit isolator *Notes: 1. **x**-xx indicates body colour. **R** =Red, **W** =Detector White* *2. x-**xx** indicate lens colour. **RD** =Red, **AM** =Amber, **GR** =Green, **BL** =Blue, **CL** =Clear*	166d/01
MI-WSD-X-1	Intelligent wall mounted sounder with short circuit isolator *Note: 1. **x** indicates body colour. **R** =Red, **W** =Detector White*	166d/02
MI-IBSDB-X-XX-I	Intelligent integrated detector base sounder strobe with short circuit isolator *Notes: 1. **x**-xx indicates body colour. **R** =Red, **W** =Detector White, **PW** =Pure White, **B** =Black* *2. x-**xx** indicate lens colour. **RD** =Red, **AM** =Amber, **GR** =Green, **BL** =Blue, **CL** =Clear*	166d/03
MI-IBSD-X-I	Intelligent integrated detector base sounder with short circuit *Note: 1. **x** indicates body colour. **R** =Red, **W** =Detector White, **PW** =Pure White, **B** =Black*	166d/04

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Certificate No: 166c to EN 54-3:2001
Certificate No: 166d to EN 54-3:2001 and CEA GEI 1-052 Draft 2.0: 11.06.97

Certificated Products		LPCB Ref. No.
AWSB32/X/X	Intelligent wall mounted sounder strobe *Notes: 1. **x**/x indicates body colour. **R** =Red, **W** =Detector White* *2. x/**x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166c/09
AWS32/X	Intelligent wall mounted sounder *Note: 1. **x** indicates body colour. **R** =Red, **W** =Detector White*	166c/10
ABSB32/X/X	Intelligent integrated detector base sounder strobe *Notes: 1. **x**/x indicates body colour. **R** =Red, **W** =Detector White, **PW** =Pure White, **B** =Black* *2. x/**x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166c/11
ABS32/X	Intelligent integrated detector base sounder	166c/12

Certificated Products		LPCB Ref. No.
	*Note: 1. **x** indicates body colour. **R** =Red, **W** =Detector White, **PW** =Pure White, **B** =Black*	
AWSB32/X/X-I	Intelligent wall mounted sounder strobe with short circuit isolator *Notes: 1. **x**/ x indicates body colour. **R** =Red, **W** =Detector White* *2. x/ **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166d/01
AWS32/X-I	Intelligent wall mounted sounder with short circuit isolator *Note: 1. **x** indicates body colour. **R** =Red, **W** =Detector White*	166d/02
ABSB32/X/X-I	Intelligent integrated detector base sounder strobe with short circuit isolator *Notes: 1. **x**/ x indicates body colour. **R** =Red, **W** =Detector White, **PW** =Pure White, **B** =Black* *2. x/ **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166d/03
ABS32/X-I	Intelligent integrated detector base sounder with short circuit isolator *Note: 1. **x** indicates body colour. **R** =Red, **W** =Detector White, **PW** =Pure White, **B** =Black*	166d/04
NS4/R	4 Tone wall mounting conventional sounder (red) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/01
NSR4/W	4 Tone wall mounting conventional sounder (white) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/02
NS14/R	Conventional Type A wall mounted sounder (red) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/15
NS14/W	Conventional Type A wall mounted sounder (white) *Note: Meets the requirements of EN54-3 for all tones and output levels at voltage ranges 10-14v and 21-27v*	166c/16

Protec Fire Detection plc

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Certificate No: 201n to EN 54-3: 2001

Certificated Products		LPCB Ref. No.
6000/SSR2	Analogue addressable Type A/B sounder - red (Shallow and N29-982-75 base) *Notes:* *1) The device is supplied with a shallow base.* *2) Meets the requirements of EN 54-3: 2001 with the following tones:* *1 - Continuous tone - 990 Hz* *2 - Warble tone - 990 / 695 Hz*	201n/01
6000/SSW2	Analogue addressable Type A/B sounder - white (Shallow and N29-982-75 base) *Notes:* *1) This device is supplied with a shallow base.* *2) Meets the requirements of EN 54-3: 2001 with the following tones:* *1 - Continuous tone - 990 Hz* *2 - Warble tone - 990 / 695 Hz*	201n/02
6000/SSR2/NL	Analogue addressable Type A/B sounder - red (Shallow and N29-982-75 base) *Notes:* *1) This device is supplied with a shallow base.* *2) Meets the requirements of EN 54-3: 2001 with the following tones:* *1 - Continuous tone - 990 Hz* *2 - Warble tone - 990 / 695 Hz* *3 - Dutch whoop - 500 / 1500 Hz*	201n/03
6000/SSW2/NL	Analogue addressable Type A/B sounder - white (Shallow and N29-982-75 base) *Notes:* *1) This device is supplied with a shallow base.* *2) Meets the requirements of EN 54-3: 2001 with the following tones:* *1 - Continuous tone - 990 Hz* *2 - Warble tone - 990 / 695 Hz* *3 - Dutch whoop - 500 / 1500 Hz*	201n/04

Bases:

N29-982-75 Deep base
Shallow base

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Certificate No: 166c to EN 54-3:2001
Certificate No: 166d to EN 54-3:2001 and CEA GEI 1-052 Draft 2.0: 11.06.97

Certificated Products		LPCB Ref. No.
WMSST-XX-P01	Intelligent wall mounted sounder strobe *Notes: 1. **x** x indicates body colour. **R** =Red, **W** =Bright White* *2. x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166c/09
WMSOU-XX-P01	Intelligent wall mounted sounder *Note: 1. **xx** indicates body colour. **RR** =Red, **WW** =Bright White*	166c/10
IBSST-XX-P01	Intelligent integrated detector base sounder strobe *Notes: 1. **x** x indicates body colour. **R** =Red, **W** =Bright White, **D** =Detector White, **K** =Black* *2. x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166c/11
IBSOU-XX-P01	Intelligent integrated detector base sounder *Note: 1. **xx** indicates body colour. **RR** =Red, **WW** =Bright White, **DD** =Detector White, **KK** =Black*	166c/12
DBSST-XX-P01-C	Intelligent non-integrated detector base sounder strobe *Notes: 1. **x** x indicates body colour. **R** =Red, **W** =Bright White* *2. x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166c/13
DBSOU-XX-P01-C	Intelligent non-integrated detector base sounder *Note: 1. **xx** indicates body colour. **RR** =Red, **WW** =Bright White*	166c/14
WMSST-XX-P02	Intelligent wall mounted sounder strobe with short circuit isolator *Notes: 1. **x** x indicates body colour. **R** =Red, **W** =Bright White* *2. x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166d/01
WMSOU-XX-P02	Intelligent wall mounted sounder with short circuit isolator *Note: 1. **xx** indicates body colour. **RR** =Red, **WW** =Bright White*	166d/02
IBSST-XX-P02	Intelligent integrated detector base sounder strobe with short circuit isolator *Notes: 1. **x** x indicates body colour. **R** =Red, **W** =Bright White, **D** =Detector White, **K** =Black* *2. x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166d/03
IBSOU-XX-P02	Intelligent integrated detector base sounder with short circuit isolator *Note: 1. **xx** indicates body colour. **RR** =Red, **WW** =Bright White, **DD** =Detector White, **KK** =Black*	166d/04
DBSST-XX-P02-C	Intelligent non-integrated detector base sounder strobe with short circuit isolator *Notes: 1. **x** x indicates body colour. **R** =Red, **W** =Bright White* *2. x **x** indicates lens colour. **R** =Red, **A** =Amber, **G** =Green, **B** =Blue, **C** =Clear*	166d/05
DBSOU-XX-P02-C	Intelligent non-integrated detector base sounder with short circuit isolator *Note: 1. **xx** indicates body colour. **RR** =Red, **WW** =Bright White*	166d/06

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Certificate No: 143q to prEN 54: Part 3: 1999
Certificate No: 143x to EN 54-3:2001

Certificated Products		LPCB Ref. No.
801SB MX	Addressable sounder base for indoor use *Notes:* *1) Approved for connection between a detector and the 801B or 801IB base.* *2) Meets the requirements of prEN 54 Part 3 with the following selectable tones and sound output levels:* *tone 1 - Continuous* *tone 2 - Fast Whoop* *tone 3 - Slow Whoop* *sound output level 1 - 70dB(A)* *sound output level 1 - 80dB(A)* *sound output level 1 - 90dB(A)*	143q/01
802SB	Addressable sounder base for indoor use *Note: Meets the requirements of EN 54-3: 2001 at the following tone settings, when used in conjunction with Series 800 addressable detectors, SAM800 sounder addressable module or SAB800 sounder addressable beacon:-* *Tone 1 - Fast sweep* *Tone 2 - Dutch Slow Whoop 500 to 1200 Hz* *Tone 3 - Temporal 3 880 Hz*	143x/01

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Certificate No: 692a to EN 54-3:2001

Certificated Products		LPCB Ref. No.
MBF-6EV-24	6" (150mm) 24Vdc fire alarm bell with aluminium gong	692a/01
MBF-8EV	8" (200mm) 24Vdc fire alarm bell with aluminium gong	692a/02
MBA-6 + BBX.4	6" (150mm) fire alarm bell with aluminium gong complete with back box	692a/04
MBA-8 + BBX.4	8" (200mm) fire alarm bell with aluminium gong complete with back box	692a/05

This section lists fire resistant cables for use in fire detection and fire alarm systems, and other applications where specifications call up cables with specific performance in the event of a fire.

BS 5839-1:2002

BS 5839-1:2002 includes new requirements for fire resistant cables for fire detection and alarm systems. It calls for “Standard” and “Enhanced” fire resistant cables and defines the requirements for these in Clause 26.2. These cables have to comply with BS EN 60702-1 (with a polymeric sheath), BS 7629 or BS 7846, and:

- "Standard" fire resisting cables also have to :
a) achieve Class PH30 when tested in accordance with EN 50200
and
b) maintain circuit integrity when exposed to a special flame / mechanical shock / water spray sequence equivalent to achieving a duration of 30 minutes when tested in accordance with BS 8434-1: 2003.

- "Enhanced" fire resisting cables also have to :
a) achieve Class PH120 when tested in accordance with EN 50200
and
b) maintain circuit integrity when exposed to a special flame / mechanical shock / water spray sequence equivalent to achieving a duration of 120 minutes when tested in accordance with BS 8434-2: 2003.

Cables complying with these requirements are listed as "Standard" or "Enhanced" under BS 5839-1, Clause 26.2

Other standards used

The other standards and test methods currently used for certification are listed below. This list includes some "withdrawn" standards. Where possible, these will be replaced by the superseding standards when certificates are renewed. However, where withdrawn standards are called up by current standards, certification to the withdrawn standard may need to be maintained until the calling standard is amended to remove the reference:

- BS 6207-1: 1995 *Mineral insulated cables with rated voltage not exceeding 750V*
- BS 6387: 1994 *Performance requirements for cables required to maintain circuit integrity under fire conditions*
- BS 6425-1: 1990 *Gases evolved during combustion of electric cables. Part 1: Method for determination of amount of halogen acid gas evolved during combustion of polymeric materials taken from cables*
- BS 7622-2: 1993 *Measurement of smoke density of electric cables burning under defined conditions*
- BS 7629-1: 1997 *Thermosetting insulated cables with limited circuit integrity when affected by fire. Part 1: Multicore cables*.(This version of the standard will remain current until 31st March 2006)
- BS 7629-1: 1997 (Incorporating Amendment No.1) *Thermosetting insulated cables with limited circuit integrity when affected by fire. Part 1: Multicore cables*.(The provisions introduced by amendment No.1: 2004 are effective from 1st April 2004)
- BS 7629-2: 1997 *Thermosetting insulated cables with limited circuit integrity when affected by fire. Part 2: Multipair cables*
- BS 7846: 2000 *Electric cables 600/1000V armoured fire-resistant cables having thermosetting insulation and low emission of smoke and corrosive gases when affected by fire*.(This version of the standard will remain current until 31st March 2006)
- BS 7846: 2000 (Incorporating Amendment No.1) *Electric cables 600/1000V armoured fire-resistant cables having thermosetting insulation and low emission of smoke and corrosive gases when affected by fire*.(The provisions introduced by amendment No.1: 2004 are affective from 1st April 2004)
- BS 8434-1: 2003 *Method of test for assessment of the fire integrity of electric cables - Part 1: test for unprotected small cables for use in emergency circuits - BS EN 50200 with addition of water spray*
- BS 8434-2: 2003 *Method of test for assessment of the fire integrity of electric cables - Part 2: test for unprotected small cables for use in emergency circuits- BS EN 50200 with a 930°C flame and with water spray*
- EN 50200: 2000 *Method of test for resistance to fire of unprotected small cables for use in emergency circuits*

- EN 50267-2-1: 1999 *Common test method for cables under fire conditions - tests on gases evolved during combustion of materials from cables - procedures - Determination of the amount of halogen acid gas*
. EN 50268-2: 2000 *Common test methods for cables under fire conditions. Measurement of smoke density of cables burning under defined conditions*
. - EN 60702-1: 2002 *Mineral insulated cables and their terminations with rated voltage not exceeding 750V*
- IEC 331: 1970 *Fire resisting characteristics of electric cables*
- IEC 60331-21: 1999 *Tests for electric cables under fire conditions - Circuit integrity - Part 21 Procedure and requirements - Cables of rated voltage up to and including 0,6/1,0kV*
- IEC 60332-3:1992 (2nd edition) *Tests on electric cables under fire conditions - Part 3: Tests on bunched wires or cables*

Notes:

1. The rated voltages Uo/U recognised for BS 6387are, 300/500V and 450/750V, and for BS 7629 are 300/500V, where Uo is the power-frequency voltage to earth and U is the power-frequency voltage between conductors.
2. Testing of single core cable to BS 6387 is not recognised by the standard. This is because it requires the cable to have at least two metallic elements. Therefore LPCB approval of single core cable is based on the cable being tested in a steel conduit.
3. MICC Cables approved to BS 5839-1:2002 clause 26.2 must be sheathed with an overall polymeric covering.
4. BS 8434-1 and -2: 2003 provide methods of test that meet the requirements for the a special flame / mechanical shock / water spray sequences described in BS 5839-1:2002, Clause 26.2 d) and e), respectively.

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Certificate No: 711a to BS 6387: 1994

BMK-SH FE 180

Nominal csa of conductors (mm^2)	Core Construction (excluding drain wire & earth)	BS 6387	LPCB Ref. No.
1.0	2, 3 & 4	C, W, Z	711a/01
1.5	2, 3, 4, 5 & 7	C, W, Z	
2.5	2, 3 & 4	C, W, Z	

Uo/U 300/500 V

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Certificate No: 682a to BS 7629-1:1997 (Incorporating Amendment No.1), BS EN 50200:2000 Class PH30, BS 8434-1:2003 30min and BS 5839-1:2002 Clause 26.2

NoBurn Platinum

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies (1)	Class PH30	30min (2)	Standard (3)	682a/01
1.5	2, 3 & 4	Complies (1)	Class PH30	30min (2)	Standard (3)	

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
2.5	2, 3 & 4	Complies [1]	Class PH30	30min [2]	Standard [3]	

Uo/U 300/500V

1) In meeting the requirements of BS 7629-1:1997 (Incorporating Amendment No.1), the NoBurn Platinum cables listed met the requirements of smoke density of BS EN 50268-2:2000, fire resistance requirements CWZ in Clause 11 of BS 6387:1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1:1999.
2) The duration of 30min when tested in accordance with BS 8434-1:2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2d) of BS 5839-1:2002.
3) The NoBurn Platinum cables listed conform to BS 7629-1:1997 (Incorporating Amendment No.1), met Class PH30 when tested in accordance with BS EN 50200:2000 and met the 30min duration when tested in accordance with BS 8434-1:2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.

AEI Cables Limited (Durham)

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Certificate No: 221b to BS 6387:1994, BS EN 50267-2-1:1999 and BS EN 50268-2:2000

Firetec Power LSZH Cable

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 6387 (See Note 1)	BS EN 50267-2-1 (outer covering)	BS EN 50268-2	LPCB Ref. No.
1.0	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	221b/02
1.5	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
2.5	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
4.0	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
6.0	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
10.0	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
16	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	

Uo/U 450/750V

Note:
1) The Firetec Power LSZH cable also met Category C, W, Z when tested for voltage rating 600/1000V which is not recognised by BS 6387.

Certificate No: 221c to BS 6387:1994, BS EN 50267-2-1:1999 and IEC 60331-21:1999

Firetec Single Core LSZH Cable

Nominal csa of conductor (mm^2)	Core Construction	BS EN 50267-2-1 (outer covering)	IEC 331 (see note 1)	LPCB Ref. No.
1.0	One	<0.5% HCl	Complies	221c/01
1.5	One	<0.5% HCl	Complies	
2.5	One	<0.5% HCl	Complies	
4.0	One	<0.5% HCl	Complies	
6.0	One	<0.5% HCl	Complies	

Uo/U 300/500V

Note:
1) The Firetec single core LSZH also met IEC 60331-21 when installed in steel conduit.

Certificate No: 221c to BS 6387:1994, BS 6425-1:1990 and IEC 331:1970

Firetec Single Core LSZH Cable

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (see notes 2-8)	BS 6425 (outer covering)	IEC 60331-21 (see notes 1 & 9)	LPCB Ref. No.
1.0	One	C, W, Z[4]	<0.5% HCl	Complies	221c/01
1.5	One	C, W, Z[4]	<0.5% HCl	Complies	
2.5	One	C, W, Z[4]	<0.5% HCl	Complies	
4.0	One	C, W, Z[4]	<0.5% HCl	Complies	
6.0	One	C, W, Z[4]	<0.5% HCl	Complies	
10.0	One	C, W, Z[4]	<0.5% HCl	Complies	
16	One	C, W, Z[4]	<0.5% HCl	Complies	
25	One	C, W, Z[4]	<0.5% HCl	Complies	
35	One	C, W, Z[4]	<0.5% HCl	Complies	
50	One	C[5]	<0.5% HCl	Complies	
70	One	C[5]	<0.5% HCl	Complies	
95	One	C[5]	<0.5% HCl	Complies	
120	One	C[5]	<0.5% HCl	Complies	
185	One	C[5]	<0.5% HCl	Complies	
240	One	C[5]	<0.5% HCl	Complies	
300	One	-	<0.5% HCl	Complies	
400	One	-	<0.5% HCl	Complies	
630	One	-	<0.5% HCl	Complies	
800	One	-	<0.5% HCl	Complies	
1000	One	-	<0.5% HCl	Complies	

Uo/U 450/750

Notes:
1) The Firetec single core LSZH also met IEC 331 when installed in steel conduit.
2) These cables also met category C,W,Z when tested for voltage rating 600/1000V which is not recognised by BS 6387.
3) Clause 8 (bending) and 9.1 & 9.2 (impact) can not be conducted due to the cable having only one core.
4) To satisfy the requirement of BS 6387, testing for C, W and Z categories was conducted using 20mm steel conduit as the other metallic element.
5) To satisfy the requirement of BS 6387, testing for category C was conducted using 38mm steel conduit as the other metallic element.
6) Where single cable is fitted in conduit, only phase to earth voltage was applied with the exception of 1.0mm^2 sample where three cables were tested inside the conduit to allow the possibility of core to core breakdown.
7) For cable with an outside diameter in excess of 20mm, the category Z tests were conducted in accordance with guidance from the manufacturer.
8) Only clause 10 of BS 6387 was conducted.
9) These cables met the requirements of IEC 331 when tested at a temperature of 950°C (which is not recognised by IEC 331) and at a voltage rating of 600/1000V.

Certificate No: 221a to BS 7629-1: 1997 This certificate is to a withdrawn version of the BS 7629-1: 1997. Cables conforming to this version of the standard may not be suitable for use within the jurisdiction of the European Union (EU).

Firetec Multicore LSZH Cable

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (see note 2)	LPCB Ref. No.
1.0	2, 3, 4, 7, 12 & 19	Complies [1]	221a/01
1.5	2, 3, 4, 7, 12 & 19	Complies [1]	
2.5	2, 3, 4, 7 & 12	Complies [1]	
4.0	2, 3, 4, & 7	Complies [1]	

UoU/ 300/500V

Note:
1) In meeting the requirements of BS 7629-1:1997, the Firetec Multicore LSZH cables listed met the requirements of smoke density of BS 7622-2:1993, fire resistance requirements CWZ in Clause 11 of BS 6387:1994 and achieved less than 0.5%HCl on the (outer covering) when tested in accordance with BS 6425-1:1990.
2) BS 7629-1: 1997 was amended in 2004 to implement the changes to the identification of cores by colours, in accordance with the CENELEC Harmonisation Document HD 308 S2. The un-amended version of the standard was withdrawn on 31st March 2006. However, cables with the old identification colours, meeting the withdrawn version of the standard, are still requested by some regulators outside of the EU. Certification to the un-amended version of the standard has therefore been maintained, for the time being, to satisfy the requirements of these regulators.

Certificate No: 221d to BS 7629-1:1997 (Incorporating Amendment No. 1)

Firetec Multicore LSZH

Nominal csa of conductor (mm^2)	Core Construction	BS 7629-1 (Incorporating Amendment No. 1)	LPCB Ref. No.
1.0	2, 3 & 4[1]	Complies [2]	221d/01

Uo/U 300/500V

Notes:
1) Solid construction only.
2) In meeting the requirements of BS 7629-1:1997 (Incorporating Amendment No. 1), the Firetec Multicore LSZH cables listed met the requirements of smoke density of BS EN 50268-2:2000, fire resistance requirements CWZ in Clause 11 of BS 6387:1994 and achieved less than 0.5%HCI on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1:1999.

Certificate No: 221e to BS 7629-1:1997 (Incorporating Amendment No.1), BS EN 50200:2000 Class PH30, BS 8434-1:2003 & BS 5839-1:2002 Clause 26.2

Firetec Multicore LSZH

Nominal csa of conductor (mm^2)	Core Construction	BS 7629-1 (Incorporating Amendment No. 1)	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.5	2, 3 & 4[1]	Complies[3]	Class PH30	30min[4]	Standard[5]	221e/01
2.5	2, 3 & 4[1]	Complies[3]	Class PH30	30min[4]	Standard[5]	
4.0	4[2]	Complies[3]	Class PH30	30min[4]	Standard[5]	

Uo/U 300/500V

Notes:
1) Solid construction only.
2) Stranded construction only
3) In meeting the requirements of BS 7629-1:1997 (Incorporating Amendment No. 1), the Firetec Multicore LSZH cables listed met the requirements of
smoke density of BS EN 50268-2:2000, fire resistance requirements CWZ in Clause 11 of BS 6387:1994 and achieved less than 0.5%HCI on the
(outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1:1999.
4) The duration of 30min when tested in accordance with BS 8434-1:2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2d) of BS 5839-1:2002.
5) The Firetec Multicore LSZH cables listed conform to BS 7629-1:1997 (Incorporating Amendment No. 1), met class PH30 when tested in accordance with BS EN 50200:2000 and met the 30min duration when tested in accordance with BS 8434-1:2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.

Certificate No: 221f to BS 7629-1:1997(Incorp Amndmnt No.1),BS 5839-1:2002 Clause 26.2e, BS EN 50200:2000 Class PH120 & BS 8434-2:2003 120min

Firetec Enhanced Multicore LSZH

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No1)	BS EN 50200	BS 8434-2	BS 5839-1	LPCB Ref. No.
1.0	2,3 & 4[1]	Complies[3]	Class PH120	120min[4]	Enhanced[5]	221f/01
1.5	2,3 & 4[1]	Complies[3]	Class PH120	120min[4]	Enhanced[5]	
2.5	2,3 & 4[1]	Complies[3]	Class PH120	120min[4]	Enhanced[5]	
4.0	2,3 & 4[2]	Complies[3]	Class PH120	120min[4]	Enhanced[5]	

Uo/U 300/500V

Notes:
1) Solid construction only.
2) Stranded construction only.

3) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the FIRETEC ENHANCED Multicore LSZH cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (insulation, binder tape & outer covering) when tested in accordance with BS EN 50267-2-1: 1999.
4) The duration of 120min when tested in accordance with BS 8434-2: 2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1: 2002.
5) The FIRETEC ENHANCED Multicore LSZH cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH120 when tested in accordance with EN 50200: 2000 and met a duration of 120min when tested in accordance with BS 8434-2: 2003 and hence met the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Certificate No: 221g to BS 7846: 2000 This certificate is to a withdrawn version of the BS 7846: 2000. Cables conforming to this version of the standard may not be suitable for use within the jurisdiction of the European Union (EU).

Firetec Armoured LSZH Cable

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7846 (see note 2)	LPCB Ref. No.
1.5	2,3, & 4	F2 (1)	221g/01
2.5	2,3, & 4	F2 (1)	
4.0	2,3, & 4	F2 (1)	
6.0	2,3, & 4	F2 (1)	
10	2,3, & 4	F2 (1)	
16	2,3, & 4	F2 (1)	
25	2,3, & 4	F2 (1)	
35	2,3, & 4	F2 (1)	
50	2,3, & 4	F2 (1)	
70	2,3, & 4	F2 (1)	
95	2,3, & 4	F2 (1)	
120	2,3, & 4	F2 (1)	
150	2,3, & 4	F2 (1)	
185	2,3, & 4	F2 (1)	
240	2,3, & 4	F2 (1)	
300	2,3, & 4	F2 (1)	
400	2,3, & 4	F2 (1)	

Uo/U 600/1000 V

Note:
1) In meeting the requirements of BS 7846: 2000, the Firetec Armoured LSZH cables listed met the requirements of BS 6387: 1994 Clause 11.1 Category C, W & Z.
2) BS 7846: 2000 was amended in 2004 to implement the changes to the identification of cores by colours, in accordance with the CENELEC Harmonisation Document HD 308 S2. The un-amended version of the standard was withdrawn on 31st March 2006. However, cables with the old identification colours, meeting the withdrawn version of the standard, are still requested by some regulators outside of the EU. Certification to the un-amended version of the standard has therefore been maintained, for the time being, to satisfy the requirements of these regulators.

   Certificate 221j covers cables certified in accordance with BS 7846: 2000 (Incorporating Amendments Nos. 1 & 2)

Certificate No: 221h to BS 6387: 1994 and BS EN 60702-1: 2002

Mineral Insulated Cable (light duty)

Nominal csa of conductor (mm^2)	Core Construction	BS 6387	BS EN60702-1	LPCB Ref. No.
1.0	2, 3, 4 & 7	C, W, Z	Complies	221h/01
1.5	2, 3, 4 & 7	C, W, Z	Complies	
2.5	2, 3, 4 & 7	C, W, Z	Complies	
4.0	2	C, W, Z	Complies	

Uo/U 300/500 V

Note:
1) The above range is certified in both bare and covered constructions.

Certificate No: 221h to BS 6387: 1994 and BS EN 60702-1: 2002

Mineral Insulated Cable (single core)

Nominal csa of conductor (mm^2)	Core Construction	BS 6387	BS EN60702-1	LPCB Ref. No.
1.5	One	C, W, Z	Complies	221h/02
2.5	One	C, W, Z	Complies	
4.0	One	C, W, Z	Complies	
6.0	One	C, W, Z	Complies	
10	One	C, W, Z	Complies	
16	One	C, W, Z	Complies	
25	One	C, W, Z	Complies	
35	One	C, W, Z	Complies	
50	One	C, W, Z	Complies	
70	One	C, W, Z	Complies	
95	One	C, W, Z	Complies	
120	One	C, W, Z	Complies	
150	One	C, W, Z	Complies	
185	One	C, W, Z	Complies	
240	One	C, W, Z	Complies	
300	One	C, W, Z	Complies	
400	One	C, W, Z	Complies	

Uo/U 450/750V

Notes:
1) The above range is certified in both bare and covered constructions.
2) For cables with an outside diameter in excess of 20mm, the category Z tests were conducted in accordance with guidance from the manufacturer.

Certificate No: 221h to BS 6387: 1994 and BS EN 60702-1: 2002

Mineral Insulated Cable (heavy duty)

Nominal csa of conductor (mm^2)	Core Construction	BS 6387	BS EN60702-1	LPCB Ref. No.
1.5	2, 3, 4, 7, 12 & 19	C, W, Z	Complies	221h/03
2.5	2, 3, 4, 7 & 12	C, W, Z	Complies	
4.0	2, 3 & 4	C, W, Z	Complies	
6.0	2, 3 & 4	C, W, Z	Complies	
10	2, 3 & 4	C, W, Z	Complies	
16	2, 3 & 4	C, W, Z	Complies	
25	2, 3 & 4	C, W, Z	Complies	

Uo/U 450/750V

Notes:
1) The above range is certified in both bare and covered constructions
2) For cables with an outside diameter in excess of 20mm, the category Z tests were conducted in accordance with guidance from the manufacturer.

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Certificate No: 568a to BS 6387: 1994 and BS EN 50267-2-1: 1999

ALPHAFIRE FPC4

Nominal csa of conductors (mm^2)	Core Construction	BS 6387	BS EN 50267-2-1 (outer covering)	LPCB Ref. No.
1.0	2, 3 & 4	C, W, Z	<0.5%HCl	568a/01
1.5	2, 3 & 4	C, W, Z	<0.5%HCl	
2.5	2, 3 & 4	C, W, Z	<0.5%HCl	
4.0	2, 3 & 4	C, W, Z	<0.5%HCl	

Uo/U 300/500 V

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450/750V Low smoke halogen free fire resistant cable

Nominal csa of conductor (mm^2)	Core Construction (see Note 1)	BS 6387	BS EN 50267-2-1 (outer covering)	BS EN 50268-1	LPCB Ref. No.
1.5	One [3]	C, W, Z	<0.5% HCl	>60%	576a/01
2.5	One [3]	C, W, Z	<0.5% HCl	>60%	
4.0	One [3]	C, W, Z	<0.5% HCl	>60%	
6.0	One [3]	C, W, Z	<0.5% HCl	>60%	
10	One [2,3]	C, W, Z	<0.5% HCl	>60%	
16	One [2,3]	C, W, Z	<0.5% HCl	>60%	
25	One [2,3]	C, W, Z	<0.5% HCl	>60%	
35	One [2,3]	C, W, Z	<0.5% HCl	>60%	
50	One [2,3]	C, W, Z	<0.5% HCl	>60%	
70	One [2,3]	C, W, Z	<0.5% HCl	>60%	
95	One [2,3]	C, W, Z	<0.5% HCl	>60%	
120	One [2,3]	C, W, Z	<0.5% HCl	>60%	
150	One	-	<0.5% HCl	>60%	
185	One	-	<0.5% HCl	>60%	
240	One	-	<0.5% HCl	>60%	
300	One	-	<0.5% HCl	>60%	
400	One	-	<0.5% HCl	>60%	
500	One	-	<0.5% HCl	>60%	
630	One	-	<0.5% HCl	>60%	

Uo/U = 450/750V

Notes:
1) Clause 8 (Bending) and 9.1 & 9.2 (Impact) can not be conducted due to the cable having only one core.
2) Where a single cable is fitted in a conduit, only phase to earth voltage was applied.
3) To satisfy the requirement of BS 6387, testing for C, W & Z categories were conducted using a 20mm stainless steel conduit as the other metallic element.

600/1000V XLPE/Armoured/Low smoke halogen free fire resistant cable

Nominal csa of conductor (mm^2)	Core Construction (see Note 1)	BS 6387	BS EN 50267-2-1 (outer covering)	BS EN 50268-1	LPCB Ref. No.
1.5	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	576a/02
2.5	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
4.0	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
6.0	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
10	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
16	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
25	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
35	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
50	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
70	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
95	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
120	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
150	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
185	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
240	One, 2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
300	One & 2	C, W, Z	<0.5% HCl	>60%	
400	One	C, W, Z	<0.5% HCl	>60%	

Uo/U = 450/750V

Note:

1) The above named cable also met category "C, W, Z" when tested for voltage rating 600/1000V which is not recognised by BS 6387

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Certificate No: 217d to BS 6387:1994 & BS 6425-1: 1990

Firecel SR112 Fire resistant cable

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (see note 1,2,3 & 4)	BS 6425-1 (outer covering)	LPCB Ref. No.
1.5	One	C, W, Z	<0.5% HCl	217d/01
2.5	One	C, W, Z	<0.5% HCl	
4.0	One	C, W, Z	<0.5% HCl	
6.0	One	C, W, Z	<0.5% HCl	
10	One	C, W, Z	<0.5% HCl	
16	One	C, W, Z	<0.5% HCl	
25	One	C, W, Z	<0.5% HCl	

Uo/U 450/750 V

Notes:
1) Clause 8 (Bending) and 9.1 & 9.2 (Impact) can not be conducted due to the cable having only one core.
2) To satisfy the requirement of BS 6387, testing for C, W, and Z categories was conducted using a 20mm steel conduit as the other metallic element.
3) For large size cables , the category C testing was conducted using a 38mm steel conduit.
4) Where a single cable is fitted in a conduit, only phase to earth voltage was applied

Certificate No: 217f to BS 7629-1:1997 (Incorporating Amendment No.1), BS EN 50200: 2000 class pH30 & BS 5839-1: 2002 Clause 26.2

Firecel SR/114 H Fire Resistant Cable

Nominal csa of conductors (mm^2)	Core Construction (excluding drain wire and earth)	BS 7629-1 (Incorporating Amendment No. 1)	BS EN 50200	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies[1]	Class PH30	Standard[2]	217f/01
1.5	2, 3 & 4	Complies[1]	Class PH30	Standard[2]	
2.5	2, 3 & 4	Complies[1]	Class PH30	Standard[2]	
4.0	2, 3 & 4	Complies[1]	Class PH30	Standard[2]	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the Firecel SR/114 H cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (binder + insulation + sheath) when tested in accordance with BS EN 50267-2-1: 1999.
2) The Firecel SR/114 H cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH30 when tested in accordance with BS EN 50200: 2000 and met the requirements of the additional fire, mechanical shock and water test described in Clause 26.2 d) of BS 5839-1: 2002, and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Certificate No: 217g to BS 7629-1:1997 (Incorp. Amendment No.1), BS EN 50200:2000 Class PH120, BS 8434-2:2003 & BS 5839-1:2002 Clause 26.2

Firecel SR 114 E

Nominal csa of conductor (mm^2)	Core Construction	BS 7629-1 (Incorporating Amendment No 1)	BS EN 50200	BS 8434-2	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies(1)	Class PH120	120min(2)	Enhanced(3)	217g/01
1.5	2, 3 & 4	Complies(1)	Class PH120	120min(2)	Enhanced(3)	
1.5	2, 3 & 4	Complies(1)	Class PH120	120min(2)	Enhanced(3)	
4.0	2, 3 & 4	Complies(1)	Class PH120	120min(2)	Enhanced(3)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the Firecel SR 114 E cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1: 1999.
2) The duration of 120min when tested in accordance with BS 8434-2: 2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2e) of BS 5839-1: 2002.
3) The Firecel SR 114 E cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH120 when tested in accordance with BS EN 50200: 2000 and met the 120min duration when tested in accordance with BS 8434-2: 2003 and hence met the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

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Certificate No: 172b to BS 7629-1:1997(Incorporating Amendment No.1),BS 6387:1994,BS EN 50200:2000 Class PH30, BS 8434-1:2003 & BS 5839-1:2002 Clause 26.2

Pyrofil Fire Safety

Nominal csa of conductor (mm^2)	Core Construction (excluding drainwire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS 6387	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies(1)	C, W, Z	Class PH30	30min(2)	Standard(3)	172b/01
1.5	2, 3 & 4	Complies(1)	C, W, Z	Class PH30	30min(2)	Standard(3)	
2.5	2, 3 & 4	Complies(1)	C, W, Z	Class PH30	30min(2)	Standard(3)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1:1997 (Incorporating Amendment No. 1), the Pyrofil Fire Safety cables listed met the requirements of smoke density of BS EN 50268-2:2000, fire resistance requirements CWZ in Clause 11 of BS 6387:1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1:1999.
2) The duration of 30min when tested in accordance with BS 8434-1:2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2d) of BS 5839-1:2002.
3) The Pyrofil Fire Safety cables listed conform to BS 7629-1:1997 (Incorporating Amendment No. 1), met class PH30 when tested in accordance with BS EN 50200:2000 and met the 30min duration when tested in accordance with BS 8434-1:2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.

Doncaster Cables

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Certificate No: 338a to BS 7629-1: 1997, BS EN 50200:2000 Class PH30 & BS 5839-1:2002 Clause 26.2

Firesure

Nominal csa of conductor (mm^2)	Core Construction	BS 7629-1 (Incorporating Amendment No.1)	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies (1)	Class PH30	30min(2)	Standard (3)	338a/01
1.5	2, 3 & 4	Complies (1)	Class PH30	30min(2)	Standard (3)	
2.5	2, 3 & 4	Complies (1)	Class PH30	30min(2)	Standard (3)	
4.0	2, 3 & 4	Complies (1)	Class PH30	30min(2)	Standard (3)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1:1997, the Firesure cables listed met the requirements of smoke density of BS 7622-2:1993, fire resistance requirements C, W, Z in Clause 11 of BS 6387:1994 and achieved less than 0.5%HCl on the (outer covering)when tested in accordance with BS 6425-1:1990.
2) The duration of 30min when tested in accordance with BS 8434-1: 2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2d of BS 5839-1:2002.

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Certificate No: 663a to BS 7846:2000

KEYSTONE Fire Resistance Armoured Cable

Nominal csa of conductor (mm^2)	Core Construction	BS 7846	LPCB Ref. No.
2.5	2, 3 & 4	F2(1)	663a/01
4.0	2, 3 & 4	F2(1)	
6.0	2, 3 & 4	F2(1)	
10	2, 3 & 4	F2(1)	
16	2, 3 & 4	F2(1)	
25	2, 3 & 4	F2(1)	
35	2, 3 & 4	F2(1)	
50	2, 3 & 4	F2(1)	
75	2, 3 & 4	F2(1)	
95	2, 3 & 4	F2(1)	
120	2, 3 & 4	F2(1)	
150	2, 3 & 4	F2(1)	
185	2, 3 & 4	F2(1)	
240	2, 3 & 4	F2(1)	
300	2, 3 & 4	F2(1)	
400	2, 3 & 4	F2(1)	
1.5	2, 3 & 4	F2(1)	

Uo/U 600/1000V

Note:
1) In meeting the requirements of BS 7846: 2000, the <KEYSTONE> Fire Resistance Armoured cables listed met the requirements of BS 6387:1994 Clause 11.1 Category C, W & Z.

Certificate No: 663b to BS 6387: 1994, BS EN 50267-2-1: 1999, BS EN 50268-2: 2000 and IEC 60331-21: 1999

KEYSTONE FR 7211 cable

Nominal csa of conductor (mm^2)	Core Construction (See note 1)	BS 6387	BS EN 50267-2-1 (Insulation & Binder tape)	BS EN 50268-2	IEC 60331-21	LPCB Ref. No.
1.5	One(3,4)	C,W,Z	<0.5% HCl	>60%	Complies	663b/01
2.5	One(4,5,6)	C,W,Z	<0.5% HCl	>60%	Complies	
4.0	One(4,5,6)	C,W,Z	<0.5% HCl	>60%	Complies	

Nominal csa of conductor (mm^2)	Core Construction (See note 1)	BS 6387	BS EN 50267-2-1 (Insulation & Binder tape)	BS EN 50268-2	IEC 60331-21	LPCB Ref. No.
6.0	One[4,5,6]	C,W,Z	<0.5% HCl	>60%	Complies	
10	One[4,5,6]	C,W,Z	<0.5% HCl	>60%	Complies	
16	One[4,5,6]	C,W,Z	<0.5% HCl	>60%	Complies	
25	One[4,5,6]	C,W,Z	<0.5% HCl	>60%	Complies	
35	One[4,5,6]	C,W,Z	<0.5% HCl	>60%	Complies	
50	One[2,6]	C	<0.5% HCl	-	Complies	
70	One[2,6]	C	<0.5% HCl	-	Complies	
95	One[2,6]	C	<0.5% HCl	-	Complies	
120	One[2,6]	C	<0.5% HCl	-	Complies	
150	One[2,6]	C	<0.5% HCl	-	Complies	
185	One[2,6]	C	<0.5% HCl	-	Complies	
240	One[2,6]	C	<0.5% HCl	-	Complies	
300	One[2,6]	C	<0.5% HCl	-	Complies	

Uo/U 450/750V

Notes:
1) Clauses 8 (Bending) and 9.1 & 9.2 (Impact) cannot be conducted due to the cable having only one core.
2) Where a single cable is fitted in a conduit, only phase to earth voltage was applied.
3) To satisfy the requirement of BS 6387, testing for C & W categories was conducted using a 20mm steel conduit as the other metallic element.
4) To satisfy the requirement of BS 6387, testing for Z category was conducted using a 20mm steel conduit as the other metallic element.
5) To satisfy the requirement of BS 6387, testing for W category was conducted using a 38mm steel conduit as the other metallic element.
6) To satisfy the requirement of BS 6387, testing for C category was conducted using a 38mm steel conduit as the other metallic element.

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Certificate No: 361a to IEC 331:1970 and BS EN 50267-2-1:1999

Sifer 950i Single core fire resistant OHLS Cable

Nominal csa of conductor (mm^2)	Core Construction	IEC 331 (see notes 1 & 2)	BS EN 50267-2-1 (outer covering)	LPCB Ref. No.
1.5	One	Complies	<0.5% HCl	361a/01
2.5	One	Complies	<0.5% HCl	
4.0	One	Complies	<0.5% HCl	
6.0	One	Complies	<0.5% HCl	
10.0	One	Complies	<0.5% HCl	
16	One	Complies	<0.5% HCl	
25	One	Complies	<0.5% HCl	
35	One	Complies	<0.5% HCl	
50	One	Complies	<0.5% HCl	
70	One	Complies	<0.5% HCl	
95	One	Complies	<0.5% HCl	
120	One	Complies	<0.5% HCl	
150	One	Complies	<0.5% HCl	
185	One	Complies	<0.5% HCl	
240	One	Complies	<0.5% HCl	
300	One	Complies	<0.5% HCl	
400	One	Complies	<0.5% HCl	
500	One	Complies	<0.5% HCl	
630	One	Complies	<0.5% HCl	

Uo/U 600/1000V

Notes:
1) The Sifer 950i cables also met IEC 331: when tested at 950°C

2.) The Sifer 950i cables (up to and including 25mm^2) also met IEC 331 when tested in conduit at 750°C and 950°C which is not recognised by the standard.

Certificate No: 361a to IEC 331:1970 and BS EN 50267-2-1:1999

Sifer 950S Single core fire resistant OHLS Cable

Nominal csa of conductor (mm^2)	Core Construction	IEC 331 (see notes 1 & 2)	BS EN 50267-2-1 (outer covering)	LPCB Ref. No.
1.5	One	Complies	<0.5% HCl	361a/02
2.5	One	Complies	<0.5% HCl	
4.0	One	Complies	<0.5% HCl	
6.0	One	Complies	<0.5% HCl	
10	One	Complies	<0.5% HCl	
16	One	Complies	<0.5% HCl	
25	One	Complies	<0.5% HCl	
35	One	Complies	<0.5% HCl	
50	One	Complies	<0.5% HCl	
70	One	Complies	<0.5% HCl	
95	One	Complies	<0.5% HCl	
120	One	Complies	<0.5% HCl	
150	One	Complies	<0.5% HCl	
185	One	Complies	<0.5% HCl	
240	One	Complies	<0.5% HCl	
300	One	Complies	<0.5% HCl	
400	One	Complies	<0.5% HCl	
500	One	Complies	<0.5% HCl	
630	One	Complies	<0.5% HCl	
800	One	Complies	<0.5% HCl	
1000	One	Complies	<0.5% HCl	

Uo/U 600/1000V

Notes:
1) The Sifer cables also met IEC 331: when tested at 950°C.
2) The Sifer 950s cables (up to and including 25mm2) also met IEC 331 when tested in conduit at 750°C and 950°C which is not recognised by the standard.

Certificate No: 361b to BS 6387:1994 and BS EN 50267-2-1:1999

Firetuf® Power OHLS® cable

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 6387 (see notes 1 & 2)	BS EN 50267-2-1 (outer covering)	LPCB Ref. No.
1.5	2, 3 & 4	C, W, Z	<0.5% HCl	361b/01
2.5	2, 3 & 4	C, W, Z	<0.5% HCl	
4.0	2, 3 & 4	C, W, Z	<0.5% HCl	
6.0	2, 3 & 4	C, W, Z	<0.5% HCl	
10	2, 3 & 4	C, W, Z	<0.5% HCl	
16	2, 3 & 4	C, W, Z	<0.5% HCl	
25	2, 3 & 4	C, W, Z	<0.5% HCl	
35	2, 3 & 4	C, W, Z	<0.5% HCl	
50	2, 3 & 4	C, W, Z	<0.5% HCl	
70	2, 3 & 4	C, W, Z	<0.5% HCl	
95	2, 3 & 4	C, W, Z	<0.5% HCl	
120	2, 3 & 4	C, W, Z	<0.5% HCl	
150	2, 3 & 4	C, W, Z	<0.5% HCl	
185	2, 3 & 4	C, W, Z	<0.5% HCl	
240	2, 3 & 4	C, W, Z	<0.5% HCl	
300	2, 3 & 4	C, W, Z	<0.5% HCl	
400	2, 3 & 4	C, W, Z	<0.5% HCl	

Uo/U 450/750V

Notes:
1) The Firetuf® Power OHLS® cable also met category "C, W, Z" when tested for voltage rating 600/1000V which is not recognised by BS 6387.

2) For cables with an outside diameter in excess of 20mm, the Category Z tests were conducted in accordance with guidance from the manufacturer.

Certificate No: 361c to BS 6387:1994 and BS 6425-1:1990

Firetuf® FTPU 950 fire resistant Mifer OHLS® cable

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 6387 (see notes 1 & 2)	BS 6425: Part 1 (outer covering)	LPCB Ref. No.
1.5	2, 3, 4 & 5	C, W, Z	<0.5% HCl	361c/01
1.5	7,10,12,16,20,21 & 30	C, W, Z	<0.5% HCl	
2.5	2, 3, 4 & 5	C, W, Z	<0.5% HCl	
2.5	7,10,12,16,20,21 & 30	C, W, Z	<0.5% HCl	
4.0	2, 3, 4 & 5	C, W, Z	<0.5% HCl	
6.0	2, 3, 4 & 5	C, W, Z	<0.5% HCl	
10	2, 3, 4 & 5	C, W, Z	<0.5% HCl	
16	2, 3, 4 & 5	C, W, Z	<0.5% HCl	
25	2, 3, 4 & 5	C, W, Z	<0.5% HCl	
35	2, 3, 4 & 5	C, W, Z	<0.5% HCl	
50	2, 3, 4 & 5	C, W, Z	<0.5% HCl	
70	2, 3, 4 & 5	C, W, Z	<0.5% HCl	
95	2, 3, 4 & 5	C, W, Z	<0.5% HCl	
120	2, 3 & 4	C, W, Z	<0.5% HCl	
150	2, 3 & 4	C, W, Z	<0.5% HCl	
185	2, 3 & 4	C, W, Z	<0.5% HCl	
240	2, 3 & 4	C, W, Z	<0.5% HCl	
300	2, 3 & 4	C, W, Z	<0.5% HCl	
4000	2, 3 & 4	C, W, Z	<0.5% HCl	
120/70	4+ Concentric Earth	C, W, Z	<0.5% HCl	
150/70	4+ Concentric Earth	C, W, Z	<0.5% HCl	
185/95	4+ Concentric Earth	C, W, Z	<0.5% HCl	
240/120	4+ Concentric Earth	C, W, Z	<0.5% HCl	
50/25	4+ Concentric Earth	C, W, Z	<0.5% HCl	
70/35	4+ Concentric Earth	C, W, Z	<0.5% HCl	
95/50	4+ Concentric Earth	C, W, Z	<0.5% HCl	

Uo/U 450/750V

Notes:
1) The Firetuf® FTPU 950 fire resistant Mifer OHLS® cable also met category "C,W,Z"when tested for voltage rating 600/1000V which is not recognised by BS 6387.
2) For cable with an outside diameter of in excess of 20mm, the category Z tests were conducted in accordance with guidance from the manufacturer.

Certificate No: 361d to BS7629-1:1997 (Inc Amdmt No.1),BS6387:1994,BS5839-1:2002 Clause 26.2d,BS8434-1:2003 30 min & BS EN50200:2000 Class PH30

Firetuf Easystrip Multicore

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS 6387	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.5	2, 3 & 4	Complies (1)	C, W, Z	Class PH30	30min (2)	Standard (3)	361d/01
2.5	2, 3 & 4	Complies (1)	C, W, Z	Class PH30	30min (2)	Standard (3)	
4.0	2, 3 & 4	Complies (1)	C, W, Z	Class PH30	30min (2)	Standard (3)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the Firetuf Easystrip Multicore cables listed met the requirements of smoke density of BS EN 50268-2: 2000 and achieved less than 0.5%HCl on the (insulation & outer covering) when tested in accordance with BS EN 50267-2-1: 1999.
2) The duration of 30min when tested in accordance with BS 8434-1: 2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2 d) of BS 5839-1: 2002.

3) The Firetuf Easystrip Multicore cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH30 when tested in accordance with EN 50200: 2000 and met a duration of 30min when tested in accordance with BS 8434-1: 2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Certificate No: 361e to BS 7629-1: 1997 (Incorporating Amendment No.1), BS 5839-1: 2002 Clause 26.2d, BS 8434-1: 2003 30min & BS EN 50200: 2000 Class PH30

Firetuf EMC

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.5	2	Complies (1)	Class PH30	30min (2)	Standard (3)	361e/01
2.5	2	Complies (1)	Class PH30	30min (2)	Standard (3)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the Firetuf EMC cables listed met the requirements of smoke density of BS EN 50268-2: 2000 and achieved less than 0.5%HCl on the (insulation & outer covering) when tested in accordance with BS EN 50267-2-1: 1999 .
2) The duration of 30min when tested in accordance with BS 8434-1: 2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2 d) of BS 5839-1: 2002.
3) The Firetuf EMC cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH30 when tested in accordance with EN 50200: 2000 and met a duration of 30min when tested in accordance with BS 8434-1: 2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Certificate No: 361f to BS 7629-1: 1997 (Incorporating Amendment No. 1), BS 6387: 1994, BS EN 50200: 2000 Class PH120, BS 8434-2: 2003 120min and BS 5839-1: 2002 Clause 26.2

Firetuf Plus

Nominal csa of conductor (mm^2)	Core Construction	BS 7629-1 (Incorporating Amendment No.1)	BS 6387	BS EN 50200	BS 8434-2	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.5	2, 3 & 4	Complies (1)	C,W,Z	Class PH120	120min (2)	Enhanced (3)	361f/01
2.5	2, 3 & 4	Complies (1)	C,W,Z	Class PH120	120min (2)	Enhanced (3)	
4.0	2, 3 & 4	Complies (1)	C,W,Z	Class PH120	120min (2)	Enhanced (3)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the Firetuf Plus cables listed met the requirements of smoke density of BS EN 50268-2: 2000 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1: 1999.
2) The duration of 120min when tested in accordance with BS 8434-2: 2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1: 2002.
3) The Firetuf Plus cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH120 when tested in accordance with EN 50200: 2000 and met the 120min duration when tested in accordance with BS 8434-2: 2003 and hence met the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

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Certificate No: 427a to BS 6387:1994 and BS EN 60702-1:2002

Mineral Insulated cable (light duty)

Nominal csa of conductor (mm^2)	Core Construction	BS 6387	BS EN 60702-1	LPCB Ref. No.
1.0	2, 3, 4 & 7	C, W, Z	Complies	427a/01
1.5	2, 3, 4 & 7	C, W, Z	Complies	
2.5	2, 3, 4 & 7	C, W, Z	Complies	
4.0	2	C, W, Z	Complies	

Uo/U 300/500 V

Note:
1) The above range is certified in both bare and covered constructions.

Certificate No: 427a to BS 6387:1994 and BS EN 60702-1:2002

MICO-EM Single core heavy duty mineral insulated cables

Nominal csa of conductor (mm^2)	Core Construction	BS 6387	BS EN 60702-1	LPCB Ref. No.
1.5	One	C, W, Z	Complies	427a/02
2.5	One	C, W, Z	Complies	
4.0	One	C, W, Z	Complies	
6.0	One	C, W, Z	Complies	
10	One	C, W, Z	Complies	
16	One	C, W, Z	Complies	
25	One	C, W, Z	Complies	
35	One	C, W, Z	Complies	
50	One	C, W, Z	Complies	
70	One	C, W, Z	Complies	
95	One	C, W, Z	Complies	
120	One	C, W, Z	Complies	
150	One	C, W, Z	Complies	
185	One	C, W, Z	Complies	
240	One	C, W, Z	Complies	
300	One	C, W, Z	Complies	
400	One	C, W, Z	Complies	

Uo/U 450/750V

Notes:
1) The above range is certified in both bare and covered constructions.
2) For cable with an outside diameter in excess of 20mm, the category Z tests were conducted in accordance with guidance from the manufacturer.

Certificate No: 427a to BS 6387:1994 and BS EN 60702-1:2002

MICO-EM Multi-core heavy duty mineral insulated cables

Nominal csa of conductor (mm^2)	Core Construction	BS 6387	BS EN 60702-1	LPCB Ref. No.
1.5	2, 3, 4, 7, 12 & 19	C, W, Z	Complies	427a/03
2.5	2, 3, 4, 7 & 12	C, W, Z	Complies	
4.0	2, 3 & 4	C, W, Z	Complies	
6.0	2, 3 & 4	C, W, Z	Complies	
10	2, 3 & 4	C, W, Z	Complies	
16	2, 3 & 4	C, W, Z	Complies	
25	2, 3 & 4	C, W, Z	Complies	

Uo/U 450/750V

Notes:
1) The above range is certified in both bare and covered constructions
2) For cable with an outside diameter in excess of 20mm, the category Z tests were conducted in accordance with guidance from the manufacturer.

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Certificate No: 741a to BS 8434-2: 2003 120min

Fireshield Enhanced

Nominal csa of conductor (mm^2)	Core construction	BS 8434-2	LPCB Ref. No.
1.0 (1)	2 & 4	120m (2)	741a/01
1.5 (1)	2 & 4	120m (2)	
2.5 (1)	2	120m (2)	

Uo/U 300/500V

Notes:
1) Solid conductor only.
2) The duration of 120min when tested in accordance with BS 8434-2: 2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase.

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Certificate No: 330h to BS 7629-1:1997 (Incorporating Amendment No.1), BS EN 50200:2000 Class PH30, BS 8434-1:2003 30min and BS 5839-1:2002 Clause 26.2

Fire Defence

Nominal csa of conductor (mm^2)	Core construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies (1)	Class PH30	30min (2)	Standard (3)	330h/01
1.5	2, 3 & 4	Complies (1)	Class PH30	30min (2)	Standard (3)	
2.5	2, 3 & 4	Complies (1)	Class PH30	30min (2)	Standard (3)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1:1997 (Incorporating Amendment No.1), the Fire Defence cables listed met the requirements of smoke density of BS EN 50268-2:2000, fire resistance requirements CWZ in Clause 11 of BS 6387:1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1:1999.
2) The duration of 30min when tested in accordance with BS 8434-1:2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2d) of BS 5839-1:2002.
3) The Fire Defence cables listed conform to BS 7629-1:1997 (Incorporating Amendment No.1), met Class PH30 when tested in accordance with BS EN 50200:2000 and met the 30min duration when tested in accordance with BS 8434-1:2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.

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Certificate No: 722a to BS 6387: 1994, BS EN 50267-2-1: 1999, BS EN 50268-2: 2000 and IEC 60331-21:1999

SEGURFOC FR 950 07Z-R-M

Nominal csa of conductor (mm^2)	Core Construction (see Note 1)	BS 6387 (Insulation & Binder tape)	BS EN 50267-2-1	BS EN 50268-2	IEC 60331-21 (See Note 7)	LPCB Ref. No.
1.5	one (3,4)	C, W, Z	>0.5%HCl	>60%	Complies	722a/01
2.5	one (4,5,6)	C, W, Z	>0.5%HCl	>60%	Complies	
4.0	one (4,5,6)	C, W, Z	>0.5%HCl	>60%	Complies	
6.0	one (4,5,6)	C, W, Z	>0.5%HCl	>60%	Complies	
10.0	one (4,5,6)	C, W, Z	>0.5%HCl	>60%	Complies	
16.0	one (4,5,6)	C, W, Z	>0.5%HCl	>60%	Complies	
25.0	one (2,5,6)	C, W	>0.5%HCl	>60%	Complies	
35.0	one (2,5,6)	C, W	>0.5%HCl	>60%	Complies	
50.0	one (2,5,6)	C, W	>0.5%HCl	>60%	Complies	
70.0	one (2,5,6)	C, W	>0.5%HCl	>60%	Complies	
95.0	one (2,5,6)	C, W	>0.5%HCl	>60%	Complies	
120.0	one (2,5,6)	C, W	>0.5%HCl	>60%	Complies	
150.0	one (2,5,6)	C, W	>0.5%HCl	>60%	Complies	
185.0	one (2,6)	C	>0.5%HCl	>60%	Complies	
240.0	one (2,6)	C	>0.5%HCl	>60%	Complies	
300.0	one (2,6)	C	>0.5%HCl	>60%	Complies	
400.0	one (2,6)	C	>0.5%HCl	>60%	Complies	
500.0	one (2,6)	C	>0.5%HCl	>60%	Complies	

Uo/U 450/750V

Notes:
1) Clause 8 (Bending) and 9.1 & 9.2 (Impact) can not be conducted due to the cable having only one core.
2) Where a single cable is fitted in a conduit, only phase to earth voltage was applied.
3) To satisfy the requirement of BS 6387, testing for C & W categories was conducted using a 20mm stainless steel conduit as the other metallic element.
4) To satisfy the requirement of BS 6387, testing for Z category was conducted using a 20mm stainless steel conduit as the other metallic element.
5) To satisfy the requirement of BS 6387, testing for W category was conducted using a 38mm stainless steel conduit as the other metallic element.
6) To satisfy the requirement of BS 6387, testing for C category was conducted using a 38mm stainless steel conduit as the other metallic element.
7) Testing to IEC 60331-21: 1999 was conducted at 450V

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Certificate No: 730a to BS 7846: 2000 (Incorporating Amendment Nos 1 and 2)

SEGURFOC FRA 950

Nominal csa of conductor (mm^2)	Core ontruction	BS 7846 (See Note 1)	LPCB Ref. No.
1.5	2, 3 & 4	F2	730a/01
2.5	2, 3 & 4	F2	
4.0	2, 3 & 4	F2	
6.0	2, 3 & 4	F2	
10.0	2, 3 & 4	F2	
16.0	2, 3 & 4	F2	

Nominal csa of conductor (mm^2)	Core ontruction	BS 7846 (See Note 1)	LPCB Ref. No.
25.0	2, 3 & 4	F2	
35.0	2, 3 & 4	F2	
50.0	2, 3 & 4	F2	
70.0	2, 3 & 4	F2	
95.0	2, 3 & 4	F2	
120.0	2, 3 & 4	F2	
150.0	2, 3 & 4	F2	
185.0	2, 3 & 4	F2	

Uo/U 600/1000V

Notes:
1) In meeting the requirements of BS 7846 category F2, the SEGURFOC FRA 950 cable met the requirements for fire resistance characteristics category CWZ specified in Clause 11 of BS 6387

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Certificate No: 716a to BS 7629-1: 1997 (Incorporating Amendment No.1), BS 6387: 1994, BS EN 50200: 2000 Class PH30, BS 8434-1: 2003 30min and BS 5839-1: 2002 Clause 26.2d

FIRECOOL

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS 6387	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4[1]	Complies [1]	C, W, Z	Class PH30	30min[4]	Standard[5]	716a/01
1.5	2, 3 & 4[1]	Complies [1]	C, W, Z	Class PH30	30min[4]	Standard[5]	
2.5	2, 3 & 4[1]	Complies [1]	C, W, Z	Class PH30	30min[4]	Standard[5]	
4.0	2, 3 & 4[2]	Complies [1]	C, W, Z	Class PH30	30min[4]	Standard[5]	

Uo/U 300/500V

Notes
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the FIRECOOL cables listed met the requirements of smoke density of BS EN 50268-2: 2000 and achieved less than 0.5%HCl on the (insulation, binder tape & outer covering) when tested in accordance with BS EN 50267-2-1: 1999.
2) The duration of 30min when tested in accordance with BS 8434-1: 2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2 d) of BS 5839-1: 2002.
3) The FIRECOOL cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH30 when tested in accordance with EN 50200: 2000 and met a duration of 30min when tested in accordance with BS 8434-1: 2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

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Certificate No: 408a to BS 7629-1:1997, BS EN 50200:2000 Class PH30 and BS 5839-1:2002 Clause 26.2

Kilflam 2000

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1	BS EN 50200	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies[1]	Class PH30	Standard[2]	408a/01
1.5	2, 3 & 4	Complies[1]	Class PH30	Standard[2]	
2.5	2, 3 & 4	Complies[1]	Class PH30	Standard[2]	
4.0	2, 3 & 4	Complies[1]	Class PH30	Standard[2]	

Uo/U 300/500 V

Notes
1) In meeting the requirements of BS 7629-1: 1997, the Kilflam 2000 cables listed met the requirements of smoke density of BS 7622-2: 1993, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (sheath, insulation and binder tape) when tested in accordance with BS 6425-1: 1990.
2) The Kilflam 2000 cables listed conform to BS 7629-1: 1997, meet Class PH30 when tested in accordance with BS EN 50200: 2000 and meet the requirements of the additional fire, mechanical shock and water test described in Clause 26.2 d) of BS 5839-1: 2002, and hence meet the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Certificate No: 408b to BS 6387:1994

Kilflam 1000

Nominal csa of conductor (mm^2)	Core Construction	BS 6387	LPCB Ref. No.
1.5	One	C, W, Z	408b/01
2.5	One	C, W, Z	
4.0	One	C, W, Z	
6.0	One	C, W, Z	
10.0	One	C, W, Z	
16.0	One	C, W, Z	

Uo/U 450/750V

Notes:
1) Clauses 8 (Bending) and 9.1 & 9.2 (Impact) can not be conducted due to the cable only having one core.
2.) To satisfy the requirements of BS 6387, testing for C, W and Z categories was conducted using 20mm steel conduit as the other metallic element.

Certificate No: 408c to BS 7629-1:1997 (Incorp. Amendment No.1), BS EN 50200:2000 Class PH120, BS 8434-2:2003 & BS 5839-1:2002 Clause 26.2

Kilflam 3000

Nominal csa of conductor (mm^2)	Core Construction	BS 7629-1 (Incorporating Amendment No. 1)	BS EN 50200	BS 8434-2	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies [1]	Class PH120	120min [2]	Enhanced [3]	408c/01
1.5	2, 3 & 4	Complies [1]	Class PH120	120min [2]	Enhanced [3]	
2.5	2, 3 & 4	Complies [1]	Class PH120	120min [2]	Enhanced [3]	
4.0	2, 3 & 4	Complies [1]	Class PH120	120min [2]	Enhanced [3]	408c01

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1:1997, the Kilflam 3000 cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387:1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1:1999.
2) The duration of 120min when tested in accordance with BS 8434-2:2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2e) of BS 5839-1:2002.
3) The Kilflam 3000 cables listed conform to BS 7629-1:1997 (Incorporating Amendment No.1), met Class PH120 when tested in accordance with BS EN 50200:2000 and met the 120min duration when tested in accordance with BS 8434-2: 2003 and hence met the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.

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Certificate No: 682a to BS 7629-1:1997 (Incorporating Amendment No.1), BS EN 50200:2000 Class PH30, BS 8434-1:2003 30min and BS 5839-1:2002 Clause 26.2

Jayflame

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies (1)	Class PH30	30min (2)	Standard (3)	682a/01
1.5	2, 3 & 4	Complies (1)	Class PH30	30min (2)	Standard (3)	
2.5	2, 3 & 4	Complies (1)	Class PH30	30min (2)	Standard (3)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1:1997 (Incorporating Amendment No.1), the Jayflame cables listed met the requirements of smoke density of BS EN 50268-2:2000, fire resistance requirements CWZ in Clause 11 of BS 6387:1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1:1999.
2) The duration of 30min when tested in accordance with BS 8434-1:2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2d) of BS 5839-1:2002.
3) The Jayflame cables listed conform to BS 7629-1:1997 (Incorporating Amendment No.1), met Class PH30 when tested in accordance with BS EN 50200:2000 and met the 30min duration when tested in accordance with BS 8434-1:2003 and hence met the requirements
for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.

Certificate No: 682b/01 to BS 7629-1: 1997 (Incorporating Amendment No.1), BS EN 50200:2000, BS 8434-2: 2003, BS 6387: 1994 and BS 5839-1: 2002 Clause 26.2

Jayflame Plus

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire and earth)	BS7629-1 (incorporating Amendment No. 1)	BC6387	BS EN 50200	BS 8434-2	BS 5839-1 (clause 26.2)	LPCB Ref. No.
1.0	2, 3 & 4	Complies(2)	C,W,Z	Class PH120	120min(2)	Enhanced(3)	682b/01
1.5	2, 3 & 4	Complies(2)	C,W,Z	Class PH120	120min(2)	Enhanced(3)	
2.5	2, 3 & 4	Complies(2)	C,W,Z	Class PH120	120min(2)	Enhanced(3)	

300/500V

Notes:
1) In meeting the requirements of BS 7629-1:1997 (Incorporating Amendment No.1), the Jayflame Plus cables listed met the requirements of smoke density of BS EN 50268-2:2000 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1:1999.
2) The duration of 120min when tested in accordance with BS 8434-2:2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2e) of BS 5839-1:2002.
3) The Jayflame Plus cables listed conform to BS 7629-1:1997 (Incorporating Amendment No.1), met Class PH120 when tested in accordance
with BS EN 50200:2000 and met a duration of 120min when tested in accordance with BS 8434-2:2003 and hence met the requirements for an enhanced fire resistant cable as described in clause 26.2 of BS 5839-1:2002.

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Certificate No: 658a/01 to BS EN 50266-2-4:2001

-KEYSTONE- Armoured Electric Cable

Nominal csa of conductor (mm^2)	Core Construction	BS EN 50266-2-4	LPCB Ref. No.
2.5	27	C	658a/01
4.0	12	C	

Uo/U 600/1000 V

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Certificate No: 253a to BS 6387:1994 and BS 6425-1:1990

Pyrolyon 'E' Fire Resistant Cable

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 6387	(outer covering)	BS 6425: Part 1	LPCB Ref. No.
1.0	2, 3 & 4	C, W, Z	<0.5% HCl		253a/01
1.5	2, 3 & 4	C, W, Z	<0.5% HCl		
2.5	2, 3 & 4	C, W, Z	<0.5% HCl		

Uo/U 300/500V

Certificate No: 253f to BS 7629-1: 1997 (Inc. Amd. No.1), BS 6387: 1994, BS EN 50200: 2000 Class PH30, BS 8434-1: 2003 30min and BS 5839-1: 2002 Clause 26.2d

Alsecure-NX200

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS 6387	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0(1)	2,3 & 4	Complies(3)	C,W,Z	Class PH30	30min(4)	Standard(5)	253f/01
1.5(1)	2,3 & 4	Complies(3)	C,W,Z	Class PH30	30min(4)	Standard(5)	
2.5(1)	2,3 & 4	Complies(3)	C,W,Z	Class PH30	30min(4)	Standard(5)	
4.0(2)	2,3 & 4	Complies(3)	C,W,Z	Class PH30	30min(4)	Standard(5)	

Uo/U 300/500V

Notes:
1) Solid conductor only.
2) Stranded conductor only.
3) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the Alsecure-NX200 cables listed met the requirements of smoke density of BS EN 50268-: 2000 and achieved less than 0.5%HCl on the (insulation, binder tape & outer covering) when tested in accordance with BS EN 50267-2-1: 1999.
4) The duration of 30min when tested in accordance with BS 8434-1: 2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2 d) of BS 5839-1: 2002.
5) The Alsecure-NX200 cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH30 when tested

in accordance with EN 50200: 2000 and met a duration of 30min when tested in accordance with BS 8434-1: 2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Certificate No: 253g to BS 7629-1: 1997 (Inc. Amd. Nos. 1 and 2), BS 6387: 1994, BS EN 50200: 2000 Class PH120, BS 8434-2: 2003 120min and BS 5839-1: 2002 Clause 26.2

ALSECURE NX 200 PLUS

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS 6387	BS EN 50200	BS 8434-2	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0 (1)	2, 3 & 4	Complies (2)	C,W,Z	Class PH120	120min (3)	Enhanced (4)	253g/01
1.5 (1)	2, 3 & 4	Complies (2)	C,W,Z	Class PH120	120min (3)	Enhanced (4)	
2.5 (1)	2, 3 & 4	Complies (2)	C,W,Z	Class PH120	120min (3)	Enhanced (4)	

Uo/U 300/500V

Notes:
1) Solid conductor only.
2) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendments Nos. 1 and 2), the ALSECURE NX 200 PLUS cables listed met the requirements of smoke density of BS EN 50268-2: 2000 and achieved less than 0.5%HCl on the (insulation, binder tape & outer covering) when tested in accordance with BS EN 50267-2-1: 1999.
3) The duration of 120min when tested in accordance with BS 8434-2: 2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1: 2002.
4) The ALSECURE NX 200 PLUS cables listed conform to BS 7629-1: 1997 (Incorporating Amendments Nos. 1 and 2), met Class PH120 when tested in accordance with BS EN 50200: 2000 and met a duration of 120min when tested in accordance with BS 8434-2: 2003 and hence met the requirements for an Enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

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Certificate No: 582a to BS 6387:1994, BS EN 50267-2-1:1999, BS 7622-2:1993, IEC60331-21:1999

ALSECURE NX100 Cable (formerly known as MX331 Cable)

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (see notes 1, 2 & 5)	BS EN 50267-2-1	BS EN 50268-2	IEC 60331-21 (see note 6)	LPCB Ref. No.
1.5	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	582a/01
2.5	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
4.0	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
6.0	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
10.0	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
16.0	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
25.0	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
35.0	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
50.0	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
70.0	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
95.0	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
120.0	one(3)	C, W, Z	<0.5%HCl	>60%	Complies	
150.0	one(4)	C	<0.5%HCl	>60%	Complies	
185.0	one(4)	C	<0.5%HCl	>60%	Complies	
240.0	one(4)	C	<0.5%HCl	>60%	Complies	
300.0	one(4)	C	<0.5%HCl	>60%	Complies	
400.0	one	N/A	<0.5%HCl	>60%	Complies	
500.0	one	N/A	<0.5%HCl	>60%	Complies	
630.0	one	N/A	<0.5%HCl	>60%	Complies	

Uo/U 450/750V

Notes:
1) Clause 8 (Bending) and 9.1 & 9.2 (Impact) can not be conducted due to the cable having only one core.
2) The ALSECURE NX100 cable also met category C,W,Z when tested for voltage rating 600/1000V which is not recognised by BS 6387.
3) To satisfy the requirement of BS 6387, testing for W and Z categories was conducted using a 20mm steel conduit as the other metallic element.
4) To satisfy the requirement of BS 6387, testing for C category was conducted using a 38mm steel conduit as the other metallic element.
5) Where a single cable is fitted in a conduit, only phase to earth voltage was applied.
6) Testing to IEC 60331 was conducted in conduit at 600/1000V.

Certificate No: 582b to BS 7846: 2000 This certificate is to a withdrawn version of the BS 7846: 2000. Cables conforming to this version of the standard may not be suitable for use within the jurisdiction of the European Union (EU).

ALSECURE NX400 Cable (Formerly known as Lyonotox 331 SWA Cable)

Nominal csa of conductor (mm^2)	Core Construction	BS 7846	LPCB Ref. No.
1.5	2, 3 & 4	F2	582b/01
2.5	2, 3 & 4	F2	
4.0	2, 3 & 4	F2	
6.0	2, 3 & 4	F2	
10	2, 3 & 4	F2	
16	2, 3 & 4	F2	
25	2, 3 & 4	F2	
35	2, 3 & 4	F2	
50	2, 3 & 4	F2	
70	2, 3 & 4	F2	
95	2, 3 & 4	F2	
120	2, 3 & 4	F2	
150	2, 3 & 4	F2	
185	2, 3 & 4	F2	
240	2, 3 & 4	F2	
300	2, 3 & 4	F2	
400	2, 3 & 4	F2	

Uo/U 600/1000 V

Notes:
1) In meeting the requirements of BS 7846: 2000, the ALSECURE NX400 Cable (Formerly known as Lyonotox 331 SWA Cable) listed met the requirements of BS 6387: 1994 Clause 11.1 Category C, W & Z.
2) BS 7846: 2000 was amended in 2004 to implement the changes to the identification of cores by colours, in accordance with the CENELEC Harmonisation Document HD 308 S2. The un-amended version of the standard was withdrawn on 31st March 2006. However, cables with the old identification colours, meeting the withdrawn version of the standard, are still requested by some regulators outside of the EU. Certification to the un-amended version of the standard has therefore been maintained, for the time being, to satisfy the requirements of these regulators.

   Certificate 582c covers cables certified in accordance with BS 7846: 2000 (Incorporating Amendments Nos. 1 & 2)

Certificate No: 582c to BS 7846: 2000 (Incorporating Amendments Nos. 1 & 2)

ALSECURE NX400 Cable (Formerly known as Lyonotox 331 SWA Cable)

Nominal csa of conductor (mm^2)	Core Construction	BS 7846 (Incorporating Amendments Nos. 1 & 2)	LPCB Ref. No.
1.5	2, 3 & 4	F2	582c/01
2.5	2, 3 & 4	F2	
4.0	2, 3 & 4	F2	
6.0	2, 3 & 4	F2	
10	2, 3 & 4	F2	
16	2, 3 & 4	F2	
25	2, 3 & 4	F2	
35	2, 3 & 4	F2	
50	2, 3 & 4	F2	
70	2, 3 & 4	F2	
95	2, 3 & 4	F2	
120	2, 3 & 4	F2	
150	2, 3 & 4	F2	

Nominal csa of conductor (mm^2)	Core Construction	BS 7846 (Incorporating Amendments Nos. 1 & 2)	LPCB Ref. No.
185	2, 3 & 4	F2	
240	2, 3 & 4	F2	
300	2, 3 & 4	F2	
400	2, 3 & 4	F2	

Uo/U 600/1000 V

Note:
1) In meeting the requirements of BS 7846: 2000 (Incorporating Amendments Nos. 1 & 2), the ALSECURE NX400 Cable (Formerly known as Lyonotox 331 SWA Cable) listed met the requirements of BS 6387: 1994 Clause 11.1 Category C, W & Z

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Certificate No: 077a to BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2)

FP200 Gold LSOH

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1	LPCB Ref. No.
1.0	7	Complies [1]	077a/02
1.5	7, 12 & 19	Complies [1]	
2.5	7 & 12	Complies [1]	

Uo/U 300/500V

Note:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2), the FP200 Gold LSOH cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1: 1999.

Certificate No: 077a to BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2)

FP200 Flex

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1	LPCB Ref. No.
1.0	2, 3 & 4	Complies [1]	077a/03
1.5	2, 3 & 4	Complies [1]	
2.5	2, 3 & 4	Complies [1]	

Uo/U 300/500V

Note:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2), the FP200 Gold LSOH cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1: 1999.

Certificate No: 077b to BS 6387:1994 and BS EN 50267-2-1:1999

FP300 fire resistant cable LSOH outer covering

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (See note 1)	BS EN 50267-2-1 (outer covering)	LPCB Ref. No.
1.0	2, 3 & 4	C, W, Z	<0.5% HCl	077b/01
1.5	2, 3 & 4	C, W, Z	<0.5% HCl	
2.5	2, 3 & 4	C, W, Z	<0.5% HCl	
4.0	2, 3 & 4	C, W, Z	<0.5% HCl	
6.0	2, 3 & 4	C, W, Z	<0.5% HCl	
10	2, 3 & 4	C, W, Z	<0.5% HCl	
16	2, 3 & 4	C, W, Z	<0.5% HCl	

Uo/U 450/750 V

Note:
1) The FP300 LSOH cable also met Category "C,W,Z"when tested for voltage rating 600/1000V which is not recognised by BS 6387.

Certificate No: 077b to BS 6387:1994 and BS EN 50267-2-1

FP400 fire resistant cable LSOH outer covering

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (see note 1)	BS EN 50267-2-1 (outer covering)	LPCB Ref. No.
1.0	2, 3, and 4[2][3]	C, W, Z	<0.5% HCl	077b/02
1.5	2, 3, and 4[2][3]	C, W, Z	<0.5% HCl	
2.5	2, 3, and 4[2][3]	C, W, Z	<0.5% HCl	
4.0	2, 3, and 4[2][3]	C, W, Z	<0.5% HCl	
6.0	2, 3, and 4[2][3]	C, W, Z	<0.5% HCl	
10	2, 3, and 4[2][3]	C, W, Z	<0.5% HCl	
16	2, 3, and 4[2][3]	C, W, Z	<0.5% HCl	
25	2, 3, and 4[2][3]	C, W, Z	<0.5% HCl	
35	2, 3, and 4[2]	C, W, Z	<0.5% HCl	
50	2, 3, and 4[2]	C, W, Z	<0.5% HCl	
70	2, 3, and 4[2]	C, W, Z	<0.5% HCl	
95	2, 3, and 4[2]	C, W, Z	<0.5% HCl	
120	2, 3, and 4[2]	C, W, Z	<0.5% HCl	
150	2, 3, and 4[2]	C, W, Z	<0.5% HCl	
185	2, 3, and 4[2]	C, W, Z	<0.5% HCl	
240	2, 3, and 4[2]	C, W, Z	<0.5% HCl	
300	2, 3, and 4[2]	C, W, Z	<0.5% HCl	
400	2, 3, and 4[2]	C, W, Z	<0.5% HCl	

Uo/U 450/750 V

Notes :
1) The FP400 cable also met category "C, W, Z" when tested for voltage rating 600/1000 V which is not recognised by BS 6387.
2) The FP400 cable approved with insulation type XLPE(GP8)
3) The FP400 cable approved with insulation type EPR(GP6)

Certificate No: 077b to BS 6387:1994 and BS EN 50267-2-1

FP200 Gold LSOH

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 6387	BS EN 50267-2-1 (outer tape & outer covering)	LPCB Ref. No.
2.5	19	C & W	<0.5% HCl	077b/03

Uo/U 300/500V

Certificate No: 077c to BS 6387: 1994, BS EN 50267-2-1: 1999 and IEC 60331-21: 1999

FP100 fire resistant single core cable for installation in conduit

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (see notes 1 - 4))	BS EN 50267-2-1 (outer covering)	IEC 60331-21 (see note 5)	LPCB Ref. No.
1.0	One	C, W, Z	<0.5% HCl	-	077c/01
1.5	One	C, W, Z	<0.5% HCl	-	
2.5	One	C, W, Z	<0.5% HCl	-	
4.0	One	C, W, Z	<0.5% HCl	-	
6.0	One	C, W, Z	<0.5% HCl	-	
10	One	C, W, Z	<0.5% HCl	-	
16	One	C, W, Z	-	Complies	
25	One	C, W, Z	-	Complies	
35	One	C, W, Z	-	Complies	
50	One	C, W, Z	-	Complies	
70	One	C, W, Z	-	Complies	
95	One	C, W, Z	-	Complies	
120	One	C	-	Complies	
150	One	C	-	Complies	
185	One	-	-	Complies	
240	One	-	-	Complies	
300	One	-	-	Complies	
400	One	-	-	Complies	
500	One	-	-	Complies	

Uo/U 450/750 V

Notes:
1) Testing was conducted using 20mm steel conduit.
2) To satisfy the requirement of BS 6387 the conduit was considered as the other metallic element.
3) Clauses 8 (Bending) and 9.1 & 9.2 (Impact) cannot be conducted due to the cable having only one core.
4) Only a single cable is fitted in conduit, hence only phase to earth voltage was applied.
5) Testing to IEC 60331 was conducted at voltage rating of 600/1000V and at 950ºC which is not recognised by the standard.

Certificate No: 077d to BS 6387:1994, BS EN 50267-2-1:1999 and BS EN 50268-2:2000

FP150 LS0H

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 6387	BS EN 50267-2-1 (outer covering)	BS EN 50268-2	LPCB Ref. No.
1.0	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	077d/01
1.5	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	
2.5	2, 3 & 4	C, W, Z	<0.5% HCl	>60%	

Uo/U 300/500V

Certificate No: 077e to BS 6387: 1994, BS EN 50267-2-1: 1999 and IEC 60331-21: 1999

FP300 single core cable

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (see notes 1,2, & 5)	BS EN 50267-2-1 (outer covering)	IEC 60331-21 (see note 7)	LPCB Ref. No.
1.0	One	C, W, Z[3]	<0.5% HCl	Complies	077e/01
1.5	One	C, W, Z[3]	<0.5% HCl	Complies	
2.5	One	C, W, Z[3]	<0.5% HCl	Complies	
4.0	One	C, W, Z[3]	<0.5% HCl	Complies	
6.0	One	C, W, Z[3]	<0.5% HCl	Complies	
10	One	C, W, Z[3]	<0.5% HCl	Complies	
16	One	C, W, Z[3]	<0.5% HCl	Complies	
25	One	C, W, Z[3]	<0.5% HCl	Complies	
35	One	C, W, Z[3]	<0.5% HCl	Complies	
50	One	C[4]	<0.5% HCl	Complies	
70	One	C[4]	<0.5% HCl	Complies	

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (see notes 1,2, & 5)	BS EN 50267-2-1 (outer covering)	IEC 60331-21 (see note 7)	LPCB Ref. No.
95	One	C[4]	<0.5% HCl	Complies	
120	One	C[4]	<0.5% HCl	Complies	
150	One	C[4]	<0.5% HCl	Complies	
185	One	C[4]	<0.5% HCl	Complies	
240	One	C[4]	<0.5% HCl	Complies	
300	One	Complies[6]	<0.5% HCl	Complies	
400	One	Complies[6]	<0.5% HCl	Complies	
500	One	Complies[6]	<0.5% HCl	Complies	
630	One	Complies[6]	<0.5% HCl	Complies	

Uo/U 450/750 V

Notes:
1) Clause 8 (Bending) and 9.1 & 9.2 (Impact) of the BS 6387 standard cannot be conducted due to the cable having only one core.
2) The single core cable also met category C, W, Z when tested for voltage rating 600/1000 V which is not recognised by BS 6387.
3) To satisfy the requirement of BS 6387, testing for C, W and Z categories was conducted using a 20mm steel conduit as the other metallic element.
4) To satisfy the requirement of BS 6387, testing for C category was conducted using a 38mm steel conduit as the other metallic element.
5) Where a single cable is fitted in a conduit, only phase to earth voltage was applied.
6) Only clause 10 of BS 6387 was conducted.
7) Testing to IEC 60331 was conducted at voltage rating of 600/1000V and at 950°C which is not recognised by the standard

Certificate No: 077e to BS 6387:1994, BS EN 50267-2-1 and BIEC 60331-21

FP300MI single core cable

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (see notes 1, 2 & 5)	BS EN 50267-2-1 (outer covering)	IEC 60331-21 (see note 7)	LPCB Ref. No.
1.0	One	C, W, Z[3]	<0.5% HCl	Complies	077e/02
1.5	One	C, W, Z[3]	<0.5% HCl	Complies	
2.5	One	C, W, Z[3]	<0.5% HCl	Complies	
4.0	One	C, W, Z[3]	<0.5% HCl	Complies	
6.0	One	C, W, Z[3]	<0.5% HCl	Complies	
10	One	C, W, Z[3]	<0.5% HCl	Complies	
16	One	C, W, Z[3]	<0.5% HCl	Complies	
25	One	C, W, Z[3]	<0.5% HCl	Complies	
35	One	C, W, Z[3]	<0.5% HCl	Complies	
50	One	C[4]	<0.5% HCl	Complies	
70	One	C[4]	<0.5% HCl	Complies	
95	One	C[4]	<0.5% HCl	Complies	
120	One	C[4]	<0.5% HCl	Complies	
150	One	C[4]	<0.5% HCl	Complies	
185	One	C[4]	<0.5% HCl	Complies	
240	One	C[4]	<0.5% HCl	Complies	
300	One	Complies[6]	<0.5% HCl	Complies	
400	One	Complies[6]	<0.5% HCl	Complies	
500	One	Complies[6]	<0.5% HCl	Complies	
630	One	Complies[6]	<0.5% HCl	Complies	

Uo/U 450/750V

Notes:
1) Clause 8 (Bending) and 9.1 & 9.2 (Impact) of the BS 6387 standard cannot be conducted due to the cable having only one core.
2) The single core cable also met category "C, W, Z" when tested for voltage rating 600/1000 V which is not recognised by BS 6387.
3) To satisfy the requirement of BS 6387, testing for C,W, and Z categories was conducted using a 20mm steel conduit as the other metallic element.
4) To satisfy the requirement of BS 6387, testing for C category was conducted using a 38mm steel conduit as the other metallic element.
5) Where a single cable is fitted in a conduit, only phase to earth voltage was applied.
6) Only clause 10 of BS 6387 was conducted.
7) Testing to IEC 331 was conducted at voltage rating of 600/1000V and at 950°C which is not recognised by the standard.

Certificate No: 077f to BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2)

FP200 Gold LSOH

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendments Nos. 1 & 2)	BS EN 50200	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies [1]	Class PH30	Standard [2]	077f/01
1.5	2, 3 & 4	Complies [1]	Class PH30 & PH60	Standard [2]	
2.5	2, 3 & 4	Complies [1]	Class PH30 & PH60	Standard [2]	
4.0	2, 3 & 4	Complies [1]	Class PH30 & PH60	Standard [2]	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2), the FP200 Gold LSOH cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (insulation, binder tape & outer covering) when tested in accordance with BS EN 50267-2-1: 1999.
2) The FP200 Gold LSOH cables listed conform to BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2), met Class PH30 when tested in accordance with BS EN 50200: 2000 and met the requirements of the additional fire, mechanical shock and water tests described in Clause 26.2 d) of BS 5839-1: 2002 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Certificate No: 077g to BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2)

FP Plus

Nominal csa of conductor (mm^2)	Core Construction	BS 7629-1 (Incorporating Amendments Nos.1 & 2)	BS EN 50200	BS 8434-2	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies [1]	Class PH120	120min [2]	Enhanced [3]	077g/01
1.5	2, 3 & 4	Complies [1]	Class PH120	120min [2]	Enhanced [3]	
2.5	2, 3 & 4	Complies [1]	Class PH120	120min [2]	Enhanced [3]	

300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997, the FP Plus cables listed met the requirements of smoke density of BS 7622-2: 1993, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS 6425-1: 1990.
2) The duration of 120min when tested in accordance with BS 8434-2: 2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1: 2002.
3) The FP Plus cables listed conform to BS 7629-1: 1997, meet Class PH120 when tested in accordance with EN 50200: 2000 and meet a duration of 120min when tested in accordance with BS 8434-2: 2003 and hence meet the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Certificate No: 077h to BS 7629-1:1997 (Inc.Amnd.No.1)BS 5839-1:Clause 26.2e,BS EN 50200:2000 Class PH120, BS 8434-2:2003 120min

FP Plus Flex

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS EN 50200	BS 8464-2	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2,3 & 4	Complies [(1)]	Class PH120	120min[(2)]	Enhanced[(3)]	077h/01
1.5	2,3 & 4	Complies[(1)]	Class PH120	120min[(2)]	Enhanced[(3)]	
2.5	2,3 & 4	Complies[(1)]	Class PH120	120min[(2)]	Enhanced[(3)]	
4.0	2,3 & 4	Complies[(1)]	Class PH120	120min[(2)]	Enhanced[(3)]	

Uo/U = 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the FP Plus Flex cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1: 1999.
2) The duration of 120min when tested in accordance with BS 8434-2: 2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1: 2002.
3) The FP Plus Flex cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH120 when tested in accordance with EN 50200: 2000 and met a duration of 120min when tested in accordance with BS 8434-2: 2003 and hence met the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Certificate No: 077j to BS 7629-1: 1997 This certificate is to a withdrawn version of the BS 7629-1: 1997. Cables conforming to this version of the standard may not be suitable for use within the jurisdiction of the European Union (EU).

FP200 Gold LSOH

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (see note 2)	LPCB Ref. No.
1.0	7	Complies (1)	077j/01
1.5	7, 12 & 19	Complies (1)	
2.5	7 & 12	Complies (1)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997, the FP200 Gold LSOH cables listed met the requirements of smoke density of BS 7622-2: 1993, fire resistance requirementsCWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS 6425-1: 1990.
2) BS 7629-1: 1997 was amended in 2004 to implement the changes to the identification of cores by colours, in accordance with the CENELEC Harmonisation Document HD 308 S2. The un-amended version of the standard was withdrawn on 31st March 2006. However, cables with the old identification colours, meeting the withdrawn version of the standard, are still requested by some regulators outside of the EU. Certification to the un-amended version of the standard has therefore been maintained, for the time being.
to satisfy the requirements of these regulators.

Certificate 077a covers cables certified in accordance with BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2)

Certificate No: 077j to BS 7629-1: 1997 This certificate is to a withdrawn version of the BS 7629-1: 1997. Cables conforming to this version of the standard may not be suitable for use within the jurisdiction of the European Union (EU).

FP200 Flex

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (see note 2)	LPCB Ref. No.
1.0	2, 3 & 4	Complies (1)	077j/02
1.5	2, 3 & 4	Complies (1)	
2.5	2, 3 & 4	Complies (1)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997, the FP200 Gold LSOH cables listed met the requirements of smoke density of BS 7622-2: 1993, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS 6425-1: 1990.
2) BS 7629-1: 1997 was amended in 2004 to implement the changes to the identification of cores by colours, in accordance with the CENELEC Harmonisation Document HD 308 S2. The un-amended version of the standard was withdrawn on 31st March 2006. However, cables with the old identification colours, meeting the withdrawn version of the standard, are still requested by some regulators outside of the EU. Certification to the un-amended version of the standard has therefore been maintained, for the time being,
to satisfy the requirements of these regulators.

Certificate 077a covers cables certified in accordance with BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2)

Certificate No: 077k to BS 7629-1: 1997 This certificate is to a withdrawn version of the BS 7629-1: 1997. Cables conforming to this version of the standard may not be suitable for use within the jurisdiction of the European Union (EU).

FP200 Gold LSOH

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (see note 3)	BS EN 50200	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies (1)	Class PH30	Standard (2)	077k/01
1.5	2, 3 & 4	Complies (1)	Class PH30 & PH60	Standard (2)	
2.5	2, 3 & 4	Complies (1)	Class PH30 & PH60	Standard (2)	
4.0	2, 3 & 4	Complies (1)	Class PH30 & PH60	Standard (2)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997, the FP200 Gold LSOH cables listed met the requirements of smoke density of BS 7622-2: 1993, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (insulation, binder tape & outer covering) when tested in accordance with BS 6425-1: 1990.
2) The FP200 Gold LSOH cables listed conform to BS 7629-1: 1997, met Class PH30 when tested in accordance with BS EN 50200: 2000 and met the requirements of the additional fire, mechanical shock and water tests described in Clause 26.2 d) of BS 5839-1: 2002 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.
3) BS 7629-1: 1997 was amended in 2004 to implement the changes to the identification of cores by colours, in accordance with the CENELEC Harmonisation Document HD 308 S2. The un-amended version of the standard was withdrawn on 31st March 2006. However, cables with the old identification colours, meeting the withdrawn version of the standard, are still requested by some regulators outside of the EU. Certification to the un-amended version of the standard has therefore been maintained, for the time being, to satisfy the requirements of these regulators.

   Certificate 077f covers cables certified in accordance with BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2)

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Certificate No: 517a to BS 6387: 1994, BS EN 50267-2-1: 1999 and IEC 60331-21: 1999

FP300 Single Core LSZH Cable

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (see notes 1 to 4)	BS EN 50267-2-1 (outer covering)	IEC 60331-21 (see note 6)	LPCB Ref. No.
50	One	C	<0.5%HCl	Complies	517a/01
70	One	C	<0.5%HCl	Complies	
95	One	C	<0.5%HCl	Complies	
120	One	C	<0.5%HCl	Complies	
185	One	C	<0.5%HCl	Complies	
240	One	C	<0.5%HCl	Complies	
300	One	Complies (5)	<0.5%HCl	Complies	
400	One	Complies (5)	<0.5%HCl	Complies	
630	One	Complies (5)	<0.5%HCl	Complies	
800	One	Complies (5)	<0.5%HCl	Complies	
1000	One	Complies (5)	<0.5%HCl	Complies	

Uo/U 450/750

Notes:
1) These cables also met category C when tested for voltage rating 600/1000V which is not recognised by BS 6387.
2) Clause 8 (bending) and 9.1 & 9.2 (impact) can not be conducted due to the cable having only one core.
3) To satisfy the requirement of BS 6387, testing for category C was conducted using 38mm steel conduit as the other metallic element.
4) Where single cable is fitted in conduit, only phase to earth voltage was applied.
5) Only clause 10 of BS 6387 was conducted.
6) These cables met the requirements of IEC 60331 when tested at a temperature of 950°C (which is not recognised by IEC 60331) and at a voltage rating of 600/1000V.

Certificate No: 517b to BS 6387:1994

FP400 Fire resistant cable

Nominal csa of conductor (mm^2)	Core Construction	BS 6387	LPCB Ref. No.
50	2, 3 & 4	C, W, Z	517b/01
70	2, 3 & 4	C, W, Z	
95	2, 3 & 4	C, W, Z	
120	2, 3 & 4	C, W, Z	
185	2, 3 & 4	C, W, Z	
240	2, 3 & 4	C, W, Z	
300	2, 3 & 4	C, W, Z	
400	2, 3 & 4	C, W, Z	

Uo/U 450/750

Note:
1) The FP400 cable also met categories C, W, and Z when tested for voltage rating of 600/1000V which is not recognised by BS 6387.

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Certificate No: 422a to BS 6387:1994 and BS 6425-1:1990

FIRESTOP FS-90 Single Core Cable

Nominal csa of conductor (mm^2)	Core Construction	BS 6387 (See notes 4, 5 & 6)	BS EN 50267-2-1 (outer covering)	LPCB Ref. No.
1.5	One[1][2]	C	<0.5% HCl	422a/01
2.5	One[1][2]	C	<0.5% HCl	
4	One[1][2]	C	<0.5% HCl	
6	one[1][3]	C	<0.5% HCl	
10	one[1][3]	C	<0.5% HCl	
16	one[1][3]	C	<0.5% HCl	
25	one[1][3]	C	<0.5% HCl	
35	one[1][3]	C	<0.5% HCl	
50	one[1][3]	C	<0.5% HCl	
70	one[1][3]	C	<0.5% HCl	
95	one[1][3]	C	<0.5% HCl	
120	one[1][3]	C	<0.5% HCl	
150	one[1][3]	C	<0.5% HCl	
185	one[1][3]	C	<0.5% HCl	
240	one[1][3]	C	<0.5% HCl	
300	one[1][3]	C	<0.5% HCl	
400	one[3]	C	<0.5% HCl	

Uo/U 450/750 V

Notes :
1) Approved for the CEC01QGR series construction.
2) Approved for the CEC01QAZ series construction.
3) Approved for the CEC01QAA series construction.
4) Clause 8 (Bending) and 9.1 & 9.2 (Impact) of the BS 6387 standard cannot be conducted due to the cable having only one core.
5) To satisfy the requirement of BS 6387, testing for C category was conducted using a 20mm and 38mm steel conduit as the other metallic element.
6) Where a single cable is fitted in a conduit, only phase to earth voltage was applied.

Certificate No: 422b to BS 6387:1994 and BS EN 50267-2-1:1999

FIRESTOP FS-90 Multicore Cable

Nominal csa of conductor (mm^2)	Core Construction (See notes 1, 2)	BS 6387	BS EN 50267-2-1 (outer covering)	LPCB Ref. No.
1.5	4(1)	C, W, Z	<0.5% HCl	422b/01
2.5	4(1)	C, W, Z	<0.5% HCl	
4.0	4(1)	C, W, Z	<0.5% HCl	
6.0	4(1)	C, W, Z	<0.5% HCl	
10	4(1)	C, W, Z	<0.5% HCl	
16	4(1)	C, W, Z	<0.5% HCl	
25	4(1)	C, W, Z	<0.5% HCl	
35	4(1)	C, W, Z	<0.5% HCl	
50	4(1)(2)	C, W, Z	<0.5% HCl	
70	4(1)(2)	C, W, Z	<0.5% HCl	
95	4(1)(2)	C, W, Z	<0.5% HCl	
120	4(1)(2)	C, W, Z	<0.5% HCl	
150	4(1)(2)	C, W, Zl	<0.5% HCl	
185	4(1)(2)	C, W, Z	<0.5% HCl	
240	4(1)(2)	C, W, Z	<0.5% HCl	
300	4(1)(2)	C, W, Z	<0.5% HCl	
400	4(2)	C, W, Z	<0.5% HCl	

Uo/U 450/750 V

Notes:
1) Approved for CEC04QMR series construction.
2) Approved for REC04QMR series construction.

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Certificate No: 568a to BS 6387:1994 and BS EN 50267-2-1:1999

Ramfirecro-F3

Nominal csa of conductor (mm^2)	Core Construction	BS 6387	BS EN 50267-2-1 (outer covering)	LPCB Ref. No.
1.0	2, 3 & 4	C, W, Z	<0.5%HCl	568a/01
1.5	2, 3 & 4	C, W, Z	<0.5%HCl	
2.5	2, 3 & 4	C, W, Z	<0.5%HCl	
4.0	2, 3 & 4	C, W, Z	<0.5%HCl	

Uo/U 300/500 V

Certificate No: 568b to BS 7629-1: 1997 This certificate is to a withdrawn version of the BS 7629-1: 1997. Cables conforming to this version of the standard may not be suitable for use within the jurisdiction of the European Union (EU).

Ramfirecro-F3 Standard

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (see note 6)	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0 (1)	2 ,3 & 4	Complies (3)	Class PH30	30min (4)	Standard (5)	568b/01
1.5 (1)	2, 3 & 4	Complies (3)	Class PH30	30min (4)	Standard (5)	
2.5 (1)	2, 3 & 4	Complies (3)	Class PH30	30min (4)	Standard (5)	
4.0 (2)	2, 3 & 4	Complies (3)	Class PH30	30min (4)	Standard (5)	

Uo/U 300/500V

Notes:
1) Solid and Stranded conductors.
2) Stranded conductor only.

3) In meeting the requirements of BS 7629-1: 1997, the Ramfirecro-F3 Standard cables listed met the requirements of smoke density of BS 7622-2: 1993 and achieved less than 0.5%HCl on the (insulation, binder tape & outer covering) when tested in accordance with BS 6425-1: 1990.
4) The duration of 30min when tested in accordance with BS 8434-1: 2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2 d) of BS 5839-1: 2002.
5) The Ramfirecro-F3 Standard cables listed conform to BS 7629-1: 1997, met Class PH30 when tested in accordance with EN 50200: 2000 and met a duration of 30min when tested in accordance with BS 8434-1: 2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.
6) BS 7629-1: 1997 was amended in 2004 to implement the changes to the identification of cores by colours, in accordance with the CENELEC Harmonisation Document HD 308 S2. The un-amended version of the standard was withdrawn on 31st March 2006. However, cables with the old identification colours, meeting the withdrawn version of the standard, are still requested by some regulators outside of the EU. Certification to the un-amended version of the standard has therefore been maintained, for the time being, to satisfy the requirements of these regulators.

Certificate 568c covers cables certified in accordance with BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2)

Certificate No: 568c to BS 7629-1:1997 (Incorporating Amendments Nos. 1 & 2), BS EN 50200: 2000, BS 8434-1: 2003 30min and BS 5839-1: 2002 Clause 26.2d

Nominal csa of conductor (mm²)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendments) (Nos. 1 & 2)	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0 (1)	2, 3 & 4	Complies (3)	Class PH30	30min (4)	Standard (5)	568c/01
1.5 (1)	2, 3 & 4	Complies (3)	Class PH30	30min (4)	Standard (5)	
2.5 (1)	2, 3 & 4	Complies (3)	Class PH30	30min (4)	Standard (5)	
4.0 (2)	2, 3 & 4	Complies (3)	Class PH30	30min (4)	Standard (5)	

Uo/U 300/500V

Notes:
1) Solid and Stranded conductors.
2) Stranded conductor only.
3) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2), the Ramfirecro-F3 Standard cables listed met the requirements of smoke density of BS EN 50268-2: 2000 and achieved less than 0.5%HCl on the (insulation, binder tape & outer covering) when tested in accordance with BS EN 50267-2-1: 1999.
4) The duration of 30min when tested in accordance with BS 8434-1: 2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2 d) of BS 5839-1: 2002.
5) The Ramfirecro-F3 Standard cables listed conform to BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2), met Class PH30 when tested in accordance with EN 50200: 2000 and met a duration of 30min when tested in accordance with BS 8434-1: 2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

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Certificate No: 222a to BS 7629-1:1997, BS 5839-1:2002 Clause 26.2, BS EN 50200:2000 Class PH30 & BS 8434-1:2003

FIRE - safe TW950 Fire Resistant Cable

Nominal csa of conductor (mm²)	Core Construction (excluding drain wire & earth)	BS 7629-1	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies (1)	Class PH30	30min(2)	Standard(3)	222a/01
1.5	2, 3 & 4	Complies (1)	Class PH30	30min(2)	Standard(3)	
2.5	2, 3 & 4	Complies (1)	Class PH30	30min(2)	Standard(3)	
4.0	2, 3 & 4	Complies (1)	Class PH30	30min(2)	Standard(3)	

Uo/U 300/500 V

Notes:

1) In meeting the requirements of BS 7629-1:1997, the FIRE-safe TW950 cables listed met the requirements of smoke density of BS 7622-2:1993, fire resistance requirements CWZ in Clause 11 of BS 6387:1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS 6425-1:1990.
2) The duration of 30min when tested in accordance with BS 8434-1:2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2 d) of BS 5839-1:2002.
3) The FIRE-safe TW950 cables listed conform to BS 7629-1:1997, met Class PH30 when tested in accordance with EN 50200:2000 and met the 30min duration when tested in accordance with BS 8434-1:2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.

Certificate No: 222b to BS 7629-1: 1997 (Incorporating Amendments Nos. 1 & 2), BS EN 50200: 2000 Class PH120, BS 8434-2: 2003 & BS 5839-1: 2002 Clause 26.2e

Firesafe Enhanced

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment Nos. 1 & 2)	BS EN 50200	BS 8434-2	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0 (1)	2, 3 & 4	Complies (3)	Class PH120	120min (4)	Enhanced (5)	222b/01
1.5 (1)	2, 3 & 4	Complies (3)	Class PH120	120min (4)	Enhanced (5)	
2.5 (2)	2, 3 & 4	Complies (3)	Class PH120	120min (4)	Enhanced (5)	
4.0 (2)	2, 3 & 4	Complies (3)	Class PH120	120min (4)	Enhanced (5)	

300/500V

Notes:
1) Solid conductor only
2) Stranded conductor only
3) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendments Nos.1 & 2), the Firesafe Enhanced cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (insulation, binder tape & outer covering) when tested in accordance with BS EN 50267-2-1: 1999.
4) The duration of 120min when tested in accordance with BS 8434-2: 2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1: 2002.
5) The Firesafe Enhanced cables listed conform to BS 7629-1: 1997 (Incorporating Amendments Nos.1 & 2), met Class PH120 when tested in accordance with EN 50200: 2000 and met a duration of 120min when tested in accordance with BS 8434-2: 2003 and hence met the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

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Certificate No: 676a to BS EN 60702-1:2002, BS 6387:1994 and BS EN 50267-2-1:1999

Pyrotenax Bare Mineral Insulated Cable (light duty)

Nominal csa of conductor (mm^2)	Core Construction (Note 1)	BS EN 60702-1	BS 6387	BS EN 50267-2-1	LPCB Ref. No.
1.0T	2	Complies	C, W, Z	<0.5%HCl	676a/01
1.0	2, 3, 4 & 7	Complies	C, W, Z	<0.5%HCl	
1.5T	2, 3, 4	Complies	C, W, Z	<0.5%HCl	
1.5	2, 3, 4 & 7	Complies	C, W, Z	<0.5%HCl	
2.5T	2, 3, 4	Complies	C, W, Z	<0.5%HCl	
2.5	2, 3, 4 & 7	Complies	C, W, Z	<0.5%HCl	
4.0	2	Complies	C, W, Z	<0.5%HCl	

Uo/U=300/500V

T = Twisted light duty

Note:
1) The above range is certified in bare construction only.

Certificate No: 676a to BS EN 60702-1:2002, BS 6387:1994 and BS EN 50267-2-1:1999

Pyrotenax Bare Mineral Insulated Cable (single core heavy duty)

Nominal csa of conductor (mm^2)	Core Construction (Note 1)	BS EN 60702-1	BS 6387	BS EN 50267-2-1	LPCB Ref. No.
2.5	One	Complies	C, W, Z	<0.5%HCl	676a/02
4.0	One	Complies	C, W, Z	<0.5%HCl	
6.0	One	Complies	C, W, Z	<0.5%HCl	
10	One	Complies	C, W, Z	<0.5%HCl	
16	One	Complies	C, W, Z	<0.5%HCl	
25	One	Complies	C, W, Z	<0.5%HCl	
35	One	Complies	C, W, Z	<0.5%HCl	
50	One	Complies	C, W, Z	<0.5%HCl	
70	One	Complies	C, W, Z	<0.5%HCl	
95	One	Complies	C, W, Z	<0.5%HCl	
120	One	Complies	C, W, Z	<0.5%HCl	
150	One	Complies	C, W, Z	<0.5%HCl	
185	One	Complies	C, W, Z	<0.5%HCl	
240	One	Complies	C, W, Z	<0.5%HCl	
300	One	Complies	C, W, Z	<0.5%HCl	

Uo=450V

Note:
1) The above range is certified in bare construction only.
2) For single core cables, only phase to earth voltage was applied.

Certificate No: 676a to BS EN 60702-1:2002, BS 6387:1994 and BS EN 50267-2-1:1999

Pyrotenax Bare Mineral Insulated Cable (heavy duty)

Nominal csa of conductor (mm^2)	Core Construction (Note 1)	BS EN 60702-1	BS 6387	BS EN 50267-2-1	LPCB Ref. No.
1.5	2, 3, 4, 7, 12 & 19	Complies	C, W, Z	<0.5%HCl	676a/03
2.5	2, 3, 4, 7 & 12	Complies	C, W, Z	<0.5%HCl	
4.0	2, 3, & 4	Complies	C, W, Z	<0.5%HCl	
6.0	2, 3, & 4	Complies	C, W, Z	<0.5%HCl	
10	2, 3, & 4	Complies	C, W, Z	<0.5%HCl	
16	2, 3, & 4	Complies	C, W, Z	<0.5%HCl	
25	2, 3, & 4	Complies	C, W, Z	<0.5%HCl	

Uo/U=450/750V

Note:
1) The above range is certified in bare construction only.

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Certificate No: 063d to BS EN 60702-1:2002 and BS 6387:1994

Pyrotenax Bare Mineral Insulated Cable

Nominal csa of conductor (mm^2)	Core Construction (Note 1)	BS EN 60702-1	BS 6387	LPCB Ref. No.
1.0T[1]	2	Complies	C, W, Z	333a/01
1.0[1]	2, 3 & 4	Complies	C, W, Z	
1.5[1]	2, 3 & 4	Complies	C, W, Z	

Nominal csa of conductor (mm^2)	Core Construction (Note 1)	BS EN 60702-1	BS 6387	LPCB Ref. No.
1.5[2]	2, 3 & 4	Complies	C, W, Z	
1.5T[1]	2, 3 & 4	Complies	C, W, Z	
2.5T[1]	2	Complies	C, W, Z	
2.5[1]	2, 3 & 4	Complies	C, W, Z	
2.5[2]	2, 3 & 4	Complies	C, W, Z	
4.0[1]	2	Complies	C, W, Z	
4.0T[1]	2	Complies	C, W, Z	
4.0[2]	2, 3 & 4	Complies	C, W, Z	
6.0[2]	2, 3 & 4	Complies	C, W, Z	
10.0[2]	2	Complies	C, W, Z	

T = Twisted light duty

Notes:
1) The voltage of the mineral insulated light duty cables is at 500V.
2) The voltage of the mineral heavy duty cables is at 750V.
3) The above range is certified in bare construction only.

Certificate No: 063e to BS EN 60702-1:2002 and BS 6387:1994

Pyrotenax Bare Mineral Insulated Cable (light duty)

Nominal csa of conductor (mm^2)	Core Construction (Note 1)	BS EN 60702-1	BS 6387	LPCB Ref. No.
1.0	2, 3, 4 & 7	Complies	C, W, Z	427a/01
1.5	2, 3, 4 & 7	Complies	C, W, Z	
2.5	2, 3, 4 & 7	Complies	C, W, Z	
4	2	Complies	C, W, Z	

Uo=500V

Note:
1) The above range is certified in bare construction only.

Certificate No: 063e to BS EN 60702-1:2002 and BS 6387:1994

Pyrotenax Bare Mineral Insulated Cable (single core)

Nominal csa of conductor (mm^2)	Core Construction (Note 1)	BS EN 60702-1	BS 6387	LPCB Ref. No.
1.5	One	Complies	C, W, Z	427a/02
2.5	One	Complies	C, W, Z	
4.0	One	Complies	C, W, Z	
6.0	One	Complies	C, W, Z	
10	One	Complies	C, W, Z	
16	One	Complies	C, W, Z	
25	One	Complies	C, W, Z	
35	One	Complies	C, W, Z	
50	One	Complies	C, W, Z	
70	One	Complies	C, W, Z	
95	One	Complies	C, W, Z	
120	One	Complies	C, W, Z	
150	One	Complies	C, W, Z	
185	One	Complies	C, W, Z	
240	One	Complies	C, W, Z	
300	One	Complies	C, W, Z	
400	One	Complies	C, W, Z	

Uo=750V

Notes:
1) The above range is certified in bare construction only

2) For cable with an outside diameter in excess of 20mm, the category Z tests were conducted in accordance with guidance from the manufacturer.

Certificate No: 063e to BS EN 60702-1:2002 and BS 6387:1994

Pyrotenax Bare Mineral Insulated Cable (heavy duty)

Nominal csa of conductor (mm^2)	Core Construction (Note 3)	BS EN 60702-1	BS 6387	LPCB Ref. No.
1.5	2, 3, 4, 7, 12 & 19	Complies	C, W, Z	427a/03
2.5	2, 3, 4, 7, & 12	Complies	C, W, Z	
4.0	2, 3, & 4	Complies	C, W, Z	
6.0	2, 3, & 4	Complies	C, W, Z	
10	2, 3, & 4	Complies	C, W, Z	
16	2, 3, & 4	Complies	C, W, Z	
25	2, 3, & 4	Complies	C, W, Z	

Uo=750V

Notes:
1) The above range is certified in bare construction only.
2) For cable with an outside diameter in excess of 20mm, the category Z tests were conducted in accordancw with guidance from the manufacturer.

Certificate No: 063f/01 to BS EN 60702-1:2002, BS 6387:1994, BS EN 50200:2000, BS 8434-2:2003, BS 5839-1:2002 and BS EN 50267-2-1:1999

Pyrotenax Served Mineral Insulated Cable (light duty)

Nominal csa of conductor (mm^2)	Core Construction (Note 3)	BS EN 60702-1	BS 6387	BS EN 50200	BS 8434-2	BS 5839-1 Clause 26.2	BS EN 50257-2-1	LPCB Ref. No.
1.0T	2	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	063f/01
1.0	2, 3, 4 & 7	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
1.5T	2, 3, 4	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
1.5	2, 3, 4 & 7	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
2.5T	2, 3, 4	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
2.5	2, 3, 4 & 7	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
4.0	2	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	

Uo=500V

T = Twisted light duty

Notes:
1) The duration of 120min when tested in accordance with BS 8434-2:2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1:2002.
2) The served Pyrotenax MI cable listed conform to BS EN 60702-1:2002, meet Class PH120 when tested in accordance with BS EN 50200:2000 and meet the requirements for the additional fire, mechanical shock and water test described in Clause 26.2 e) of BS 5839-1:2002, and hence meet the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.
3) The above range is certified in served construction only.

Certificate No: 063f/02 to BS EN 60702-1:2002, BS 6387:1994, BS EN 50200:2000, BS 8434-2:2003, BS 5839-1:2002 and BS EN 50267-2-1:1999

Pyrotenax Served Mineral Insulated Cable (single core heavy duty)

Nominal csa of conductor (mm^2)	Core Construction (Note 3)	BS EN 60702-1	BS 6387	BS EN 50200	BS 8434-2	BS 5839-1 Clause 26.2	BS EN 50257-2-1	LPCB Ref. No.
1.5	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	063f/02
2.5	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
4.0	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
6.0	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
10	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
16	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
25	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
35	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
50	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
70	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
95	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
120	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
150	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
185	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
240	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
300	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
400	One	Complies	C, W, Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	

Uo=750V

Notes:
1) The duration of 120min when tested in accordance with BS 8434-2:2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1:2002.
2) The served Pyrotenax MI cable listed conform to BS EN 60702-1:2002, meet Class PH120 when tested in accordance with BS EN 50200:2000 and meet the requirements for the additional fire, mechanical shock and water test described in Clause 26.2 e) of BS 5839-1:2002, and hence meet the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.
3) The above range is certified in served construction only.

Certificate No: 063f/03 to BS EN 60702-1:2002, BS 6387:1994, BS EN 50200:2000, BS 8434-2:2003, BS 5839-1:2002 and BS EN 50267-2-1:1999

Pyrotenax Served Mineral Insulated Cable (heavy duty)

Nominal csa of conductor (mm^2)	Core Construction (Note 3)	BS EN 60702-1	BS 6387	BS EN 50200	BS 8434-2	BS 5839-1 Clause 26.2	BS EN 50257-2-1	LPCB Ref. No.
1.5	2, 3, 4, 7, 12 & 19	Complies	C. W. Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	063f/03
2.5	2, 3, 4, 7 & 12	Complies	C. W. Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
4.0	2, 3 & 4	Complies	C. W. Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
6.0	2, 3 & 4	Complies	C. W. Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
10	2, 3 & 4	Complies	C. W. Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	
16	2, 3 & 4	Complies	C. W. Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	

Nominal csa of conductor (mm^2)	Core Construction (Note 3)	BS EN 60702-1	BS 6387	BS EN 50200	BS 8434-2	BS 5839-1 Clause 26.2	BS EN 50257-2-1	LPCB Ref. No.
25	2, 3 & 4	Complies	C. W. Z	Class PH120	120min(1)	Enhanced(2)	<0.5%HCl	

Uo=750V

Notes:
1) The duration of 120min when tested in accordance with BS 8434-2:2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1:2002.
2) The served Pyrotenax MI cable listed conform to BS EN 60702-1:2002, meet Class PH120 when tested in accordance with BS EN 50200:2000 and meet the requirements for the additional fire, mechanical shock and water test described in Clause 26.2 e) of BS 5839-1:2002, and hence meet the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.
3) The above range is certified in served construction only.

Pyrotenax Pyro-S

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1	BS EN 50200	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	Twin, 3 & 4	Complies(1)	Class PH30	Standard(2)	408a/01
1.5	Twin, 3 & 4	Complies(1)	Class PH30	Standard(2)	
2.5	Twin, 3 & 4	Complies(1)	Class PH30	Standard(2)	
4.0	Twin, 3 & 4	Complies(1)	Class PH30	Standard(2)	

Notes:
1) In meeting the requirements of BS 7629-1:1997, the Pyrotenax Pyro-S cables met the requirements of smoke density of BS 7622-2:1993, fire resistance requirements CWZ in clause 11 of BS 6387:1994 and achieved less than 0.5%HCl on the (sheath, insulation and binder tape) when tested in accordance with BS 6425-1:1990).
2) The Pyrotenax Pyro-S cables listed conform to BS 7629-1:1997, meet Class PH30 when tested in accordance with BS EN 50200:2000 and meet the requirements of the addtional fire, mechanical schock and water test described in Clause 26.2 d) of BS 5839-1:2002, and hence meet the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1:2002.

Certificate No: 063h to BS 7629-1: 1997 (Incorporating Amendment No.1), BS EN 50200: 2000 Class PH30, BS 8434-1: 2003 and BS 5839-1: 2000 Clause 26.2

Pyro FRs

Nominal csa of Conductor (mm^2)	Core Construction	BS 7679-1 (Incorporating Amendment No.1)	BS 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies(1)	Class PH30	30min(2)	Standard(3)	063h/01
1.5	2, 3 & 4	Complies(1)	Class PH30	30min(2)	Standard(3)	
2.5	2, 3 & 4	Complies(1)	Class PH30	30min(2)	Standard(3)	
4.0	2, 3 & 4	Complies(1)	Class PH30	30min(2)	Standard(3)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the Pyro FRs cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1: 1999.
2) The duration of 30min when tested in accordance with BS 8434-1: 2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2d of BS 5839-1:2002.
3) The Pyro FRs cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH30 when tested in accordance with BS EN 50200: 2000 and met the 30min duration when tested in accordance with BS 8434-1: 2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Ventcroft Limited

Goddard Road, Astmoor Industrial Estate, Runcorn, Cheshire WA7 1NQ UK
Tel: +44 (0)1928 581098 • Fax: +44 (0)1928 581099
E-mail: sales@ventcroft.co.uk • Website: www.ventcroft.co.uk

Certificate No: 682a to BS 7629-1:1997 (Incorp Amendmnt No.1), BS EN 50200: 2000 Class PH30, BS 8434-1:2003 30min & BS 5839-1:2002 Clause 26.2

NoBurn platinum

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS EN 50200	BS 8434-1	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0	2, 3 & 4	Complies(1)	Class PH30	30min(2)	Standard(3)	682a/01
1.5	2, 3 & 4	Complies(1)	Class PH30	30min(2)	Standard(3)	
2.5	2, 3 & 4	Complies(1)	Class PH30	30min(2)	Standard(3)	

Uo/U 300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the NoBurn Platinum cables listed met the requirements of smoke density of BS EN 50268-2: 2000, fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (outer covering, binder tape & insulation) when tested in accordance with BS EN 50267-2-1: 1999.
2) The duration of 30min when tested in accordance with BS 8434-1: 2003 is achieved by 15min for the fire and impact phase and an additional 15min for the fire, impact and water phase as described in Clause 26.2d) of BS 5839-1: 2002.
3) The NoBurn Platinum cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH30 when tested in accordance with BS EN 50200: 2000 and met the 30min duration when tested in accordance with BS 8434-1: 2003 and hence met the requirements for a standard fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Certificate No: 682b to BS 7629-1:1997 (Incorp Amendmnt No.1), BS 5839-1:2002 Clause 26.2e, BS EN 50200:2000 Class PH120, BS 8434-2: 2003 120min

NoBurn Diamond

Nominal csa of conductor (mm^2)	Core Construction (excluding drain wire & earth)	BS 7629-1 (Incorporating Amendment No.1)	BS 6387	BS EN 50200	BS 8434-2 Clause 26.2	BS 5839-1	LPCB Ref. No.
1.0	2,3 & 4	Complies(1)	C,W,Z	Class PH120	120min(2)	Enhanced(3)	682b/01
1.5	2,3 & 4	Complies(1)	C,W,Z	Class PH120	120min(2)	Enhanced(3)	
2.5	2,3 & 4	Complies(1)	C,W,Z	Class PH120	120min(2)	Enhanced(3)	

300/500V

Notes:
1) In meeting the requirements of BS 7629-1: 1997 (Incorporating Amendment No.1), the NoBurn Diamond cables listed met the requirements of smoke density of BS EN 50268-2: 2000 and achieved less than 0.5%HCl on the (outer covering & insulation) when tested in accordance with BS EN 50267-2-1: 1999.
2) The duration of 120min when tested in accordance with BS 8434-2: 2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1: 2002.
3) The NoBurn Diamond cables listed conform to BS 7629-1: 1997 (Incorporating Amendment No.1), met Class PH120 when tested in accordance with EN 50200: 2000 and met a duration of 120min when tested in accordance with BS 8434-2: 2003 and hence met the requirements for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

Wrexham Mineral Cables

Wynnstay Technology Park, Ruabon, Wrexham, Clwyd LL14 6EN UK
Tel: +44 (0)1978 810789 • Fax: +44 (0)1978 821502
E-mail: wrexhammineral@teeco.com • Website: www.teeco.com

Certificate No: 333a to BS EN 60702-1:2002, BS EN 50200:2000 Class PH120, BS 8434-2:2003 and BS 5839-1:2002 Clause 26.2

Wrexham Mineral Insulated Cable

Nominal csa of conductor (mm^2)	Core Construction	BS EN 60702-1	BS EN 50200	BS 8434-2 Clause 26.2	BS 5839-1 Clause 26.2	LPCB Ref. No.
1.0T[1]	2	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	333a/01
1.0[1]	2, 3 & 4	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
1.5 [1]	2, 3 & 4	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
1.5[2]	2, 3 & 4	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
1.5T[1]	2, 3 & 4	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
2.5T[1]	2	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
2.5[1]	2, 3 & 4	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
2.5[2]	2, 3 & 4	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
4.0[1]	2	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
4.0T[1]	2	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
4.0[2]	2, 3 & 4	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
6.0[2]	2, 3 & 4	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	
10[2]	2	Complies[3]	ClassPH120	120min[4]	Enhanced[5]	

T=Twisted light duty

Notes:
1) The voltage of the mineral insulated light duty cables is at 300/500V.
2) The voltage of the mineral insulated Heavy duty cables is at 450/750V.
3) In meeting the requirements of BS EN 60702-1: 2002, the WMI cables listed met the requirements of fire resistance requirements CWZ in Clause 11 of BS 6387: 1994 and achieved less than 0.5%HCl on the (outer covering) when tested in accordance with BS 6425-1: 1990.
4) The duration of 120min when tested in accordance with BS 8434-2: 2003 is achieved by 60min for the fire and impact phase and an additional 60min for the fire, impact and water phase as described in Clause 26.2 e) of BS 5839-1: 2002.
5) Only the served WMI cables listed conform to BS EN 60702-1: 2002, meet Class PH120 when tested in accordance with BS EN 50200: 2000 and meet a duration of 120min when tested in accordance with BS 8434-2: 2003 and hence meet the requirement for an enhanced fire resistant cable as described in Clause 26.2 of BS 5839-1: 2002.

This section lists cables that are certificated by the LPCB as complying with UL 910 '*Test for flame propagation and smoke density values for electrical and optical fibre cables used in spaces transporting environmental air*'.

Notes:

1. Since the LPCB uses national and international standards for the listing of products, in some Instances, the requirements of these standards may conflict with the recommendations of local codes of practice. If full compliance with an installation code of practice is necessary, confirmation should be obtained that the listed products also comply with the appropriate codes of practice.

This section lists Alarm Receiving Centres (previously known as Central Monitoring Stations) approved to LPS 1020 *Requirements for Alarm Receiving Centres* and those certified to BS 5979.

The Fire Service have developed a 'Model Agreement' between the Fire and Rescue Services, and the Alarm Receiving Centres. The Agreement has been prompted by the fact that there are inconsistencies at the moment in how the various brigades deal with false alarms. The Model Agreement calls for third party certification of both the installer and the Alarm Receiving Centre (ARC). The LPCB scheme for installers is LPS 1014 *Requirements for certificated fire detection and alarm systems firms*

For further details of this agreement see the CFOA website.

Since the Alarm receiving centres must have links to the appropriate fire brigade mobilisation centres, the list includes details of the fire authority areas for which they are approved.

Notes:
1. The scheme is operated jointly with NSI (National Security Inspectorate)
2. It is a requirement of LPS 1020 that the alarm receiving centre offers an LPCB approved system for signalling alarms from the protected premises to the receiving centre. However this is not a requirement of BS 5979.
3. Alarm receiving centres may operate other signalling methods and other services that are not approved.

ADT Fire and Security plc

Regency Court, 2A High Street, Kings Heath, Birmingham B14 7SW UK
Tel: +44 (0)870 606 1134 • Fax: +44 (0)870 606 1137

Certificate No. CFSA016 to LPS 1020

Alarm receiving equipment: Telecom Red CARE System/Industry Standard Receivers/CCTV monitoring

Approved Fire Authority areas of operation:
Avon, Cambridgeshire, Clwyd, Cornwall, Derbyshire, Devon, Dorset, Dyfed, Gloucestershire, Gwent, Hereford & Worcester, Leicestershire, Lincolnshire, Mid Glamorgan, Norfolk, Northamptonshire, Oxfordshire, Powys, Shropshire, Somerset, South Glamorgan, Staffordshire, Suffolk, Warwickshire, West Glamorgan, West Midlands, Wiltshire.

Banham Alarms (Banham Patent Locks Limited)

10 Pascal Street, London SW8 4SH UK
Tel: +44 (0)207 622 5151 • Fax: +44 (0)207 498 2461
Website: www.banham.com

Certificate No. CSFA006 to LPS 1020

Alarm receiving equipment: Telecom Red CARE System.

Approved Fire Authority areas of operation:
Bedfordshire, Berkshire, Buckinghamshire, East Sussex, Essex, Hampshire, Hertfordshire, Kent, Greater London, Surrey West Sussex.

Metropolitan Security Services (Prop: Wigan Metropolitan Council)

Municipal Buildings, Hewlett Street, Wigan WN1 1NQ UK
Tel: +44 (0)1942 827445 • Fax: +44 (0)1942 827033

Certificate No. CSFA0015 to LPS 1020

Alarm receiving equipment: Telecom Red CARE System

Approved fire authority areas of operation:

Greater Manchester.

National Monitoring (Prop. AVR Group Limited)

Units 16/24, Attenburys Park Estate, Attenburys Lane, Timperley, Cheshire WA14 5QN UK
Tel: +44 (0)870 4009998 • Fax: +44 (0)870 4009988

Certificate No. CSFA008 to LPS 1020

Alarm receiving equipment: Telecom Red CARE System.

Approved fire authority areas of operation:
Avon, Bedfordshire, Berkshire, Cambridgeshire, Cheshire, Clwyd, Cumbria, Derbyshire, Devon, Dorset, Essex, Gloucestershire, Hampshire, Hereford & Worcester, Humberside, Lancashire, Leicestershire, Lincolnshire, London, Greater Manchester, Merseyside, Norfolk, Northamptonshire, Northern Ireland, Nottinghamshire, North Yorkshire, Shropshire, South Yorkshire, Staffordshire, Suffolk, Surrey, Tyne and Wear Warwickshire, West Glamorgan, West Midlands, West Yorkshire, Strathclyde.

Securicor Cash Services Limited

Valiant House, 67-71 Shoreditch High Street, Shoreditch, London E1 6JJ UK
Tel: +44 (0)990 899 799 • Fax: +44 (0)990 133 809

Certificate No. CSFA001 to LPS 1020

Alarm receiving equipment: Telecom Red CARE System.

Approved fire authority areas of operation:
Avon, Bedfordshire, Berkshire, Buckingshamshire, Cornwall, Devon, Dorset, East Sussex, Essex, Mid Glamorgan, Gloucestershire, Greater London, Gwent, Hampshire, Hereford & Worcester, Hertfordshire, Kent, Oxfordshire, Somerset, South Glamorgan, Surrey, West Glamorgan, West Sussex, Wiltshire.

Security Services (Prop: Bryan Enterprises Ltd.)

2 Berry Street, Stoke on Trent ST4 1AY UK
Tel: +44 (0)1782 416308 • Fax: +44 (0)1782 849522

Certificate No. CSFA007 to LPS 1020

Alarm receiving equipment: Telecom Red CARE System.

Approved fire authority areas of operation:
Cheshire, Clwyd, Greater Manchester, Gwynedd, Shropshire, Staffordshire, West Midlands

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Southern Monitoring Services Limited

Security House, 212-218, London Road, Waterlooville, Hampshire PO7 7AJ UK
Tel: +44 (0)870 242 220 • Fax: +44 (0)870 243 330

Certificate No. CSFA003 to LPS 1020

Alarm receiving equipment: Telecom Red CARE System.

Approved fire authority areas of operation:
Avon, Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Cheshire, Cleveland, Clwyd, Cornwall, Cumbria, Derbyshire, Devon, Dorset, East Sussex, Essex, Gloucestershire, Grampian, Greater London, Gwent, Hampshire, Hereford & Worcester, Hertfordshire, Humberside, Isle of Wight, Kent, Lancashire, Leicestershire, Lincolnshire, Lothian, Greater Manchester, Merseyside, Mid Glamorgan, Norfolk, Northamptonshire, North Yorkshire, Nottinghamshire, Oxfordshire, Powys, Shropshire, Somerset, South Glamorgan, South Yorkshire, Staffordshire, Strathclyde, Suffolk, Surrey, Tyne & Wear, Warwickshire, West Glamorgan, West Midlands, West Sussex, West Yorkshire, Wiltshire.

LPS 1277 *Requirements for LPCB Approval and listing of Alarm Transmission Systems and Equipment* specifies the requirements for alarm transmission equipment intended for use with fire alarm systems and/or intruder alarm systems. Requirements and tests are included in the Loss Prevention Standard that enables the assessment of the performance of those components of the alarm transmission system normally located in the protected premises when used in conjunction with the appropriate transmission networks.

This section of the Red Book lists alarm transmission equipment suitable for use with fire alarm systems.

Where appropriate, reference is made to published industry standards for fire alarm equipment within the scope of EN 54 together with alarm transmission equipment standards of EN 50136. Compliance with relevant safety standards and applicable mandatory directives is a pre-requisite of LPCB approval and listing.

Particular emphasis is placed on the verification of manufacturers' claims by measuring alarm transmission times over the link between the equipment under test and the corresponding receiving centre. The response to the reporting of fault conditions is measured in a similar way.

The results of these measurements are expressed in terms of alarm transmission system (ATS) performance criteria classification, using the parameters D, M, T and where applicable S and I.

Where,

D = Transmission time classification
M = Transmission time maximum values
T = Reporting time classification
S = Substitution Security (category A only)
I = Information Security (category A only)

Availability is considered a key parameter under LPCB approval and is therefore included within the requirements of LPS 1277 and the resultant performance is expressed using the parameter 'A' for Availability.

The measured values associated with each performance criteria classification is used to determine the category of the alarm transmission equipment. Two categories of alarm transmission equipment are defined in LPS 1277,

Category A: Components and associated networks meeting system Category A requirements are suitable for use in fire protection applications classified as being very high risk, i.e. where arson attempts are expected or where fire is expected to spread very rapidly.

Category B: Components and associated networks meeting system Category B requirements are suitable for all other fire protection applications.

Approved equipment shall be capable of withstanding exposure to the same environmental conditions as specified by the requirements for fire alarm control and indicating equipment.

CSL DualCom Limited

Salamander Quay West, Park Lane, Harefield, Middlesex UB8 6NZ UK
Tel: +44 (0)1895 474474 • Fax: +44 (0)1895 474440
E-mail: sales@csldual.com • Website: www.csldual.com

Certificate No: 723a to LPS 1277 Issue 2.2

Certificated Products		**LPCB Ref. No.**
CS 1400	DualCom Fire Alarm Transmission Equipment (Ancillaries CS 1050, CS1053)	723a/01

Note:

Meets the requirements of LPS 1277 for Category B fire alarm transmission equipment. The DualCom Fire has two transmission paths, a primary path signalling over the Packet Data Radio Network operated by Vodafone Ltd., and a secondary path operating over the Public Switched Telephone Network

Alarm transmission system performance parameters				
Transmission Path	Transmission time classification	Transmission time Max. values	Reporting time classification	Network availability
Primary	D4	M3	T3	A4
Secondary	D3	<90s[1]	T5[2]	A4

Notes:
1) Equivalent to M2 of EN 50136-1-1:1998
2) The simultaneous loss of the primary and secondary transmission paths results in a reporting time classification of T3

Approved with the following Ancillaries

CS 1050 DualCom 8 Channel Expander
CS 1053 DualCom High gain aerial

This section lists alarm signalling systems that have been approved for the signalling of fire alarms from protected premises to an Alarm Receiving Centre.

The approval of the following products and systems has been based on special requirements developed by LPCB, prior to the publication of LPS 1277.

BT redcare

Monument TE, 11-13 Great Tower Street, London EC3R 5EA UK
Tel: +44 (0) 800 800 828 • Fax: +44 (0)20 7929 6490

redcare alarm signalling system

Approved Products		**LPCB Ref. No.**
Host computer		099a/01
Scanner		099a/02
Microscanner		099a/04
3GSTU-12V	Subscriber Terminal Unit	099a/07
3GSTU-24V	Subscriber Terminal Unit	099a/08
3GSTU-PLI	Subscriber Terminal Unit	099a/09

The system components are manufactured by :

BT redcare
Unit B7, Armstrong Mall, Southwood Summit Centre, Farnborough, Hampshire GU14 0HR
Tel: +44 (0)1252 378822 • Fax: +44 (0)1252 371166

Thorn Security Limited

160 Billet Road, Walthamstow, London E17 5DR UK
Tel: +44 (0)208 919 4000 • Fax: +44 (0)208 919 4040

Certificated Products	**LPCB Ref. No.**
Thorn Security Mainline and SE100 Systems	?????

Part 4

PORTABLE FIRE EXTINGUISHERS AND HOSE REELS

PART 4: Portable fire extinguishers and hose reels

INTRODUCTION

IDENTIFICATION OF APPROVED EXTINGUISHERS AND FIRE HOSE REELS
All listed fire extinguishers and hose reels carry the appropriate LPCB mark and specific reference number.

KEY TO ABBREVIATIONS
The following is a key to the abbreviations used in the column headed "Type" throughout the list.

Extinguishing Agent Abbreviation		
W	-	Water
WB	-	Water based (water plus additive)
HH	-	Halogenated hydrocarbon
ABC or BC	-	Dry Powder
CO_2	-	Carbon Dioxide
CA	-	Clean Agent
WC	-	Wet Chemical

Method of Actuation

SP	-	Stored pressure
GC	-	Gas cartridge

Units
Under the column headed "Capacity", the following units and their abbreviations are used:
kg - kilogram
l - litre

Operating Temperature Ranges
Each extinguisher listing includes details of the operating temperature range in accordance with EN 3-7:2004.

Colour Coding
EN3-7:2004 permits a zone of colour of up to 10% of the external area of the extinguisher body to be used to identify the extinguishing agent in accordance with national specifications. Colour coding of portable fire extinguishers is not mandatory in the UK, however BS 7863: *Recommendations for Colour coding to indicate the extinguishing medium contained in portable fire extinguishers,* was published to provide a consistent approach where colour coding is required.
Class F cooking oil portable fire extinguishers are required by BS 7937 to be colour coded. The relevant requirements are specified within the product standard.

Recharging Details Category

Recharging to be undertaken by the manufacturer, his agent or an approved service and maintenance company. Section 2 details LPCB Certificated service and maintenance companies.	A
Reinstatement to be carried out by transferring the operating head to a replacement body.	B
Recharging to be carried out by the manufacturer only.	C
The body is not rechargeable and should be disposed of in accordance with the manufacturer's instructions.	D

Currently the main test standard used by the LPCB for certification of portable fire extinguishers is EN3 Parts 3, 6 & 7.

- Part 3 - *Construction, resistance to pressure, mechanical tests*
- Part 6 - *Provisions for the attestation of conformity of portable fire extinguishers in accordance with EN3:Parts 1-5.*
- Part 7 - *Characteristics, performance requirements and test methods*

The other product specifications for specific applications or types of portable fire extinguishers which may also be used for LPCB Certification are:
BS 7937: *Portable fire extinguishers for use on cooking oil (Class F fires);*
BS 7867: *Portable fire extinguishers for use in aircraft; and*
BS 6165: *Small disposable fire extinguishers of the aerosol type*

EN3 Parts 1, 2, 4 and 5 were replaced by the publication of EN3-7 in 2004. Apart from bringing four parts into one, the changes are not major. LPCB and its sub-contractors will be updating the testing and certifications in due course.

CE MARKING
CE Marking should be affixed to portable fire extinguishers under the Pressure Equipment Directive (PED). The CE Mark (in this instance) indicates that the fire extinguisher meets certain pressure safety requirements and has been assessed by a Notified Body (such as LPCB).

It is important to remember that CE Marking is not a mark of quality or of fire extinguishing performance, it is a basic safety mark. Always ensure that your products carry the LPCB logo as a mark of quality. Further information on EU Directives can be found on our website at www.RedBookLive.com.

Lingjack Engineering Works PTE Ltd

No. 1 Woodlands Terrace, #03-01 Lingjack Industrial Building 738471, Singapore
Tel: +65 759 4163 • Fax: +65 758 7513
E-mail: lingjack@pacific.net.sg

Certificate No: 501a to EN 3: Parts 1 to 6

Product Name	Type	Capacity	Fire Rating	Operating Temp Range (°C)	Colour Coding	Recharging details Category	Recharging details Part	LPCB Ref. No.
C-1ASE (1)	ABC(SP)	1kg	5A/21B	-20 to +60	-	A	-	501a/01
C-2ASE (1)	ABC(SP)	2kg	8A/34B	-20 to +60	-	A	-	501a/02
C-3ASE (1)	ABC(SP)	3kg	13A/55B	-20 to +60	-	A	-	501a/03
C-4ASE (1)	ABC(SP)	4kg	13A/70B	-20 to +60	-	A	-	501a/04
C-6ASE (1)	ABC(SP)	6kg	21A/113B	-20 to +60	-	A	-	501a/05
C-9ASE (1)	ABC(SP)	9kg	27A/144B	-20 to +60	-	A	-	501a/06
C-6FSE (1)	F(SP)	6l	8A/113B	+5 to +60	-	A	-	501a/07
C-9FSE (1)	F(SP)	9l	13A/183B	+5 to +60	-	A	-	501a/08
C-6WSE (1)	W(SP)	6l	8A	+5 to +60	-	A	-	501a/09
C-9WSE (1)	W(SP)	9l	13A	+5 to +60	-	A	-	501a/10
Q-1SP (2)	ABC(SP)	1 kg	5A/21B	-20 to +60	-	A	-	501a/01
Q-2SP (2)	ABC(SP)	2 kg	8A/34B	-20 to +60	-	A	-	201a/02
Q-3SP (2)	ABC(SP	3 kg	13A/55B	-20 to +60	-	A	-	501a/03
Q-4SP (2)	ABC(SP)	4 kg	13A/70B	-20 to +60	-	A	-	501a/04
Q-6SP (2)	ABC(SP)	6 kg	21A/113B	-20 to +60	-	A	-	501a/05
Q-9SP (2)	ABC(SP)	9 kg	27A/144B	-20 to +60	-	A	-	501a/06
Q-6SF (2)	F(SP)	6 l	8A/113B	+5 to +60	-	A	-	501a/07
Q-9SF (2)	F(SP)	9 l	13A/183B	+5 to +60	-	A	-	501a/08
Q-6SW (2)	W(SP)	6 l	8A	+5 to +60	-	A	-	501a/09
Q-9SW (2)	W(SP)	9 l	13A	+5 to +60	-	A	-	501a/10

Notes:
1) Brand name of extinguisher is "Combat"
2) Brand name of extinguisher is "Q-Fire"

National Fire Fighting Manufacturing Company Limited (NAFFCO)

PO Box 17014, Jebel Ali, Dubai, UAE
Tel: +9714 881 5653 • Fax: +9714 881 6229
E-mail: natfire@emirates.net.ae • Website: www.naffco.com

Certificate No: 463a to EN 3: Parts 1 to 6

Product Name	Type	Capacity	Fire Rating	Operating Temp Range (°C)	Colour Coding	Recharging details - Category	Recharging details - Part	LPCB Ref. No.
NC2	CO2	2kg	21B	-20 to +60	BS 7863	A	-	463a/01
NC5	CO2	5kg	55B	-20 to +60	BS 7863	A	-	463a/02
NP1	ABC(SP)	1kg	8A/34B	-20 to +60	BS 7863	A	-	403a/05
NP2	ABC(SP)	2kg	13A/70B	-20 to +60	BS 7863	A	-	403a/01
NP6	ABC(SP)	6kg	34A/183B	-20 to +60	BS 7863	A	-	403a/02
NP9	ABC(SP)	9kg	43A/233B	-20 to +60	BS 7863	A	-	403a/03
NP12	ABC(SP)	12kg	55A/233B	-20 to +60	BS 7863	A	-	

Saudi Factory For Fire Equipment Co.

New Industrial Area, PO Box 58469, Riyadh 11515, Kingdom of Saudi Arabia
Tel: +966 1 265 0070 • Fax: +966 1 265 2190
E-mail: riyadh@sffeco.com.sa • Website: www.sffeco.com

Certificate No: 403a to EN 3: Parts 1 to 6

Product Name	Type	Capacity	Fire Rating	Operating Temp Range (°C)	Colour Coding	Recharging details - Category	Recharging details - Part	LPCB Ref. No.
PD1	ABC(SP)	1kg	8A/34B	-20 to +60	BS 7863	A	-	403a/05
PD2	ABC(SP)	2kg	13A/70B	-20 to +60	BS 7863	A	-	403a/01
PD6	ABC(SP)	6kg	34A/183B	-20 to +60	BS 7863	A	-	403a/02
PD9	ABC(SP)	9kg	43A/233B	-20 to +60	BS 7863	A	-	403a/03
PD12	ABC(SP)	12kg	55A/233B	-20 to +60	BS 7863	A	-	403a/04
CD2G	CO2	2kg	21B	-20 to +60	BS 7863	A	-	463a/01
CD5G	CO2	5kg	55B	-20 to +60	BS 7863	A		463a/02

Soda-Club Limited

Gilboa Street, Airport City, P.O.Box 280, Ben Gurion Airport 70100, Israel
Tel: +972 2 5880500 • Fax: +972 2 5900421
Website: www.firekwencher.com

Sales Enquiries:

Soda Club Worldwide Trading Co., - Fire Extinguisher Division, 7 The Office Village, Cygnet Park, Peterborough PE7 8FD UK
Tel: +44 (0)1733 295 700 • Fax: +44 (0)1733 313 460

Certificate No: 713a/01 to 02 to EN 3 based Technical Approval

Product Name	Type	Capacity	Fire Rating	Operating Temp Range (^{0}C)	Colour Coding	Recharging Details - Category	Recharging Details - Part	LPCB Ref. No.
T90SR/34 (1)	CO2	1kg	34B	-20 to +60	-	A	-	713a/01
T90SS/34 (1)	CO2	1kg	34B	-20 to +60	-	A	-	713a/02
EC1FS (2)	CO2	1kg	34B	-20 to +60	-	A	-	713a/01
EC1FSS (2)	CO2	1kg	34B	-20 to +60	-	A	-	713a/02

Certificate No: 713a/05 to EN 3: Parts 3 to 7

Product Name	Type	Capacity	Fire Rating	Operating Temp Range (^{o}C)	Colour Coding	Recharging Details - Category	Recharging Details - Part	LPCB Ref. No.
T117/55 (1)	CO2	2kg	55B	-20 to +60	-	A	-	713a/05
EC2FS (2)	CO2	2kg	55B	-20 to +60	-	A	-	

Notes:
1) Supplier name of extinguisher is "Soda Club Worldwide Trading Company"
2) Supplier name of extinguisher is "Jactone Products Ltd"

Walter Kidde Portable Equipment Inc

1394 South Third Street, Mebane, NC 27302, USA
Tel: + 1 919 563 5911 • Fax: + 1 919 563 4582
Website: www.kidde.co.uk

Certificate No: 406a to EN 3: Parts 1 to 6

Product Name	Type	Capacity	Fire Rating	Operating Temp Range (^{o}C)	Colour Coding	Recharging details - Category	Recharging details - Part	LPCB Ref. No.
1 EN3 TC	ABC(SP)	1kg	8A/34B	-30 to +60	BS 7863	D	-	406a/01
2 EN3 TC	ABC(SP)	2kg	13A/70B	-30 to +60	BS 7863	D	-	406a/02
2 EN3 F	F(SP)	2l	8A/70B	-10 to +60	-	D	-	406a/03

The Regulatory Reform (Fire Safety) Order (RRO) which is expected to be implemented in the Spring of 2006 will call for the 'responsible person' to undertake a fire risk assessment of the occupied building. The selection of independently approved & certified third party products is obviously critical, but so is the selection of the 'competent person' who is employed to install, service and maintain items such as portable fire extinguishing appliances.

It is important that portable fire extinguishers are selected, sited, serviced and maintained in accordance with BS 5306: Part 3 *Fire extinguishing installations and equipment on premises. Code of practice for the inspection and maintenance of portable fire extinguishers* or equivalent locally applied specification.

Portable fire extinguisher service and maintenance companies should also be in a position to provide certificates to this effect and to supply specifications and drawings indicating suggested sizes and types of extinguishers suitable for the hazards involved and their location.

These certificates, specifications and plans may be accepted by the fire insurers as evidence that the appliances have been properly installed and are being properly maintained.

Abbot Fire Group Limited

Abbot House, Holloway Drive, Buckingham MK18 1GF UK
Tel: +44 (0)870 844 1666 • Fax: +44 (0)870 844 1777
E-mail: sales@abbotfiregroup.co.uk

Certificate No. 586a to BS 5306: Part 3: 2000

Certificated servicing and maintenance company authorised to use the LPCB Mark on, and issue certificates of conformity in respect of portable fire extinguishers serviced in accordance with BS 5306: Part 3: 2000

Fire Queen Limited

23-37 Broadstone Road, Reddish, Stockport, Cheshire SK5 7AR UK
Tel: +44 (0)800 731 2748 • Fax: +44 (0)161 442 2664
E-mail: enquiries@firequeen.co.uk

Certificate No. 489a to BS 5306: Part 3: 2000

Certificated servicing and maintenance company authorised to use the LPCB Mark on, and issue certificates of conformity in respect of portable fire extinguishers serviced in accordance with BS 5306: Part 3: 1985.

Thameside Fire Protection Co. Limited

Unit 4, Sovereign Business Park, Cranes Farm Road, Basildon, Essex SS14 3JD UK
Tel: +44 (0)1268 597999 • Fax: +44 (0)1268 597998
E-mail: enquiries@thamesidefire.co.uk • Website: www.thamesidefire.co.uk

Certificate No. 269a to BS 5306: Part 3: 1985

Certificated servicing and maintenance company authorised to use the LPCB Mark on, and issue certificates of conformity in respect of portable fire extinguishers serviced in accordance wth BS 5306: Part 3: 1985.

LPCB assesses fire hose reels against:

- EN 671-1: *Fixed firefighting systems - Hose systems: Part 1 Hose reels with semi-rigid hose;* and
- EN 671-2: *Fixed firefighting systems - Hose systems: Part 2 Hose systems with lay-flat Hose*

CE Marking
CE Marking may also be fixed to hose reels under the Construction Products Directive (CPD). CE Marking under the CPD demonstrates that the products meet the Essential Requirements of the CPD and have been assessed by a Notified Body (such as LPCB).

It is important to remember that CE Marking is not a mark of quality, it is a basic safety mark. Always ensure that your products carry the LPCB logo as a mark of quality. Further information on EU Directives can be found on our website at www.RedBookLive.com .

Lingjack Engineering Works PTE Ltd

No. 1 Woodlands Terrace, #03-01 Lingjack Industrial Building 738471, Singapore
Tel: +65 759 4163 • Fax: +65 758 7513
E-mail: lingjack@pacific.net.sg

Certificate No: 501b to EN 671-1

Product Name	Hose nominal bore (mm)	Hose maximum length (m)	Nozzle Type	LPCB Ref. No.
COMBAT Model HR-1SW Swinging hose reel (without cabinet)	25	30	Jet	501b/01
COMBAT Model AHR-1SW Universal Automatic Swinging hose reel (without cabinet)	25	30	Jet	501b/02
WILL Model WEN1-04 Universal Automatic Swinging hose reel (without cabinet)	25	30	Jet	
Q-Fire Model Q-1HR Swinging hose reel (without cabinet)	25	30	Jet	501b/01
Q-Fire Model Q-AHR Universal Automatic Swinging hose reel (without cabinet)	25	30	Jet	501b/02

Saudi Factory For Fire Equipment Co.

New Industrial Area, PO Box 58469, Riyadh 11515, Kingdom of Saudi Arabia
Tel: +966 1 265 0070 • Fax: +966 1 265 2190
E-mail: riyadh@sffeco.com.sa • Website: www.sffeco.com

Certificate No: 403b to EN 671-1

Product Name	Hose nominal bore (mm)	Hose max length (mm)	Nozzle Type	LPCB Ref. No.
SF30 Manual swinging hose reel including recessed or surface mounted cabinets	25	30	Jet and Conical Spray	403b/01

Part 5

AUTOMATIC SPRINKLER, WATER SPRAY AND DELUGE SYSTEMS

Sprinkler systems are only effective if designed, installed and maintained correctly. The LPS 1048-1 Sprinkler Contractor's scheme: *Requirements for the approval of Sprinkler Contractors in the UK and Eire*, ensures that installers are capable of designing, installing and maintaining sprinkler systems to the following installation standards:

a. LPC Rules for Automatic Sprinkler Installations, incorporating BS 5306: Part 2: 1990, *Specification for sprinkler systems*, with LPC Technical Bulletins that are in force at the time, or

   Note - LPS 1048 Certificates of Conformity may be issued for Life Safety systems designed solely to BS 5306: Part 2: 1990 and TB's 1, 2 and 20, providing no other technical bulletins are used to carry out the design. All other contracts shall be certificated against the LPC Sprinkler Rules.

b. LPC Rules for Automatic Sprinkler Installations, incorporating the latest revision of BS EN 12845, *Fixed firefighting systems - Automatic sprinkler systems - Design, installation and maintenance*, with LPC Technical Bulletins that are in force at the time, or

   Note - LPS 1048 Certificates of Conformity may be issued for Life Safety systems designed solely to BS EN 12845 and TB 201 and 202, providing no other technical bulletins are used to carry out the design. All other contracts shall be certificated against the LPC Sprinkler Rules.

c. BS 9251 Residential and Domestic Sprinklers, or

d. NFPA 13 (excluding 13D and 13R), or

e. FM Global Property Loss Prevention Data Sheets (excluding Residential Data sheets).

Note: Hybrid and individualised corporate or institutional specifications are not acceptable to LPCB for the purpose of certification.

Scheme Structure

There are 4 approval levels for Sprinkler Contractors in the LPS 1048-1 scheme. Figure 1 below shows the Categories of Work that are allowed to be carried out at each approval level in the LPS 1048-1 scheme.

Figure 1

		Approval Level			
	Categories of Work	**1**	**2**	**3**	**4**
A	Pre-calculated ordinary hazard systems, installations, extensions and alterations (excluding water supplies)	✓	✓	✓	✓
B	Pre-calculated high hazard systems, installations, extensions and alterations (excluding water supplies)	✓	✓	✓	✓
C	Town's main water supplies	✓	✓	✓	✓
D	Pumped water supplies	✓	✓	✓	✓
E	Base build contracts (pre-calculated design principles)		✓	✓	✓
F	Systems, installations, extensions and alterations involving FHC design principles			✓	✓

Important Note to Specifiers

Specifiers should only use Sprinkler Contractors that are LPS 1048-1 approved to the appropriate level depending on the type of sprinkler work required, refer to the individual company listings for the approval level of Sprinkler Contractors.

Listing of Sprinkler Contractors

LPS 1048 Approved Sprinkler Contractors are listed alphabetically, regardless of their approval level.

Continual Assessment

The LPS 1048-1 scheme includes some 90 sprinkler contractors that are continually assessed for their continued capability to undertake sprinkler contracts and for their compliance with the requirements of the LPS 1048-1 scheme.

Certificates of Conformity

In order to ensure that a sprinkler system is effective, specifiers should always request an LPS 1048 Certificate of Conformity. An LPS 1048 Certificate of Conformity may only be issued for a sprinkler system, installation, extension or alteration that is in full compliance with the one of the installation standards listed above.

Any agreed minor deviations to the installation standard will be recorded on a separate page of the LPS 1048 Certificate of Conformity. An LPS Certificate of Conformity cannot be issued if there is a major deviation to the installation standard. It should be noted that a Sprinkler Contractor's Completion Certificate is **NOT** an LPS 1048 Certificate of Conformity.

An LPS 1048 Certificate of Conformity only remains valid if the sprinkler system, installation, extension or alteration, covered by the certificate, is serviced and maintained in accordance with the original installation standard.

Supervision

Where an approved Sprinkler Contractor does not meet all the criteria set out in the LPS 1048-1 scheme document to self-certificate any of the Categories of Work allowed under its approval level, it is required to have the Category(ies) of Work that it is not approved to self-certificate supervised. Supervision is carried out by an LPS 1048-2 approved Supervising Body or the LPCB Supervisory Service.

Supervision involves a review of the design, an inspection of the installed sprinkler system, and witnessing of water supply proving tests for compliance with the installation standard. LPS 1048 Certificates of Conformity are issued by the Supervising Body or the LPCB Supervisory Service for systems with no major non-compliances.

Details of the Categories of Work that each approved Sprinkler Contractor can self-certificate, can be found in the individual company listings.

Figure 2 below details the requirements for Supervision and the issue of LPS 1048 Certificates of Conformity.

Figure 2

Approval Level	Supervision	Issue of LPS 1048 Certificate of Conformity
1	Required for all contracts	By Supervising Body only
2	Only where stated in the Sprinkler Contractor's approval listing	By Sprinkler Contractor or Supervising Body as stated in the Sprinkler Contractor's approval listing
3		
4	Not required.	By Sprinkler Contractor

Section 1.2 lists approved Supervising Bodies.

Financial assessment

The assessment and listing of Sprinkler Contractors in the LPS 1048-1 scheme covers only technical and quality aspects. All other contractual requirements are the responsibility of the parties to the contract.

LPS 1050 - Certificated Sprinkler system Servicing and Maintenance Firms

Firms listed in Section 2 are authorised to issue LPS 1050 Certificates of Servicing and Inspection for sprinkler systems maintained in accordance with the LPC Sprinkler Rules or other installation standards allowed under the LPS 1048 scheme.

A & F Sprinklers Limited

Atrium House, 574 Manchester Road, Blackford Bridge, Bury, Lancashire BL9 9SW UK
Tel: +44 (0)161 796 5397 • Fax: +44 (0)161 796 6057
E-mail: info@afsprinklers.co.uk • Website: www.afsprinklers.co.uk

Certificate No. ASC-001

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

A.M. Fire Systems Limited

Red Brook Mill, Bury Road, Rochdale OL11 4EE UK
Tel: +44 (0)1706 639439 • Fax: +44 (0)1706 347733
E-mail: rochdale@amfiresystems.co.uk

Certificate No. ASC-076

Approval Level 3

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E F

Alpine Fire Engineers Limited

Sovereign House, Barehill Street, Littleborough, Lancashire OL15 9BJ UK
Tel: +44 (0)1706 838200 • Fax: +44 (0)1706 838020
E-mail: admin@alpinefireengineers.co.uk • Website: www.alpinefireengineers.co.uk

Certificate No. ASC-054

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

AMEC Group Limited

7-14 Great Dover Street, London SE1 4YR UK
Tel: +44 (0)20 7089 7350 • Fax: +44 (0)20 7089 7378
E-mail: fire.engineering@7-14gds.amec.co.uk • Website: www.amec.com

Certificate No. ASC-015

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

AMEC Group Limited

4th Floor, Fountain House, Great Cornbow, Halesowen, West Midlands B63 3BL UK
Tel: +44 (0)121 504 0500 • Fax: +44 (0)121 504 0555
E-mail: fire.engineering@amec.com • Website: www.amec.com

Certificate No. ASC-050

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Angus Fire

Thame Park Road, Thame, Oxfordshire OX9 3RT UK
Tel: +44 (0)1844 265000 • Fax: +44 (0)1844 265159
E-mail: sprinklers@angusuk.co.uk

Certificate No. ASC-023

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Argus Fire Protection Company Limited

Hendglade House, 46 New Road, Stourbridge, West Midlands DY8 1PA UK
Tel: +44 (0)1384 376256 • Fax: +44 (0)1384 393955
E-mail: info@argusfire.co.uk • Website: www.argusfire.co.uk

Certificate No. ASC-005

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Armstrong Priestley Limited

Seventy Seven, Holbeck Lane, Leeds LS11 9UL UK
Tel: +44 (0)845 0560390 • Fax: +44 (0)845 0560391
E-mail: info@armstrongpriestley.co.uk • Website: www.armstrongpriestley.co.uk

Certificate No. ASC-016

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Ashvale Fire Services Limited

Ashvale House, Fitzroy Street, Ashton-under-Lyne, Lancashire OL7 0JG UK
Tel: +44 (0)161 343 1090 • Fax: +44 (0)161 343 3732
E-mail: ashvalefire@btclick.com • Website: www.ashvalefire.com

Certificate No. ASC-074

Approval Level 3

Approved to self-certificate the following Categories of Work: A C
The following Categories of Work to be supervised - B D E F

Automatic Fire Control Limited

Unit 9, Dorcan Business Village, Murdoch Road, Dorcan, Swindon SN3 5HY UK
Tel: +44 (0)1793 496624 • Fax: +44 (0)1793 496623
E-mail: automaticfire@aol.com

Certificate No. ASC-027

Approval Level 2

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E

Besseges Limited

Riverside, Dukinfield, Cheshire SK16 4HE UK
Tel: +44 (0)161 308 3252 • Fax: +44 (0)161 339 5003
E-mail: sales@besseges.co.uk • Website: www.besseges.co.uk

Certificate No. ASC-041

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Blue Shield Fire Protection Limited

82 Akeman Street, Tring, Hertfordshire HP23 6AF UK
Tel: +44 (0)1442 828000 • Fax: +44 (0)1442 828001
E-mail: sales@blueshieldfire.co.uk • Website: www.blueshieldfire.co.uk

Certificate No. ASC-083

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Bryland Fire Protection Limited

Unit 3, Pear Tree Lane, Dudley, West Midlands DY2 OQU UK
Tel: +44 (0)1384 573350 • Fax: +44 (0)1384 480944
E-mail: sales@brylandfire.co.uk • Website: www.brylandfire.co.uk

Certificate No. ASC-079

Approval Level 2

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E

Bush Engineering

Unit 28 The Metro Centre, Kangley Bridge Road, Sydenham, London SE26 5BW UK
Tel: +44 (0)845 241 9860 • Fax: +44 (0)845 241 9861
E-mail: sales@bushengineering.com

Certificate No. ASC-065

Approval Level 2

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Central Fire Protection

Unit 3, Peerglow Business Centre, Marsh Lane, Ware, Hertfordshire SG12 9QL UK
Tel: +44 (0)1920 460616 • Fax: +44 (0)1920 461113
E-mail: cfp.ware@central-fire.co.uk

Certificate No. ASC-017

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Central Fire Protection

3-5 Bewsey Road, Warrington, Cheshire WA2 7LN UK
Tel: +44 (0)1925 414464 • Fax: +44 (0)1925 244298
E-mail: cfp.warrington@central-fire.co.uk

Certificate No. ASC-028

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Compco Fire Systems Limited

23 Fairfield Place, College Milton, East Kilbride G72 5LP UK
Tel: +44 (0)1355 570033 • Fax: +44 (0)1355 570044
E-mail: enquiries@compcofire.co.uk • Website: www.compcofire.co.uk

Certificate No. ASC-094

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Compco Fire Systems Limited

Cleeve House, Malvern Road, Lower Wick, Worcester WR2 4YX UK
Tel: +44 (0)1905 741600 • Fax: +44 (0)1905 741620
E-mail: enquiries@compcofire.co.uk

Certificate No. ASC-049

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C D
The following Categories of Work to be supervised - E F

Contract Fire Systems Limited, trading as Contract Fire Security

CFS Business Park, Coleshill Road, Sutton Coldfield, West Midlands B75 7FS UK
Tel: +44 (0)121 250 2141 • Fax: +44 (0)121 250 7575
E-mail: fireprotection@contractfire.co.uk • Website: www.contractfire.co.uk

Certificate No. ASC-039

Approval Level 2

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Crown House Engineering

Crown House, 1st Floor, Centre Tower, Whitgift Centre, Croydon, Surrey CR9 0AU UK
Tel: +44 (0)208 662 4700 • Fax: +44 (0)208 662 4795
E-mail: jfalconbridge@laingorouke.com • Website: www.crownhouseengineering.com

Certificate No. ASC-029

Approval Level 2

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

D. D. H. Sprinklers Limited

31 Cherry Orchard Industrial Estate, Dublin 10, Ireland
Tel: +353 1 626 7970 • Fax: +353 1 626 5873
E-mail: info@ddh.ie

Certificate No. ASC-046

Approval Level 2

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

D. D. H. Sprinklers Limited

123 Front Road, Drumbo, Lisburn BT27 5JY, Northern Ireland
Tel: +44 (0)2890 827 008 • Fax: +44 (0)2890 827 012
E-mail: office@ddh.ie

Certificate No. ASC-086

Approval Level 2

Approved to self-certificate the following Categories of Work: A C D
The following Categories of Work to be supervised - B E

D.D.H. Sprinklers Limited

Unit 7, Chiltern Court, Asheridge Road, Chesham, Buckinghamshire HP5 2PX UK
Tel: +44 (0)1494 791907 • Fax: +44 (0)1494 791906
E-mail: uk@ddh.ie

Certificate No. ASC-090

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

D.I.S. Sprinklers

183 Westgate Street, Gloucester GL1 2RN UK
Tel: +44 (0)1452 304927 • Fax: +44 (0)1452 306692
E-mail: info@dis-ltd.co.uk • Website: www.dis-ltd.co.uk

Certificate No. ASC-030

Approval Level 3

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E F

Dalkia Energy & Technical Services Limited

Limeharbour Court, 5 Limeharbour, London E14 9TS UK
Tel: +44 (0)20 7001 7000 • Fax: +44 (0)20 7001 7272
E-mail: info@dalkiarail.co.uk

Certificate No. ASC-013

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Eton Fire Limited

9 Quebec Wharf, Thomas Road, London E14 7BJ UK
Tel: +44 (0)20 7068 7900 • Fax: +44 (0)20 7068 7901
E-mail: fire@etonfire.com

Certificate No. ASC-081

Approval Level 2

Approved to self-certificate the following Categories of Work: A C
The following Categories of Work to be supervised - B D E

Fire Defence plc

Crown Yealm House, Pathfields Business Park, South Molton EX36 3LH UK
Tel: +44 (0)1769 574070 • Fax: +44 (0)1769 574079
E-mail: fds@fire-defence.com • Website: www.fire-defence.com

Certificate No. ASC-047

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C D
The following Categories of Work to be supervised - E F

Fire Protection Systems Limited

Unit 3, Globe Industrial Estate, Radcliffe, Manchester M26 2TA UK
Tel: +44 (0)161 724 5877 • Fax: +44 (0)161 724 5277
E-mail: fps.1@virgin.net

Certificate No. ASC-075

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Fire Security (Sprinkler Installations) Limited

Homefield Road, Haverhill, Suffolk CB9 8QP UK
Tel: +44 (0)1440 705815 • Fax: +44 (0)1440 704352
E-mail: info@firesecurity.co.uk • Website: www.firesecurity.co.uk

Certificate No. ASC-018

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Fire Valve Services Limited

Broom Street, Off Huddersfield Road, Newhey, Rochdale OL16 3RY UK
Tel: +44 (0)1706 848599 • Fax: +44 (0)1706 843474
Website: www.firevalveservices.co.uk

Certificate No. ASC-031

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Fireproof Fire Engineering Limited

The Old Brewery, 40 Coldhurst Street, Oldham, Lancashire OL1 2BQ UK
Tel: +44 (0)161 620 0902 • Fax: +44 (0)161 620 0772
E-mail: contactus@fireproofsprinklersystems.com

Certificate No. ASC-019

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

First Fire Protection Limited

Unit 3, Network 4, Lincoln Road, Cressex Business Park, High Wycombe, Buckinghamshire HP12 3RH UK
Tel: +44 (0)1494 522031/2 • Fax: +44 (0)1494 452752
E-mail: firstfire@btinternet.com

Certificate No. ASC-037

Approval Level 2

Approved to self-certificate the following Categories of Work: A C
The following Categories of Work to be supervised - B D E

Gordonson Fire Protection Limited

Unit 8, Bombay Street, Bermondsey, London SE16 3UX UK
Tel: +44 (0)207 237 6707 • Fax: +44 (0)207 252 0152
E-mail: gordonson@mailbox.co.uk

Certificate No. ASC-062

Approval Level 3

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E F

Haden Fire Protection (A Division of Haden Building Management Limited)

Britannia Road, Patchway, Bristol BS34 5TD UK
Tel: +44 (0)117 906 3900 • Fax: +44 (0)117 906 3964
E-mail: haden.fire@haden-bml.co.uk • Website: www.haden-bml.co.uk

Certificate No. ASC-051

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Hall & Kay Fire Engineering (Manchester)

10 Westpoint, Clarence Avenue, Trafford Park, Manchester M17 1QS UK
Tel: +44 (0)161 872 7316 • Fax: +44 (0)161 872 7003
E-mail: Manchester@hkfire.co.uk • Website: www.hkfire.co.uk

Certificate No. ASC-042

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Hall & Kay Fire Engineering (West Midlands)

Sterling Park, Clapgate Lane, Woodgate Valley, West Midlands B32 3BU UK
Tel: +44 (0)121 421 3311 • Fax: +44 (0)121 422 7312
E-mail: birmingham@hkfire.co.uk • Website: www.hkfire.co.uk

Certificate No. ASC-003

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Hall & Kay Fire Engineering (Windsor)

1st Floor, Sefton Lodge, Clewer Hill Road, Windsor SL4 4FT UK
Tel: +44 (0)1753 842130 • Fax: +44 (0)1753 842385
E-mail: windsor@hkfire.co.uk • Website: www.hkfire.co.uk

Certificate No. ASC-071

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Hall Fire Protection Limited

186 Moorside Road, Swinton, Manchester M27 9HA UK
Tel: +44 (0)161 793 4822 • Fax: +44 (0)161 794 4950
E-mail: sales@hallfire.co.uk • Website: www.hallfire.co.uk

Certificate No. ASC-026

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Hydra Industrial Services Limited

Bentley Centre, Stratton Road, Swindon, Wiltshire SN1 2SH UK
Tel: +44 (0)1793 616333 • Fax: +44 (0)1793 618333
E-mail: info@hyraindustrial.co.uk

Certificate No. ASC-055

Approval Level 3

Approved to self-certificate the following Categories of Work: A B C D
The following Categories of Work to be supervised - E F

Irish Sprinkler & Fire Protection Limited

Damastown Green, Damastown Industrial Estate, Mulhuddart, Dublin 15, Ireland
Tel: +353 1 8614036 • Fax: +353 1 8614037
E-mail: irishsprinkler@joneseng.com • Website: www.joneseng.com

Certificate No. ASC-069

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

J & J Design Limited

Unit 4, Underbank Way, Carrs Industrial Estate, Haslingden, Rossendale, Lancashire BB4 5HR UK
Tel: +44 (0)1706 223414 • Fax: +44 (0)1706 225639

Certificate No. ASC-052

Approval Level 2

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

JSMS Limited

72 Hailey Road, Thamesmead, Erith, Kent DA18 4AH UK
Tel: +44 (0)20 8310 5000 • Fax: +44 (0)20 8312 2950
E-mail: rpearce@maclellan-int.com

Certificate No. ASC-063

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

K.P.F.P. Limited

59 Pound Street, Carshalton, Surrey SM5 3PG UK
Tel: +44 (0)20 8544 4844 • Fax: +44 (0)20 8544 4819
E-mail: fire@kpfp.co.uk

Certificate No. ASC-089

Approval Level 2

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Kean Fire Protection Services

Leveson Street, Willenhall, West Midlands WV13 1DB UK
Tel: +44 (0)1902 603550 • Fax: +44 (0)1902 608017
E-mail: kean.fp@btconnect.com

Certificate No. ASC-061

Approval Level 2

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E

Kentallen Fire Protection Limited

Lancaster Road, Lowmoss Industrial Estate, Bishopbriggs, Glasgow G64 2LL UK
Tel: +44 (0)141 762 2540 • Fax: +44 (0)141 762 0823
E-mail: kentallen@btconnect.com

Certificate No. ASC-032

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Linkester Fire Protection Limited

4/6 Cross Street, Macclesfield, Cheshire SK11 7PG UK
Tel: +44 (0)1625 511272 • Fax: +44 (0)1625 511272

Certificate No. ASC-011

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Lostock Design Partnership

80 Stanifield Lane, Farington, Preston, Lancashire PR25 4GA UK
Tel: +44 (0)1772 424252 • Fax: +44 (0)1772 424202
E-mail: lostock.design@btconnect.com

Certificate No. ASC-025

Approval Level 2

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

M & P Fire Solutions Ltd

Unit 3, Monastery Road, Clondalkin, Dublin 22, Ireland
Tel: +353 1 4642550 • Fax: +353 1 4591016
E-mail: admin@mpfiresolutions.com

Certificate No. ASC-095

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Mercury Engineering

Mercury House, Sandyford Industrial Estate, Foxrock, Dublin 18, Ireland
Tel: +353 1 216 3000 • Fax: +353 1 216 3006
E-mail: fireprotection@mercury.ie • Website: www.mercury.ie

Certificate No. ASC-058

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

National Sprinkler Company Limited

Unit 4B, Fingal Bay Business Park, Balbriggan, Co Dublin, Ireland
Tel: +353 1 690 4001/4040 • Fax: +353 1 841 7400
E-mail: info@nationalsprinkler.ie • Website: www.nationalsprinkler.ie

Certificate No. ASC-092

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Nu-Form Fire UK Limited

390 Manchester Road, Gollinrod, Bury, Lancashire BL9 5NB UK
Tel: +44 (0)1706 825111 • Fax: +44 (0)1706 827111
E-mail: info@sprinklersystems.co.uk • Website: www.sprinklersystems.co.uk

Certificate No. ASC-040

Approval Level 3

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E F

Olympic Fire Protection Limited

10/11 Stratfield Park, Waterlooville, Hampshire PO7 7XN UK
Tel: +44 (0)2392 231444 • Fax: +44 (0)2392 250666
E-mail: info@olympicfire.co.uk • Website: www.olympicfire.co.uk

Certificate No. ASC-068

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Pendle Designs Limited

Pendle House, Webb Street, Bury, Lancs BL8 1AF UK
Tel: +44 (0)161 764 2252 • Fax: +44 (0)161 763 1429

Certificate No. ASC-020

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Project Fire Engineers Limited

Pasturefields Lane Industrial Estate, Pasturefields Lane, Hixon, Staffordshire ST18 0PH UK
Tel: +44 (0)1889 270999 • Fax: +44 (0)1889 270974
E-mail: sales@projectfire.co.uk • Website: www.projectfire.co.uk

Certificate No. ASC-010

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Protec Camerfield Limited

5 Churchill Way, Nelson, Lancashire BB9 6RT UK
Tel: +44 (0)1282 717474 • Fax: +44 (0)1282 717475
E-mail: camerfield@protec.co.uk • Website: www.protec.co.uk

Certificate No. ASC-056

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Provincial Sprinkler Co. Limited

Unit 4, Cork Airport Industrial Estate, Kinsale Road, Cork, Ireland
Tel: +353 (0)21 4965058 • Fax: +353 (0)21 4317425
E-mail: info@provincial-sprinkler.ie • Website: www.provincial-sprinkler.ie

Certificate No. ASC-087

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Rapid Fire Sprinklers Limited

45/47 Glentanar Road, Balmore Industrial Estate, Glasgow G22 7XS, Scotland
Tel: +44 (0)141 347 0999 • Fax: +44 (0)141 347 0666
E-mail: enquiry@rapidfirescotland.co.uk • Website: www.rapidfirescotland.co.uk

Certificate No. ASC-085

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Red Rose Mechanical Services

Unit 22, South Ribble Enterprise Park, South Ribble Industrial Estate, Capitol Way, Walton-Le-Dale PR5 4AQ UK
Tel: +44 (0)1772 886646 • Fax: +44 (0)1772 881702

Certificate No. ASC-044

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

RGT Fire Protection Limited

95 Beaumont Road, Bournville, Birmingham B30 2EB UK
Tel: +44 (0)121 433 5175 • Fax: +44 (0)121 486 1847
E-mail: info@rgtfire.com

Certificate No. ASC-093

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Richmond Fire Engineers Limited

30 Firby Road, Gallowfields Trading Estate, Richmond, North Yorkshire DL10 4ST UK
Tel: +44 (0)1748 825612 • Fax: +44 (0)1748 825935
E-mail: Sprinklers@richmondfire.co.uk • Website: www.richmondfire.co.uk

Certificate No. ASC-059

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

RMD Fire Control Limited

The Coach House, 22 Lower Stone Street, Maidstone, Kent ME15 6LX UK
Tel: +44 (0)1622 682522 • Fax: +44 (0)1622 692675
E-mail: sprinklers@rmdfire.co.uk • Website: www.rmdfire.co.uk

Certificate No. ASC-035

Approval Level 2

Approved to self-certificate the following Categories of Work: A C
The following Categories of Work to be supervised - B D E

Rochdale Fire Sprinklers Limited

Unit 13 Rochdale Industrial Centre, Albion Road, Rochdale, Lancashire OL11 4HQ UK
Tel: +44 (0)1706 527177 • Fax: +44 (0)1706 527179
E-mail: rochdalefire@btconnect.com

Certificate No. ASC-084

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Ross Fire Protection Limited

29 Deerdykes View, Westfield, Cumbernauld G68 9HN UK
Tel: +44 (0)1236 738502 • Fax: +44 (0)1236 727977
E-mail: ross@rossfire.co.uk

Certificate No. ASC-021

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Rotary Firematic Limited

5 Trench Road, Mallusk Industrial Estate, Newtownabbey, Co Antrim, Northern Ireland BT36 8XA UK
Tel: +44 (0)2890 831200 • Fax: +44 (0)2890 831201
E-mail: mechanical.contracts@rotarygroup.com

Certificate No. ASC-022

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

RSM Refko Installations Limited

Unit 8, Capstan Centre, Thurrock Park Way, Tilbury, Essex RM18 7HH UK
Tel: +44 (0)1375 855500 • Fax: +44 (0)1375 855533

Certificate No. ASC-043

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Select Fire Services Limited

Unit 5B, Quickbury Farm, Hatfield Heath Road, Sawbridgeworth, Hertfordshire CM21 9HY UK
Tel: +44 (0)1279 724848 • Fax: +44 (0)1279 721988

Certificate No. ASC-070

Approval Level 2

Approved to self-certificate the following Categories of Work: A
The following Categories of Work to be supervised - B C D E

Siemens plc, Building Technologies, Fire Safety Division

Sir William Siemens House, Princess Road, Manchester M20 2UR UK
Tel: +44 (0)161 446 5159 • Fax: +44 (0)161 446 6949
Website: www.sbt.siemens.com

Certificate No. ASC-072

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Solent Fire Protection Services Limited

12 Heritage Business Park, Heritage Way, Gosport, Hampshire PO12 4BG UK
Tel: +44 (0)2392 510230 • Fax: +44 (0)2392 511510
E-mail: info@solentfire.co.uk • Website: www.solentfire.co.uk

Certificate No. ASC-057

Approval Level 3

Approved to self-certificate the following Categories of Work: A B D
The following Categories of Work to be supervised - C E F

Taylor Robinson Limited

Fire Protection House, Woolley Colliery Road, Darton, Barnsley, Yorkshire S75 5JA UK
Tel: +44 (0)1226 386 911/2/3 • Fax: +44 (0)1226 388 206
E-mail: sprinkler@taylorrobinson.co.uk • Website: www.taylorrobinson.co.uk

Certificate No. ASC-033

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Thameside Fire Protection Co. Limited

Unit 4, Sovereign Business Park, Cranes Farm Road, Basildon, Essex SS14 3JD UK
Tel: +44 (0)1268 597999 • Fax: +44 (0)1268 597998
E-mail: enquiries@thamesidefire.co.uk • Website: www.thamesidefire.co.uk

Certificate No. ASC-053

Approval Level 2

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Thermotech Fire Protection Limited

Unit 10, Bamford Business Park, Off Hibbert Street, Reddish, Stockport SK4 1PL UK
Tel: +44 (0)161 4765551 • Fax: +44 (0)161 4762998
E-mail: info@thermotech-fireprotection.co.uk • Website: www.thermotech-fireprotection.co.uk

Certificate No. ASC-088

Approval Level 1

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Tyco Fire and Integrated Solutions (the trading company for Tyco Fire and Integrated Solutions (UK), Limited and Tyco Fire and Integrated Solutions (Ireland) Limited)

Hillcrest Business Park, Cinderbank, Dudley, West Midlands DY2 9AP UK
Tel: +44 (0)1384 458993 • Fax: +44 (0)1384 458981
E-mail: howfire@howfire.co.uk • Website: www.howfire.co.uk

Certificate No. ASC-004

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Tyco Fire and Integrated Solutions (the trading company for Tyco Fire and Integrated Solutions (UK), Limited and Tyco Fire and Integrated Solutions (Ireland) Limited)

7 Ardee Road, Rathmines, Dublin 6, Ireland
Tel: +353 1 496 6077 • Fax: +353 1 496 6858

Certificate No. ASC-060

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Tyco Fire and Integrated Solutions (the trading company for Tyco Fire and Integrated Solutions (UK), Limited and Tyco Fire and Integrated Solutions (Ireland) Limited)

Unit House, 2-8 Morfa Road, Swansea SA1 2HS UK
Tel: +44 (0)1792 465006 • Fax: +44 (0)1792 648535
E-mail: enquiries@atlasfire.co.uk

Certificate No. ASC-006

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

Smethwick Hawthorns Business Centre, Halfords Lane, Smethwick, Birmingham, West Midlands B66 1DW UK
Tel: +44 (0)121623 1000 • Fax: +44 (0)121 558 2282
Website: www.wormald.co.uk

Certificate No. ASC-008

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

6 Stirling Court, Eleventh Avenue North, Team Valley Trading Estate, Gateshead, Tyne & Wear NE11 OJF UK
Tel: +44 (0)191 497 6333 • Fax: +44 (0)191 497 6339
Website: www.wormald.co.uk

Certificate No. ASC-038

Approval Level 2

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

Tyco Park, Grimshaw Lane, Newton Heath, Manchester M40 2WL UK
Tel: +44 (0)161 205 2321 • Fax: +44 (0)161 455 4459
E-mail: wfs.manchester@tycoint.com • Website: www.tycofis.com

Certificate No. ASC-007

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

206 Bedford Avenue, Slough Trading Estate, Slough, Berkshire SL1 4RY UK
Tel: +44 (0)1753 574111 • Fax: +44 (0)1753 824226
Website: www.wormald.co.uk

Certificate No. ASC-012

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

1A Unity Street, Old Market, Bristol BS2 0HX UK
Tel: +44 (0)117 927 7271 • Fax: +44 (0)117 929 7586
Website: www.wormald.co.uk

Certificate No. ASC-009

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

Lowe Industrial Estate, 31 Ballynahinch Road, Carryduff, Belfast, Northern Ireland BT8 8EH UK
Tel: +44 (0)2890 813699 • Fax: +44 (0)2890 814418
Website: www.tycofis.com

Certificate No. ASC-036

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

30-32 Singer Road, Kelvin Industrial Estate, East Kilbride, Lanarkshire G75 0XS UK
Tel: +44 (0)1355 225132 • Fax: +44 (0)1355 249268
E-mail: jmcgory@tycofire.com • Website: www.wormald.co.uk

Certificate No. ASC-014

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

UK Firewatch Limited

37/39 Manor Road, Romford, Essex RM1 2TL UK
Tel: +44 (0)1708 756248 • Fax: +44 (0)1708 769315
E-mail: enquiries@ukfirewatch.com • Website: www.ukfirewatch.com

Certificate No. ASC-077

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

UK Firewatch Limited

Unit 210, Alexandra Business Park, Sunderland, Tyne & Wear SR4 6UG UK
Tel: +44 (0)191 515 4540 • Fax: +44 (0)191 515 4549
E-mail: enquiries@ukfirewatch.com • Website: www.ukfirewatch.com

Certificate No. ASC-064

Approval Level 3

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Vipond Fire Protection Limited

10-12 Glenfield Road, Kelvin Industrial Estate, East Kilbride, Lanarkshire G75 0RA UK
Tel: +44 (0)1355 2375 25/80/88 • Fax: +44 (0)1355 263399
E-mail: admin.uk@vipondltd.co.uk • Website: www.vipondfire.co.uk

Certificate No. ASC-024

Approval Level 4

Approved to self-certificate all Categories of Work
No supervision required

Writech Industrial Services Limited

Mullingar Business Park, Mullingar, Co. Westmeath, Ireland
Tel: +353 44 9349857 • Fax: +353 44 9349858
E-mail: info@writechltd.com

Certificate No. ASC-067

Approval Level 2

Not approved to self-certificate any Category of Work
All Categories of Work to be supervised

Mercury Engineering

Mercury House, Sandyford Industrial Estate, Foxrock, Dublin 18, Ireland
Tel: +353 1 216 3000 • Fax: +353 1 216 3006
E-mail: fireprotection@mercury.ie • Website: www.mercury.ie

Certificate No. ASB-006

Approved to supervise Pre-calculated designs only

Project Fire Engineers Limited

Pasturefields Lane Industrial Estate, Pasturefields Lane, Hixon, Staffordshire ST18 0PH UK
Tel: +44 (0)1889 270999 • Fax: +44 (0)1889 270974
E-mail: sales@projectfire.co.uk • Website: www.projectfire.co.uk

Certificate No. ASB-003

Approved to supervise Pr e-calculated designs only

Tyco Fire and Integrated Solutions (the trading company for Tyco Fire and Integrated Solutions (UK), Limited and Tyco Fire and Integrated Solutions (Ireland) Limited)

7 Ardee Road, Rathmines, Dublin 6, Ireland
Tel: +353 1 496 6077 • Fax: +353 1 496 6858

Certificate No. ASB-007

Approved to supervise Pre-calculated designs only

Tyco Fire and Integrated Solutions (the trading company for Tyco Fire and Integrated Solutions (UK), Limited and Tyco Fire and Integrated Solutions (Ireland) Limited)

Unit House, 2-8 Morfa Road, Swansea SA1 2HS UK
Tel: +44 (0)1792 465006 • Fax: +44 (0)1792 648535
E-mail: enquiries@atlasfire.co.uk

Certificate No. ASB-001

Approved to supervise Pre-calculated designs only

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

Tyco Park, Grimshaw Lane, Newton Heath, Manchester M40 2WL UK
Tel: +44 (0)161 205 2321 • Fax: +44 (0)161 455 4459
E-mail: wfs.manchester@tycoint.com • Website: www.tycofis.com

Certificate No. ASB-002

Approved to supervise Pre-calculated designs only

The companies listed in this Section are authorised to issue LPS 1050 Certificates of Servicing and Inspection for sprinkler systems maintained in accordance with the LPC Sprinkler Rules or other installation standards allowed under the LPS 1048 scheme.

Hall Fire Protection Limited

186 Moorside Road, Swinton, Manchester M27 9HA UK
Tel: +44 (0)161 793 4822 • Fax: +44 (0)161 794 4950
E-mail: sales@hallfire.co.uk • Website: www.hallfire.co.uk

Certificate No. CSM -001 to LPS 1050

Certificated Sprinkler Servicing and Maintenance Firm, authorised to issue LPS 1050 Certificates of Servicing and Inspection for sprinkler systems serviced and maintained in accordance with BS 5306: Part 2: 1990.

LPS 1050 Certificated Supervising Body, authorised to supervise LPS 1050 Registered Servicing Firms.

This section lists products certificated against one of the following standards:

- EN12259-2 *Fixed firefighting systems. Components for sprinkler and water spray systems. Wet alarm valve assemblies*.
- EN12259-3 *Fixed firefighting systems. Components for sprinkler and water spray systems. Dry alarm valve assemblies.*
- LPCB Schedule of requirements

Notes:
LPCB is a European Notified Body and all of the products in this section will need to be assessed against the new European Norms BS EN12259-2 for Wet Alarm Valve sets and BS EN12259-3 for Dry Alarm Valve sets before they can be CE marked. Please contact us if you want further information on the current CE status of any of the products in the Red Book.

It is strongly recommended that all alarm valves, dry-pipe valves and back-pressure valves be the subject of a maintenance contract, satisfying the requirements of the *LPC Rules for Automatic Sprinkler Installations*.

The nominal orifice size of valves listed is given in millimetres.

The products shall be installed and maintained in accordance with the manufacturers instructions.

Angus Fire Armour Limited (Denmark)

Kastanievej, DK-5620, Glamsberg, Denmark
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

UK Sales Enquiries:
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Angus Alarm Valve(1),(7)	C vertical (cast iron)	80,100,150 & 200	084c/01
Angus Alarm Valve(1),(8)	C1 vertical (cast iron)	80 (7) , 100 (7), 150 (6) & 200 (6)	084c/02
Angus Alarm Valve(2),(5),(8)	C1 vertical (cast iron)	100 (3) & 150	
Angus Alarm Valve(1),(7)	C vertical (leaded gunmetal)	100	084c/03
	C vertical (H.T.aluminium bronze)	100	084c/04
Angus Dry Pipe Valve(1),(2),(4)	D vertical (cast iron)	100 & 150	034b/02
Angus Dry Pipe Valve(1),(4)	39	100 & 150	184b/01

Notes:
1) With flanged inlet and flanged outlet.
2) With flanged inlet and grooved outlet.
3) With grooved inlet and grooved outlet.
4) Maximum working pressure of 12 bar.
5) Maximum working pressure of 12.5 bar.
6) Maximum working pressure of 16 bar.
7) Maximum working pressure of 20 bar.
8) Supplied with standard seat or with 'S' seat

G.W. Sprinkler A/S

Kastanievej 15, DK-5620 Glamsbjerg, Denmark
Tel: +45 64 72 2055 • Fax: +45 64 72 2255
E-mail: sales.dep@gwsprinkler.com

Product Name	Model	Sizes (mm)	LPCB Ref. No.
GW Alarm Valve(1),(8)	C1	80 (7), 100 (7), 150 (6) & 200 (6)	084c/02
GW Alarm Valve(2)(5)(8)	C1	100 (3) & 150	
GW Dry Pipe Valve(1)(2)(4)	D vertical (cast iron)	100 & 150	034b/02
GW Horizontal Alarm Valve(1)(7)	C1-H	80	084c/05

Product Name	Model	Sizes (mm)	LPCB Ref. No.
GW Dry Pipe Valve(1)(4)	39	100 &,150	184b/01

Notes:
1) With flanged inlet and flanged outlet.
2) With flanged inlet and grooved outlet.
3) With grooved inlet and grooved outlet.
4) Maximum working pressure of 12 bar.
5) Maximum working pressure of 12.5 bar.
6) Maximum working pressure of 16 bar.
7) Maximum working pressure of 20 bar.
8) Supplied with standard seat or with 'S' seat.

Globe Fire Sprinkler Corporation

4077 Air Park Drive, P.O. Box 796, Standish, Michigan 48658, USA
Tel: +1 989 846 4583 • Fax: +1 989 846 9231

UK Sales Enquiries:

Fire Protection Centre Ltd
Tel: +44 (0)1724 864199 • Fax: +44 (0)1724 854213

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Globe Alarm Valve vertical	H1	100(1), 150(1)	147b/01
	H3	100(2), 150(2)	147b/02

Notes:
1) Maximum working pressure 20 bar.
2) Maximum working pressure 12 bar.

Globe Sprinklers Europa S.A.

Avda. de las Flores 13, 28970 Madrid, Spain
Tel: +34 91 606 3003 • Fax: +34 91 690 9561
E-mail: sales@anber.es • Website: www.globesprinkler.com

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Globe Alarm Valve	H-1	80,100 (1, 2)	289b/01
	E	65	034b/01
Globe Dry Pipe Valve	D	100, 150	034b/02
	A	65	034b/03
Globe Alarm Valve	H-2	80, 100 (1, 2)	289b/02
	H-3	80,100 (1, 2)	289b/03

Notes
1) Model sizes 80mm and 100mm approved in both horizontal and vertical mounting positions.
2) Approved maximum working pressure 12 bar when fitted with retard chamber, approved maximum working pressure 16 bar when fitted without retard chamber.

Kidde Fire Fighting Inc., Fire Control Division

Executive Way, Ranson, West Virginia 25438, USA
Tel: +1 304 728 9000 • Fax: +1 304 728 8481

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Automatic Dry Pipe Valve	39	100, 150	184b/01
Automatic Alarm Valve	353	100,150 ,200	184b/02
	363	100 150	184b/03

The Reliable Automatic Sprinkler Co. Inc

1470 Smith Grove Road, Liberty, South Carolina 29657, USA
Tel: +1 864 843 1734 • Fax: +1 864 843 1418
E-mail: jcevallos@reliablesprinkler.com • Website: www.reliablesprinkler.com

UK Sales Enquiries
Tel: +44 (0)1372 728899 • Fax: +44 (01372) 724461

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Reliable Alarm Valve (1) (5) (7)	E	65, 100, 150, 200	034b/01
Reliable Alarm Valve (3) (6) (7)	D	100, 150	034b/02
Reliable Dry Pipe Valve (4) (6) (7)	A	6	034b/03
Reliable High Pressure Alrm Valve (2) (5) (8)	E3	100, 165, 200	034b/04

Notes:
1) With flanged inlet and flanged outlet
2) With grooved inlet and grooved outlet
3) With flanged inlet and flanged or grooved outlet
4) With threaded inlet and outlet
5) Vertical or horizontal
6) Vertical
7) Maximum working pressure of 12 bar
8) Maximum working pressure of 21 bar

The Viking Corporation

210 N Industrial Park, Hastings, Michigan 49058, USA
Tel: +1 269 945 9501 • Fax: +1 269 945 9599
E-mail: techsvcs@vikingcorp.com • Website: www.vikingcorp.com

UK Sales Enquiries:
Tel: +44 (0)1427 875999 • Fax: +44 (0)1427 875998

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Viking Alarm Valve	F1	65, 100, 150, 200	096b/01
Viking Cast Iron Dry Pipe Valve(1)	E-2	75, 100	096b/02
	E-1	150	096b/03
Viking Alarm Valve(2)	H-2	75, 100, 150, 200	096b/04
Viking Wet Alarm Valve(3)	J-1	80,100,150, 200	096b/05
Viking Dry Pipe Valve(1)	F-1	80mm, 100mm, 150mm	096b/06

Notes:
1) Approved with flanged inlet and flanged or grooved outlet.
2) Maximum working pressure 12 bar.
3) Maximum working pressure 16 bar

Tyco Fire & Building Products

9700 West Gulf Bank Road, Houston, Texas 77040, USA
Tel: +1 713 937 5342 • Fax: +1 713 937 5457

Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Product Name	Model	Sizes (mm)	LPCB Ref. No.
Gem Dry Pipe Valve (Flange/Groove) (3)	F3061	50, 75	437-1a/01
Gem Dry Pipe Valve (Flange/Flange) (1),(2),(3)	F302	100, 150	437-4a/01
Gem Dry Pipe Valve (Flange/Groove) (1),(2),(3)	F3021	100, 150	437-4a/02
AV-1 Alarm Valve (Flange/Flange) (3)	AV-1	100, 150, 200	437-4a/03
AV-1 Alarm Valve (Flange/Groove) (3)	AV-1	100, 150, 200	437-4a/04
Dry Pipe Valve (Flange/Flange & Flange/Groove) (4)	DPV-1	100	437d/01
	DPV-1	150	437d/02
AV-1 Alarm Valve (Groove/Groove) (3, 4)	AV-1	100, 150, 200	437-1a/05

Notes:
1) Only approved when trimmed in accordance with Grinnell bulletins, Reference TD107.
2) Installations containing models F302 and F3021 shall be maintained under servicing contracts with the manufacturer, or LPS 1048 and LPS 1050 firms experienced in the installation and servicing of this valve.
3) Maximum working pressure 16 bar.
4) Approved for use with and without Model RC-1 Retard Chamber.

Tyco Fire Products Manufacturing Limited

Stockport Trading Estate, Yew Street, Stockport SK4 2JW UK
Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729
E-mail: tycofireproducts.uk@tyco-bspd.com • Website: www.tycobuilding.com

Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Product Name	Model	Sizes (mm)	LPCB Ref. No.
B.W. Alarm Valve(1)(2) vertical (gunmetal)	FE 2394	50/80	007c/01
B.W. Alarm Valve (1) vertical (gunmetal)	FE 2217	100	007c/02
B.W. Alarm Valve (1) vertical (stainless steel)	FE 2640	100	007c/03
B.W. Alarm Valve (1) horizontal (gunmetal)	FE 2375	100	007c/04
B.W. Alarm Valve (1) horizontal (stainless steel)	FE 2646	100	007c/05
B.W. Alarm Valve (1) vertical (aluminium bronze)	FE 2217	100	007c/06
B.W. Alarm Valve (3) vertical (gunmetal)	FE 3557	100	007c/07
B.W. Alarm Valve (1) vertical (gunmetal)	FE 2188	150	007c/08
B.W. Alarm Valve (1) vertical (stainless steel)	FE 2643	150	007c/09
B.W. Alarm Valve (1) horizontal (gunmetal)	FE2354	150	007c/10
B.W. Alarm Valve (1) horizontal (stainless steel)	FE2649	150	007c/11
B.W. Alarm Valve (3) vertical (aluminium bronze)	FE 3262	150	007c/12
B.W. Alarm Valve (1) vertical (bronze)	FE 2360	200	007c/13
B.W. Alarm Valve (1) horizontal (bronze)	FE 2685	200	007c/14
Wet Pipe Alarm Valves(4)	L/W	80,100,150, 200	007c/15
B.W. Alternate Valve (1)(5) vertical (gunmetal)	FE 2349	100	007c/16
B.W. Alternate Valve (1)(5) vertical (stainless steel)	FE 2642	100	007c/17
B.W. Alternate Valve (1)(5) vertical (gunmetal)	FE 2152	150	007c/18
B.W. Alternate Valve (1)(5) vertical (stainless steel)	FE 2645	150	007c/19
B.W. Alternate Valve (1)(5) vertical (bronze)	FE 2380	200	007c/20

Notes:

1) Maximum working pressure : 16 bar.
2) Can be used with either 50mm or 80mm nominal bore pipe.
3) Maximum working pressure : 25 bar.
4) With flanged inlet and flanged or grooved outlet.
5) Installations containing the BW alternate valve shall be maintained under servicing contracts with the manufacturer, or LPS 1048 and LPS 1050 firms experienced in the installation and servicing of this valve.

Venus Fire Protection Ltd

4105, Portland Blvd, Sherbrooke (Quebec) J1L 1X9, Canada
Tel: +1 819 820 8000 • Fax: +1 819 820 8002
E-mail: venus@venus.ca • Website: www.venus-fire.com

Certificate No: 638a to EN 12259-2:1999 + Amendment A1:2001

Wet Alarm Valve

Product Name	Model	Sizes	LPCB Ref. No.
Wet Alarm Valve	B	80mm, 100mm, 150mm, 200mm[1, 2, 3, 4]	628a/01
	D	80mm, 100mm, 150mm, 200mm[1, 2, 3, 5]	638a/02
	E	80mm, 100mm, 150mm, 200mm[1, 2, 3, 6]	638a/03

Notes:
1) Approved for use in vertical mounting position only.
2) Maximum working pressure 12 bar.
3) Approved for use with and without Model E Retard Chamber
4) With flanged inlet and flanged outlet
5) With flanged inlet and grooved outlet
6) With grooved inlet and grooved outlet

This section lists products certificated to the following:

- LPCB Schedule of requirements

Angus Fire Armour Limited (Denmark)

Kastanievej, DK-5620, Glamsberg, Denmark
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

Product Name	Size (mm)	Valve body model	Valve body material	Alarm motor and gong	Maximum working pressure (bar)	Attitude	LPCB Ref. No.
Crusader W A	80, 100, 150, 200	C1	Cast iron	D,E	12.5	Vertical	084d/01

The Angus Crusader wet alram valves are supplied with Angus datasheet 020, which includes installation, commissioning and operating instructions.

This section lists products certificated against one of the following standards:

- LPS 1041 - *Requirements and Testing Methods for Dry Pipe Valve Sets*
- EN12259-3 - *Fixed Firefighting Systems - Components for sprinkler and water spray systems - Part 3: Dry Alarm Valve Assemblies*
- LPCB Schedule of requirements

Notes:
All alarm valves, dry-pipe valves and back-pressure valves should be the subject of a maintenance contract, satisfying the requirements of the *LPC Rules for Automatic Sprinkler Installations*.

Angus Fire Armour Limited (Denmark)

Kastanievej, DK-5620, Glamsberg, Denmark
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

UK Sales Enquiries:
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

Approved Products	**LPCB Ref. No.**
Angus Accelerator Model B1	034c/01

Kidde Fire Fighting Inc., Fire Control Division

Executive Way, Ranson, West Virginia 25438, USA
Tel: +1 304 728 9000 • Fax: +1 304 728 8481

Approved Products	**LPCB Ref. No.**
Automatic Accelerator Model 1	184c/01

Star Sprinkler Inc. (An Affiliate of Tyco Valves & Controls LP)

9700 West Gulf Bank Road, Houston, Texas 77040, USA
Tel: +1 713 466 1176 • Fax: +1 713 937 5457

Sales Enquiries
Tel: +44 (0)161 875 0500 • Fax: +44 (0)161 875 0509

Approved Products	**LPCB Ref. No.**
Star Exhauster Model BB	437-1b/01

The Reliable Automatic Sprinkler Co. Inc

1470 Smith Grove Road, Liberty, South Carolina 29657, USA
Tel: +1 864 843 1734 • Fax: +1 864 843 1418
E-mail: jcevallos@reliablesprinkler.com • Website: www.reliablesprinkler.com

UK Sales Enquiries:
Tel: +44 (0)1372 728899 • Fax: +44 (0)1372 724461

Approved Products	LPCB Ref. No.
Reliable Accelerator Model B1	034c/01

The Viking Corporation

210 N Industrial Park, Hastings, Michigan 49058, USA
Tel: +1 269 945 9501 • Fax: +1 269 945 9599
E-mail: techsvcs@vikingcorp.com • Website: www.vikingcorp.com

UK Sales Enquiries:
Tel: +44 (0)1427 875999 • Fax: +44 (0)1427 875998

Approved Products	LPCB Ref. No.
Viking Accelerator Model B	096c/01
Viking Accelerator Model D-1	096c/02
Viking Accelerator Model D-2	096c/03

Tyco Fire & Building Products

9700 West Gulf Bank Road, Houston, Texas 77040, USA
Tel: +1 713 937 5342 • Fax: +1 713 937 5487

Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Approved Products	LPCB Ref. No.
TFP Model ACC-1	437-4d/03

Tyco Fire Products Manufacturing Limited
Stockport Trading Estate, Yew Street, Stockport SK4 2JW UK
Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729
E-mail: tycofireproducts.uk@tyco-bspd.com • Website: www.tycobuilding.com

Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Approved Products	**LPCB Ref. No.**
Model No. 936 Accelerator	007d/01

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Deluge valves and actuators are currently approved to a schedule of requirements developed by LPCB unless otherwise stated, for use in automatic sprinkler installations. On its publication, these products will be certificated against the new European Norm EN12259-9, this may also include CE marking. This standard is currently in draft form but as soon as it is published, as a European Notified Body we will work with manufacturers to ensure compliance is met. Please contact us if you require up to date information on this issue.

All deluge valves should be the subject of a maintenance contract, satisfying the requirements of the *LPC Rules for Automatic Sprinkler Installations*.

The nominal orifice size of valves listed is given in millimetres.

Angus Fire Armour Limited (Denmark)

Kastanievej, DK-5620, Glamsberg, Denmark
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

UK Sales Enquiries:
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

Approved Products		**LPCB Ref. No.**
Angus Deluge Valve Mk.III	(aluminium bronze) 100mm 150mm 200mm *Maximum working pressure: 20 bar*	084a/01
Angus Deluge Valve Mk.III	(cast iron) 100mm 150mm 200mm *Maximum working pressure: 16 bar*	084a/02

G.W. Sprinkler A/S

Kastanievej 15, DK-5620 Glamsbjerg, Denmark
Tel: +45 64 72 2055 • Fax: +45 64 72 2255
E-mail: sales.dep@gwsprinkler.com

Approved Products		**LPCB Ref. No.**
GW Deluge Valve	Model B 100mm 150mm	034a/01

Globe Sprinklers Europa S.A.

Avda. de las Flores 13, 28970 Madrid, Spain
Tel: +34 91 606 3003 • Fax: +34 91 690 9561
E-mail: sales@anber.es • Website: www.globesprinkler.com

Globe Deluge Valve

Approved Products		**LPCB Ref. No.**
Globe Deluge Valve	Model BX 100mm 150mm	034a/01
Globe Deluge Valve	Model A 65mm	034a/02

Kidde Fire Fighting Inc., Fire Control Division

Executive Way, Ranson, West Virginia 25438, USA
Tel: +1 304 728 9000 • Fax: +1 304 728 8481

Approved Products			LPCB Ref. No.
Automatic Deluge Valve	Model C 65mm 150mm		184a/01

The Reliable Automatic Sprinkler Co. Inc

1470 Smith Grove Road, Liberty, South Carolina 29657, USA
Tel: +1 864 843 1734 • Fax: +1 864 843 1418
E-mail: jcevallos@reliablesprinkler.com • Website: www.reliablesprinkler.com

UK Sales Enquiries:
Tel: +44 (0)1372 728899 • Fax: +44 (0)1372 724461

Approved Products			LPCB Ref. No.
Reliable Deluge Valve	Model BX 100mm 150mm		034a/01
Reliable Deluge Valve	Model A (screwed inlet and outlet)	65mm	034a/02
Reliable Dry Pilot Line Actuator			034a/03

The Viking Corporation

210 N Industrial Park, Hastings, Michigan 49058, USA
Tel: +1 269 945 9501 • Fax: +1 269 945 9599
E-mail: techsvcs@vikingcorp.com • Website: www.vikingcorp.com

UK Sales Enquiries:
Tel: +44 (0)1427 875999 • Fax: +44 (0)1427 875998

Approved Products			LPCB Ref. No.
Viking Deluge Valve	Model E-1 Screwed Inlet and Outlet	50mm	096a/01
Viking Deluge Valve	Model E-1 Flanged Inlet and Outlet	80mm 100mm 150mm	096a/02
Viking Deluge Valve	Model E-1 Flanged Inlet and Grooved Outlet	80mm 100mm 150mm	096a/03

Tyco Fire & Building Products

9700 West Gulf Bank Road, Houston, Texas 77040, USA
Tel: +1 713 937 5342 • Fax: +1 713 937 5487

Sales Enquiries
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Certificated Products			LPCB Ref. No.
TFP Dry Pilot Actuator	Model DP-1		437-4c/02
TFP Deluge Valve(1)	Model DV-1 (flange/flange and flange/groove)	100mm 150mm	437-4c/04
TFP Deluge Valve(1)	Model DV-2 (screwed/screwed)	50mm	437-4c/01
TFP Deluge Valve(1)	Model DV-3 (screwed/screwed and groove/groove)	65mm	437-4c/03
TFP Deluge Valve(2)	Model DV-3HP (screwed/screwed and groove/groove)	65mm	437-4c/05

(1) Maximum working pressure 12bar
(2) Maximum working pressure 17 bar

Tyco Fire Products Manufacturing Limited

Stockport Trading Estate, Yew Street, Stockport SK4 2JW UK
Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729
E-mail: tycofireproducts.uk@tyco-bspd.com • Website: www.tycobuilding.com

Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Approved Products			**LPCB Ref. No.**
B.W. Deluge Valve(1) vertical	(gunmetal)	Model No. FE 2408 80mm	007b/01
B.W. Deluge Valve(1) vertical	(gunmetal)	Model No. FE 2333 100mm	007b/02
B.W. Deluge Valve(1) vertical	(stainless steel)	Model No. FE 2641 100mm	007b/03
B.W. Deluge Valve(1) horizontal	(gunmetal)	Model No. FE 2366 100mm	007b/04
B.W. Deluge Valve(1) horizontal	(stainless steel)	Model No. FE 2647 100mm	007b/05
B.W. Deluge Valve(1) vertical	(gunmetal)	Model No. FE 2326 150mm	007b/06
B.W. Deluge Valve(1) vertical	(stainless steel)	Model No. FE 2644 150mm	007b/07
B.W. Deluge Valve(1) horizontal	(gunmetal)	Model No. FE 2353 150mm	007b/08
B.W. Deluge Valve(1) horizontal	(stainless steel)	Model No. FE 2650 150mm	007b/09
B.W. Deluge Valve(1) vertical	(bronze)	Model No. FE 2370 200mm	007b/10
B.W. Deluge Valve(1) horizontal	(bronze)	Model No. FE 2687 200mm	007b/11

(1)Maximum working pressure 16 bar

This section lists products certificated to the following:

- LPS 1045 - *Requirements & Testing Methods for direct reading Flow Meters*.

Notes:
The following devices are suitable for use under the *LPC Rules for Automatic Sprinkler Installations*. The products shall be installed and maintained in accordance with the manufacturers instructions.

Influx Measurements Limited

Forge Works, The Dean, Alresford, Hampshire SO24 9BH UK
Tel: +44 (0)1962 736736 • Fax: +44 (0)1962 736737

'Firesure' Flowmeters

Product Name	Nominal pipe size to BS 1387 (mm)	Nominal pipe size to BS 3600 (mm)	Flow range (dm^3/min)	Connection type	LPCB Ref. No.
Fireflange	50		150-700	Flange	464a/01
	80		300-1600	Flange	464a/02
	100		500-3500	Flange	464a/03
	150		900-7900	Flange	464a/04
		200	2000-15000	Flange	464a/05
Firegroove	50		150-700	Groove	464a/06
	80		300-1600	Groove	464a/07
	100		500-3500	Groove	464a/08
	150		900-7900	Groove	464a/09
		200	2000-15000	Groove	464a/10

These meters have been approved for installation with the gauge glass in the vertical position. There must be at least five diameters of straight pipe upstream and downstream of the orifice plate. The isolating valves on the pressure tappings must be kept closed when the meter is not being used. A spare gauge glass must be provided and located in the cabinet containing the stock of replacement sprinklers.

Roxspur Measurement & Control

2 Downgate Drive, Sheffield, South Yorkshire S4 8BT UK
Tel: +44 (0)114 244 2521 • Fax: +44 (0)114 243 4838

Product Name	Pipe size (mm)	Flow range (dm^3/min)	LPCB Ref. No.
Shunt Gapmeter	80	300 - 1500	088a/01
	100	500 - 2500	088a/02
	125	700 - 3500	088a/03
	150	1000 - 5000	088a/04

These meters have been approved for installation with the gauge glass in the vertical position. There must be at least five diameters of straight pipe upstream and downstream of the orifice plate. The isolating valves on the pressure tappings must be kept closed when the meter is not being used. A spare gauge glass must be provided and located in the cabinet containing the stock of replacement sprinkers. Type Nominal pipe size to Flow range Connection LPCB Ref. No.

Product Name	Nominal pipe size to BS1387 (mm)	Nominal pipe size to BS3600 (mm)	Flow range (dm^3/min)	Connection type	LPCB Ref. No.
Type SGUV Mk 2	50		150 - 750	Flange	088a/05
	80		300 - 2300	Flange	088a/06
	100		500 - 3500	Flange	088a/07
	150		900 - 8200	Flange	088a/08
		200	2500 -12500	Flange	088a/09
	50		150 - 750	Groove	088a/10
	80		300 - 2300	Groove	088a/11
	100		500 - 3500	Groove	088a/12

Product Name	Nominal pipe size to BS1387 (mm)	Nominal pipe size to BS3600 (mm)	Flow range (dm^3/min)	Connection type	LPCB Ref. No.
	150		900 - 8200	Groove	088a/13
		200	2500 -12500	Groove	088a/14

To be installed in accordance with Roxspur Operation and Maintenance Manual OMM1002, Issue 1 (29/09/2005)

Tyco Fire Products Manufacturing Limited

Stockport Trading Estate, Yew Street, Stockport SK4 2JW UK
Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729
E-mail: tycofireproducts.uk@tyco-bspd.com • Website: www.tycobuilding.com

Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Product Name	Hazard class	Pipe size (mm)	Flow range (dm^3/min)	Orifice size (mm)	LPCB Ref. No.
Direct Reading Flow Meter	OHI	80	375 - 540	26.10	007e/01
	OHII	80	725 - 1000	39.25	007e/02
	OHIII	80	1100 - 1350	43.70	007e/03
	OHIIIS	80	1800 - 2100	55.20	007e/04

These measuring devices are designed to be fitted directly on the upstream side, to straight pipes or into elbow fittings or globe valves or their hydraulic equivalent. The downstream flow loss may be zero in all but the case of the OHI measuring device which requires a minimum loss of 0.02 bar at a flow of 375 dm^3/min. The maximum downstream flow loss shall not exceed 0.3 bar for any of the measuring devices with the following respective flow rates:
OHI 540dm^3/min, OHII 1000dm^3/min, OHIII 1350dm^3/min, OHIIIS 2100dm^3/min

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Multiple Jet Controls for use under the *LPC Rules for Automatic Sprinkler Installations* have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturers instructions.

Angus Fire Armour Limited (Denmark)

Kastanievej, DK-5620, Glamsberg, Denmark
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

UK Sales Enquiries:
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

Certificated Products			LPCB Ref. No.
Angus Multiple Control Model B	(Double Outlet)	40mm	084f/01
	Glass bulb type.		
Angus Multiple Control Model B	(Double Outlet)	50mm	084f/02
	Glass bulb type.		
Angus Multiple Control Model B3	(Single Outlet)	20mm	084f/03
	Glass bulb type. *Tested to the FOC Requirements and Testing Methods for Multiple Controls, April 1984 and approved with plain and chromium finish*		

Tyco Fire Products Manufacturing Limited

Stockport Trading Estate, Yew Street, Stockport SK4 2JW UK
Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729
E-mail: tycofireproducts.uk@tyco-bspd.com • Website: www.tycobuilding.com

Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Certificated Products			LPCB Ref. No.
Tyco Multiple Jet Control	(Double Outlet)	20mm	007f/01
	Glass bulb type. *A corrosion-resistant coating for the body and yoke has been approved under the LPC Rules for automatic sprinkler installations.*		
Tyco Multiple Jet Control	(Single Outlet)	20mm	007f/02
	Glass bulb type. *A corrosion-resistant coating for the body and yoke has been approved under the LPC Rules for automatic sprinkler installations.*		
Tyco Multiple Jet Control	(Double Outlet)[1]	25mm, 40mm and 50mm	007f/03
	Glass bulb type (68°C only)		

Note:
1) May also be used as a single outlet (with one outlet blanked off).

This section lists products certificated to the following:

- LPS 1219 - Specification for Pipe Couplings

Notes:
All pipe couplings and fittings should be the subject of a maintenance contract, satisfying the requirements of the *LPC Rules for Automatic Sprinkler Installations*.

Anvil International Inc (Pennsylvania)

1411 Lancaster Avenue, Columbia, Pennsylvania 17512, USA
Tel: +1 717 684 4400 • Fax: +1 717 684 2131
E-mail: jondracek @anvilintl.com

Sales Enquiries:
Tel: +31 53 5725570 • Fax: +31 53 5725579

Pipe Couplings (GRUVLOK)

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
Pipe Coupling Style 7000	25	33.7	R&C	EPDM	20	119a/01
	32	42.4	R&C	EPDM	20	
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Pipe Coupling Fig 7000	65	76.1	R&C	EDPM	20	119a/02
	65	108(1)	R&C	EPDM	20	
	65	133(1)	R&C	EPDM	20	
	65	159(1)	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
Pipe Coupling Style 7400 Rigidlite	25	33.7	R&C	EPDM	20	119a/03
	32	42.4	R&C	EPDM	20	
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	125	139.7	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Pipe Coupling Style 7401 Rigidlok	200	219.1	R&C	EPDM	20	119a/04
Mechanical Tee Fig 7045	50 x 15	60.3 x 21.3	T	EPDM	20	119a/05
	50 x 20	60.3 x 26.7	T	EPDM	20	
	50 x 25	60.3 x 33.7	T	EPDM	20	
	50 x 32	60.3 x 42.4	T	EPDM	20	
	50 x 40	60.3 x 48.3	T	EPDM	20	
	65 x 15	76.1 x 21.3	T	EPDM	20	
	65 x 20	76.1 x 26.7	T	EPDM	20	
	65 x 25	76.1 x 33.7	T	EPDM	20	
	65 x 32	76.1 x 42.4	T	EPDM	20	
	65 x 40	76.1 x 48.3	T	EPDM	20	
	80 x 15	88.9 x 21.3	T	EPDM	20	
	80 x 20	88.9 x 26.7	T	EPDM	20	
	80 x 25	88.9 x 33.7	T	EPDM	20	
	80 x 32	88.9 x 42.4	T	EPDM	20	
	80 x 40	88.9 x 48.3	T	EPDM	20	
	80 x 50	88.9 x 60.3	T	EPDM	20	
	100 x 15	114.3 x 21.3	T	EPDM	20	
	100 x 20	114.3 x 26.7	T	EPDM	20	
	100 x 25	114.3 x 33.7	T	EPDM	20	
	100 x 32	114.3 x 42.4	T	EPDM	20	
	100 x 40	114.3 x 48.3	T	EPDM	20	

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
	100 x 50	114.3 x 60.3	T	EPDM	20	
	125 x 32	139.7 x 42.4	T	EPDM	20	
	125 x 40	139.7 x 48.3	T	EPDM	20	
	125 x 50	139.7 x 60.3	T	EPDM	20	
	150 x 32	165.1 x 42.4	T	EPDM	20	
	150 x 40	165.1 x 48.3	T	EPDM	20	
	150 x 50	165.1 x 60.3	T	EPDM	20	
	150 x 32	168.3 x 42.4	T	EPDM	20	
	150 x 40	168.3 x 48.3	T	EPDM	20	
	150 x 50	168.3 x 60.3	T	EPDM	20	
Mechanical Tee Fig 7046	65 x 32	76.1 x 42.4	G	EPDM	20	119a/06
	65 x 40	76.1 x 48.3	G	EPDM	20	
	80 x 32	88.9 x 42.4	G	EPDM	20	
	80 x 40	88.9 x 48.3	G	EPDM	20	
	80 x 50	88.9 x 60.3	G	EPDM	20	
	100 x 32	114.3 x 42.4	G	EPDM	20	
	100 x 40	114.3 x 48.3	G	EPDM	20	
	100 x 50	114.3 x 60.3	G	EPDM	20	
	100 x 65	114.3 x 76.1	G	EPDM	20	
	100 x 80	114.3 x 88.9	G	EPDM	20	
	125 x 32	139.7 x 48.3	G	EPDM	20	
	125 x 50	139.7 x 60.3	G	EPDM	20	
	125 x 80	139.7 x 88.9	G	EPDM	20	
	150 x 40	165.1 x 48.3	G	EPDM	20	
	150 x 50	165.1 x 60.3	G	EPDM	20	
	150 x 65	165.1 x 76.1	G	EPDM	20	
	150 x 80	165.1 x 88.9	G	EPDM	20	
	150 x 100	165.1 x 114.3	G	EPDM	20	
	150 x 40	168.3 x 48.3	G	EPDM	20	
	150 x 50	168.3 x 60.3	G	EPDM	20	
	150 x 65	168.3 x 76.1	G	EPDM	20	
	150 x 80	168.3 x 88.9	G	EPDM	20	
	150 x 100	168.3 x 114.3	G	EPDM	20	
	200 x 80	219.1 x 88.9	G	EPDM	20	
	200 x 100	219.1 x 114.3	G	EPDM	20	
Style 7012 Flange Adapter	50	60.3	R&C	EPDM	20	119a/11
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	125	139.7	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	

Notes:
1) These sizes are not suitable for installations that require BS 1387 pipework due to the sizes not being included in that standard.
2) Two Figure 7045 mechanical tees may be used in combination with pipe run sizes 76.1mm through 168.3mm with branch sizes 48.3mm and 60.3mm, and are designated Figure 7047.
3) Two Figure 7046 mechanical tees may be used in combination with pipe run sizes 76.1mm through 168.3mm with branch sizes 48.3mm, through 114.3mm, and are designated Figure 7048.
4) Figure 7045 and Figure 7046 mechanical tees may be used in combination with pipe run sizes 76.1mm through 168.3mm with branch sizes 48.3mm and 0.3mm, and are designated Figure 7049.

Fittings (GRUVLOK)

Product Name	Pipe outside diameter (mm)	Max. working pressure (bar)	LPCB Ref. No.
90° Elbow - Fig 7050	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 108[(1)], 114.3, 133[(1)], 159[(1)], 165.1, 168.3, 219.1	20	119a/07
45° Elbow - Fig 7051	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 108[(1)],114.3, 133[(1)], 159[(1)], 165.1, 168.3, 219.1	20	119a/08
Tee - Fig 7060	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 108[(1)], 114.3, 133[(1)], 159[(1)], 165.1, 168.3, 219.1	20	119a/09
Blank Cap - Fig 7074	33.7, 42.4, 48.3, 60.3, 76.1, 88.9, 108[(1)], 114.3, 133[(1)], 159[(1)], 165.1, 168.3, 219.1	20	119a/10

Notes:
1) These sizes are not suitable for installations that require BS 1387 pipework due to the sizes not being included in that standard.
2) Two Figure 7045 mechanical tees may be used in combination with pipe run sizes 76.1mm through 168.3mm with branch sizes 48.3mm and 60.3mm, and are designated Figure 7047.
3) Two Figure 7046 mechanical tees may be used in combination with pipe run sizes 76.1mm through 168.3mm with branch sizes 48.3mm, through 114.3mm, and are designated Figure 7048.
4) Figure 7045 and Figure 7046 mechanical tees may be used in combination with pipe run sizes 76.1mm through 168.3mm with branch sizes 48.3mm and 60.3mm, and are designated Figure 7049.

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Certificate No: 519a to LPS 1219: Issue 1

Pipe Couplings

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
Flexible Coupling C1	32	42.2	R&C	EPDM	20	519a/01
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	65	73	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Flexible Coupling C3	32	42.2	R&C	EDPM	20	519a/16
	40	48.3	R&C	EDPM	20	
	50	60.3	R&C	EDPM	20	
	65	73	R&C	EDPM	20	
	80	88.9	R&C	EDPM	20	
	100	114.3	R&C	EDPM	20	
	150	168.3	R&C	EDPM	20	
	200	219.1	R&C	EDPM	20	
Rigid Coupling C4	32	42.2	R&C	EPDM	20	519a/02
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	65	73	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Reduced Coupling RC1	50 x 40	60.3 x 48.3	R&C	EPDM	20	519a/03
	65 x 50	73.0 x 60.3	R&C	EPDM	20	
	80 x 50	88.9 x 60.3	R&C	EPDM	20	
	80 x 65	88.9 x 73.0	R&C	EPDM	20	
	100 x 50	114.3 x 60.3	R&C	EPDM	20	
	100 x 65	114.3 x 73.0	R&C	EPDM	20	
	1000 x 80	114.3 x 88.9	R&C	EPDM	20	
Mechanical tee MT2	80 x 40	88.9 x 48.3	R&C	EDPM	20	519a/09
	80 x 50	88.9 x 60.3	R&C	EDPM	20	
	100 x 40	114.3 x 48.3	R&C	EDPM	20	
	100 x 50	114.3 x 60.3	R&C	EDPM	20	
	100 x 65	114.3 x 73.0	R&C	EDPM	20	
	100 x 80	114.3 x 88.9	R&C	EDPM	20	
	150 x 40	168.3 x 48.3	R&C	EDPM	20	
	150 x 50	168.3 x 60.3	R&C	EDPM	20	
	150 x 65	168.3 x 73.0	R&C	EDPM	20	
	158 x 80	168.3 x 88.9	R&C	EDPM	20	

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
	150 x 100	168.3 x 114.3	R&C	EDPM	20	
Mechanical Tee MT8	50 x 25	60.3 x 33.7	R&C	EDPM	20	519a/10
	50 x 32	60.3 x 42.4	R&C	EDPM	20	
	50 x 40	60.3 x 48.3	R&C	EDPM	20	
	65 x 25	76.1 x 33.7	R&C	EDPM	20	
	65 x 32	76.1 x 42.4	R&C	EDPM	20	
	65 x 40	76.1 x 48.3	R&C	EDPM	20	
	80 x 25	88.9 x 33.7	R&C	EDPM	20	
	80 x 32	88.9 x 42.4	R&C	EDPM	20	
	80 x 40	88.9 x 48.3	R&C	EDPM	20	
	80 x 50	88.9 x 60.3	R&C	EDPM	20	
	100 x 25	114.3 x 33.7	R&C	EDPM	20	
	100 x 32	114.3 x 42.4	R&C	EDPM	20	
	100 x 40	114.3 x 48.3	R&C	EDPM	20	
	100 x 50	114.3 x 60.3	R&C	EDPM	20	
	100 x 65	114.3 x 76.1	R&C	EDPM	20	
	150 x 65	165.1 x 76.1	R&C	EDPM	20	
	150 x 65	168.3 x 76.1	R&C	EDPM	20	
Mechanical Tee MT9	32 x 15	42.2 x 21.4	R&C	EDPM	20	519a/17
	32 x 20	42.2 x 26.9	R&C	EDPM	20	
	32 x 25	42.2 x 33.8	R&C	EDPM	20	
	40 x 15	48.3 x 21.4	R&C	EDPM	20	
	40 x 20	48.3 x 26.9	R&C	EDPM	20	
	40 x 25	48.3 x 33.8	R&C	EDPM	20	
	50 x 15	60.3 x 21.4	R&C	EDPM	20	
	50 x 20	60.3 x 26.9	R&C	EDPM	20	
	50 x 25	60.3 x 33.8	R&C	EDPM	20	519a/19

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Pipe Fittings

Product Name	Pipe outside diameter (mm)	Max. working pressure (bar)	LPCB Ref. No.
F1 Flange	73.0, 219.1	12	519a/04
	60.3, 88.9, 114.3, 168.3	12	519a/11
E1 90° Elbow	48.3, 60.3, 73.0, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	519a/05
	42.2	20	519a/12(2)
E2 45° Elbow	76.1, 165.1	20	519a/06
	42.2, 48.3, 60.3, 73.0, 88.9, 114.3, 168.3, 219.1	20	519a/13(2)
T1 Tee	76.1, 165.1	20	519a/07
	42.2, 48.3, 60.3, 73.0, 88.9, 168.3	20	519a/14(2)
	114.3, 219.1	18	519a/15(2)
K1 Cap	42.2, 48.3, 60.3, 73.0, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	519a/08

Notes:
1) All fittings are approved with a painted and galvanised finish
2) These fittings are approved with a thinner wall section

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Certificate No: 598a to LPS 1219: Issue 2.1

Pipe Couplings

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
Steelgro Flexible Coupling F75	32	42.4	R&C	EPDM-A	20	598a/01
	40	48.3	R&C	EPDM-A	20	
	50	60.3	R&C	EPDM-A	20	
	65	76.1	R&C	EPDM-A	20	
	80	88.9	R&C	EPDM-A	20	
	100	114.3	C*	EPDM-A	20	
	125	139.7	C*	EPDM-A	20	
	150	165.1	C*	EPDM-A	20	
Steelgro Rigid Coupling R75	200	219.1	C*	EPDM-A	20	598a/02
	32	42.4	R&C	EPDM-A	20	
	40	48.3	R&C	EPDM-A	20	
	50	60.3	R&C	EPDM-A	20	
	65	76.1	R&C	EPDM-A	20	
	80	88.9	R&C	EPDM-A	20	
	100	114.3	C*	EPDM-A	20	
	125	139.7	C*	EPDM-A	20	
	150	165.1	C*	EPDM-A	20	
	200	219.1	C*	EPDM-A	20	

Note:
* The above couplings are approved using cut grooved pipe only.

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Pipe Couplings (QUIKCOUP)

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
Style 75	32	42.2	R&C	EPDM	20	123a/01
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	125	139.7	R&C	EPDM	20	
	125	141.3	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Style 07	50	60.3	R&C	EPDM	20	123a/02
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	125	141.3	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Style 007 Quikhinge	32	42.4	R&C	EPDM	12	123a/03
	40	48.3	R&C	EPDM	12	
	50	60.3	R&C	EPDM	12	
	65	76.1	R&C	EPDM	12	
	80	88.9	R&C	EPDM	12	
	100	114.3	R&C	EPDM	12	
	125	139.7	R&C	EPDM	12	
	150	165.1	R&C	EPDM	12	
	150	168.3	R&C	EPDM	12	
Style 08 Quik-T	50	60.3	T(½ in BSP)	EPDM	20	123a/04
	50	60.3	T(¾ in BSP)	EPDM	20	
	50	60.3	T(1 in BSP)	EPDM	20	
	50	60.3	T(1¼ in BSP)	EPDM	20	

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
	50	60.3	T(1½ in BSP)	EPDM	20	
	65	76.1	T(½ in BSP)	EPDM	20	
	65	76.1	T(¾ in BSP)	EPDM	20	
	65	76.1	T(1 in BSP)	EPDM	20	
	65	76.1	T(1¼ in BSP)	EPDM	20	
	65	76.1	T(1½ in BSP)	EPDM	20	
	80	88.9	T(½ in BSP)	EPDM	20	
	80	88.9	T(¾ in BSP)	EPDM	20	
	80	88.9	T(1 in BSP)	EPDM	20	
	80	88.9	T(1¼ in BSP)	EPDM	20	
	80	88.9	T(1½ in BSP)	EPDM	20	
	80	88.9	T(2 in BSP)	EPDM	20	
	100	114.3	T(½ in BSP)	EPDM	20	
	100	114.3	T(¾ in BSP)	EPDM	20	
	100	114.3	T(1 in BSP)	EPDM	20	
	100	114.3	T(1¼ in BSP)	EPDM	20	
	100	114.3	T(1½ in BSP)	EPDM	20	
	100	114.3	T(2 in BSP)	EPDM	20	
	150	165.1	T(1¼ in BSP)	EPDM	20	
	150	165.1	T(1½ in BSP)	EPDM	20	
	150	165.1	T(2 in BSP)	EPDM	20	
	150	168.3	T(1¼ in BSP)	EPDM	20	
	150	168.3	T(1½ in BSP)	EPDM	20	
	150	168.3	T(2 in BSP)	EPDM	20	
	150	168.3	T(4 in BSP)	EPDM	20	
	125 x 32	139.7 x 42.4	T	EPDM	20	123a/05
	150 x 65	165.1 x 76.1	T	EPDM	20	
	50 x 40	60.3 x 48.3	G	EPDM	20	123a/06
	65 x 40	76.1 x 48.3	G	EPDM	20	
	80 x 32	88.9 x 42.4	G	EPDM	20	
	80 x 40	88.9 x 48.3	G	EPDM	20	
	80 x 50	88.9 x 60.3	G	EPDM	20	
	100 x 32	114.3 x 42.4	G	EPDM	20	
	100 x 40	114.3 x 48.3	G	EPDM	20	
	100 x 50	114.3 x 60.3	G	EPDM	20	
	100 x 65	114.3 x 76.1	G	EPDM	20	
	125 x 65	139.7 x 76.1	G	EPDM	20	
	150 x 40	165.1 x 48.3	G	EPDM	20	
	150 x 50	165.1 x 60.3	G	EPDM	20	
	150 x 40	168.3 x 48.3	G	EPDM	20	
	150 x 50	168.3 x 60.3	G	EPDM	20	
	150 x 65	168.3 x 76.1	G	EPDM	20	
	150 x 100	168.3 x 114.3	G	EPDM	20	
Style 007R Quikhinge	32	42.2	R&C	EPDM	12	123a/07
	40	48.3	R&C	EPDM	12	
	50	60.3	R&C	EPDM	12	
	65	76.1	R&C	EPDM	12	
	80	88.9	R&C	EPDM	12	
	100	114.3	R&C	EPDM	12	
	125	139.7	R&C	EPDM	12	
	150	165.1	R&C	EPDM	12	
	150	168.3	R&C	EPDM	12	
Style 99 Quiklet	32 x 15	42.2	T	EPDM	12	123a/14
	32 x 20	42.2	T	EPDM	12	
	32 x 25	42.2	T	EPDM	12	
	40 x 15	48.3	T	EPDM	12	
	40 x 20	48.3	T	EPDM	12	
	40 x 25	48.3	T	EPDM	12	
	50 x 15	60.3	T	EPDM	12	
	50 x 20	60.3	T	EPDM	12	
	50 x 25	60.3	T	EPDM	12	
Style 75RT Rigid Coupling	40	48.3	R&C	EPDM	16	123a/15
	50	60.3	R&C	EPDM	16	
	65	76.1	R&C	EPDM	16	
	80	88.9	R&C	EPDM	16	
	100	114.3	R&C	EPDM	16	
	125	139.7	R&C	EPDM	16	
	150	165.1	R&C	EPDM	16	
	150	168.3	R&C	EPDM	16	
	200	219.1	R&C	EPDM	16	

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
Style 007RT Quikhinge Rigid Coupling	40	48.3	R&C	EPDM	16	123a/16
	50	60.3	R&C	EPDM	16	
	65	76.1	R&C	EPDM	16	
	80	88.9	R&C	EPDM	16	
	100	114.3	R&C	EPDM	16	
	125	39.7	R&C	EPDM	16	
	150	165.1	R&C	EPDM	16	
	150	168.3	R&C	EPDM	16	

Fittings

Product Name	Pipe outside diameter (mm)	Max. working pressure (bar)	LPCB Ref. No.
Style 06 90° Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 141.3, 165.1, 168.3, 219.1	20	123a/08
Style 04 45° Elbow	60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123a/09
Style 05 Grooved Tee	48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123a/10
Style 06 90° Elbow	139.7	12	123a/11
Style 02/020 Blank Ends	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3, 219.1	20	123a/12
Style 02 Blank End	42.4, 48.3, 60.3, 76.1, 88.9, 114.3, 139.7, 165.1, 168.3	20	123a/13

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Pipe Couplings (SHURJOINT)

Product Name	Nominal Size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
Fig. 7705	50	60.3	R&C	EPDM	20	448a/01
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	125	139.7	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	200(1)	219.1	R&C	EPDM	20	
Fig. K-9 Dogtooth	32(1)	42.4	R&C	EPDM	15	448a/02
	40(1)	48.3	R&C	EPDM	15	
	50(1)	60.3	R&C	EPDM	12	
	65	76.1	R&C	EPDM	12	
	80	88.9	R&C	EPDM	12	
	100	114.3	R&C	EPDM	12	
	125(1)	139.9	R&C	EPDM	15	
	150	165.1	R&C	EPDM	12	
	200(1)	219.1	R&C	EPDM	15	
Rigid Coupling Model R20	32(1)	42.4	R&C	EPDM	20	448a/13
	40(1)	48.3	R&C	EPDM	20	
	50(1)	60.3	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	125(1)	139.9	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	200(1)	219.1	R&C	EPDM	20	
Reducing Coupling Fig. 7706	50 x 40(1)	60.3 x 48.3	R&C	EPDM	20	448a/03
	65 x 50	76.1 x 60.3	R&C	EPDM	20	
	80 x 50	88.9 x 60.3	R&C	EPDM	20	
	80 x 65	88.9 x 76.1	R&C	EPDM	20	
	100 x 50	114.3 x 60.3	R&C	EPDM	20	
	100 x 65	114.3 x 76.1	R&C	EPDM	20	

Product Name	Nominal Size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
	100 x 80	114.3 x 88.9	R&C	EPDM	20	
	150 x 100	165.1 x 114.3	R&C	EPDM	20	
	200 x 150[(1)]	219.1 x 165.1	R&C	EPDM	20	
Mechanical Tees Model 7721	65 x 32	76.1 x 42.4	T	EPDM	20	448a/04
	65 x 40	76.1 x 48.3	T	EPDM	20	
	80 x 32	88.9 x 42.4	T	EPDM	20	
	80 x 40	88.9 x 48.3	T	EPDM	20	
	80 x 50	88.9 x 60.3	T	EPDM	20	
	100 x 32	114.3 x 42.4	T	EPDM	20	
	100 x 40	114.3 x 48.3	T	EPDM	20	
	100 x 50	114.3 x 60.3	T	EPDM	20	
	100 x 65	114.3 x 76.1	T	EPDM	20	
	100 x 80	114.3 x 88.9	T	EPDM	20	
	150 x 32	165.1 x 42.4	T	EPDM	20	
	150 x 40	165.1 x 48.3	T	EPDM	20	
	150 x 50	165.1 x 60.3	T	EPDM	20	
	150 x 65	165.1 x 76.1	T	EPDM	20	
	150 x 80	165.1 x 88.9	T	EPDM	20	
	150 x 100	165.1 x 114.3	T	EPDM	20	
Fig. 7722	80 x 40	88.9 x 48.3	G	EPDM	20	448a/05
	80 x 50	88.9 x 60.3	G	EPDM	20	
	100 x 40	114.3 x 48.3	G	EPDM	20	
	100 x 50	114.3 x 60.3	G	EPDM	20	
	100 x 65	114.3 x 76.1	G	EPDM	20	
	100 x 80	114.3 x 88.9	G	EPDM	20	
	150 x 40	165.1 x 48.3	G	EPDM	20	
	150 x 50	165.1 x 60.3	G	EPDM	20	
	150 x 65	165.1 x 76.1	G	EPDM	20	
	150 x 80	165.1 x 88.9	G	EPDM	20	
	150 x 100	165.1 x 114.3	G	EPDM	20	
Fig. 723	32 x 15	42.2 x 21.3	T	EPDM	12	448a/06
	32 x 20	42.2 x 26.7	T	EPDM	12	
	32 x 25	42.2 x 33.7	T	EPDM	12	
	40 x 15	48.3 x 21.3	T	EPDM	12	
	40 x 20	48.3 x 26.7	T	EPDM	12	
	40 x 25	48.3 x 33.7	T	EPDM	12	
	50 x 15	60.3 x 21.3	T	EPDM	12	
	50 x 20	60.3 x 26.7	T	EPDM	12	
	50 x 25	60.3 x 33.7	T	EPDM	12	
	65 x 15	76.1 x 21.3	T	EPDM	12	
	65 x 20	76.1 x 26.7	T	EPDM	12	
	65 x 25	76.1 x 33.7	T	EPDM	12	
Transition Flange Model 7041	50[1]	60.3	R&C	EPDM	16	448a/15
	65[1]	76.1	R&C	EPDM	16	
	80[1]	88.9	R&C	EPDM	16	
	100	114.3	R&C	EPDM	16	
	150	165.1	R&C	EPDM	16	
	200	219.1	R&C	EPDM	16	
Angle Pad Rigid Coupling Model Z05	32[1]	42.4	R&C	EDPM	12	448a/16
	40[1]	48.3	R&C	EDPM	12	
	50[1]	60.3	R&C	EDPM	12	
	65[1]	76.1	R&C	EDPM	12	
	80[1]	88.9	R&C	EDPM	12	
	100[1]	114.3	R&C	EDPM	12	
	125[1]	139.7	R&C	EDPM	12	
	150[1]	165.1	R&C	EDPM	12	
	200[1]	219.1	R&C	EDPM	12	
Angle Pad Rigid Coupling Model Z07	32[1]	42.4	R&C	EDPM	20	448a/17
	40[1]	48.3	R&C	EDPM	20	
	50[1]	60.3	R&C	EDPM	20	
	65[1]	76.1	R&C	EDPM	20	
	80[1]	88.9	R&C	EDPM	20	
	100[1]	114.3	R&C	EDPM	20	
	125[1]	139.7	R&C	EDPM	20	
	150[1]	165.1	R&C	EDPM	20	
	200[1]	219.1	R&C	EDPM	20	
	250[1]	273.0	R&C	EDPM	20	
	300[1]	323.9	R&C	EDPM	20	

Note:
1) Accredited Certification to LPS 1219

Pipe Fittings (SHURJOINT)

Product Name	Pipe outside diameter (mm)	Max. working pressure (bar)	LPCB Ref. No.
90° Elbows Fig. 7110	60.3,76.1,88.9,114.3,139.7,165.1,219.1[2]	20	448a/07
45° Elbows Fig. 7111	60.3,76.1,88.9,114.3,139.7,165.1,219.1[2]	20	448a/08
Tees - Fig. 7120	60.3,76.1,88.9,114.3,139.7,165.1,219.1[2]	20	448a/09
Caps. - Fig. 7160	60.3,76.1,88.9,114.3,139.7,165.1,219.1[2]	20	448a/10
Concentric reducer - Fig. 7150	76.1 x 60.3, 88.9 x 60.3, 88.9 x 76.1, 114.3 x 60.3, 114.3 x 76.1, 114.3 x 88.9, 165.1 x 88.9, 165.1 x 114.3, 219.1 x 165.1[3]	20	448a/11
Reducing tee - Fig. 7121	114.3 x 114.3 x 76.1, 114.3 x 114.3 x 88.9, 165.1 x 165.1 x 88.9, 219.1 x 219.1 x 114.3, 219.1 x 219.1 x 165.1[3]	20	448a/12
Pitcher Tee - Fig 7133	114.3 x 114.3 x 76.1, BSP thread	20	448a/14

Notes:
2) Accredited Certification to LPS 1219 of 219.1mm size
3) Accredited Certification to LPS 1219 of all sizes

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Certificate No: 169a

Hydrant Tee

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
Fig 222 Hydrant Tee	100	114.3 x 76.1	76.1 BSP		20	169a/01

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Certificate No: 669a to LPS 1219 Issue 2.1

Grinnell Pipe Couplings

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max working pressure (bar)	LPCB Ref. No.
Grinnell Fig 705 Flexible pipe coupling	32	42.2	R	EPDM	20	669a/01
	40	48.3	R	EPDM	20	
	50	60.3	R	EPDM	20	

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max working pressure (bar)	LPCB Ref. No.
	65	76.1	R	EPDM	20	
	80	88.9	R	EPDM	20	
	100	114.30	R	EPDM	20	
	150	165.1	R	EPDM	20	
	150	168.3	R	EPDM	20	
	200	219.1	R	EPDM	20	
Grinnell Fig 707 Heavy Duty Flexible Pipe Coupling	40	48.3	R	EPDM	20	669a/02
	50	60.3	R	EPDM	20	
	65	76.1	R	EPDM	20	
	80	88.9	R	EPDM	20	
	100	114.3	R	EPDM	20	
	150	165.1	R	EPDM	20	
	150	168.3	R	EPDM	20	
	200	219.1	R	EPDM	20	
	250	273	R	EPDM	20	
	300	329.9	R	EPDM	20	
Grinnell Fig 772 Rigid Pipe Coupling	32	42.2	R	EPDM	20	669a/03
	40	48.3	R	EPDM	20	
	50	60.3	R	EPDM	20	
	65	76.1	R	EPDM	20	
	80	88.9	R	EPDM	20	
	100	114.3	R	EPDM	20	
	150	165.1	R	EPDM	20	
	150	168.3	R	EPDM	20	
	200	219.1	R	EPDM	20	
	250	273	R	EPDM	20	
	300	323.9	R	EPDM	20	
Grinnell Fig 730 Mechanical Tee	50 x 15	60.3 x 21.3	Threaded (T)	EPDM	20	669a/04
	50 x 20	60.3 x 26.9	T	EPDM	20	
	50 x 25	60.3 x 33.4	T	EPDM	20	
	50 x 32	60.3 x 42.2	T	EPDM	20	
	50 x 40	60.3 x 48.3	T	EPDM	20	
	65 x 15	76.1 x 21.3	T	EPDM	20	
	65 x 20	76.1 x 26.9	T	EPDM	20	
	65 x 25	76.1 x 33.4	T	EPDM	20	
	65 x 32	76.1 x 42.2	T	EPDM	20	
	65 x 40	76.1 x 48.3	T	EPDM	20	
	65 x 50	76.1 x 60.3	T	EPDM	20	
	80 x 15	88.9 x 21.3	T	EPDM	20	
	80 x 20	88.9 x 26.9	T	EPDM	20	
	80 x 25	88.9 x 33.4	T	EPDM	20	
	80 x 32	88.9 x 42.2	T	EPDM	20	
	80 x 40	88.9 x 48.3	T	EPDM	20	
	80 x 50	88.9 x 60.3	T	EPDM	20	
	100 x 15	114.3 x 21.3	T	EPDM	20	
	100 x 20	114.3 x 26.9	T	EPDM	20	
	100 x 25	114.3 x 33.4	T	EPDM	20	
	100 x 32	114.3 x 42.2	T	EPDM	20	
	100 x 40	114.3 x 48.3	T	EPDM	20	
	100 x 50	114.3 x 60.3	T	EPDM	20	
	100 x 65	114.3 x 76.1	T	EPDM	20	
	100 x 80	114.3 x 88.9	T	EPDM	20	
	150 x 40	165.1 x 48.3	T	EPDM	20	
	150 x 50	165.1 x 60.3	T	EPDM	20	
	150 x 65	165.1 x 76.1	T	EPDM	20	
	150 x 80	165.1 x 88.9	T	EPDM	20	
	150 x 100	165.1 x 114.3	T	EPDM	20	
	150 x 40	168.3 x 48.3	T	EPDM	20	
	150 x 50	168.3 x 60.3	T	EPDM	20	
	150 x 65	168.3 x 76.1	T	EPDM	20	
	150 x 80	168.3 x 88.9	T	EPDM	20	
	150 x 100	168.3 x 114.3	T	EPDM	20	
	200 x 65	219.1 x 76.1	T	EPDM	20	
	200 x 80	219.1 x 88.9	T	EPDM	20	
	200 x 100	219.1 x 114.3	T	EPDM	20	

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max working pressure (bar)	LPCB Ref. No.
	50 x 32	60.3 x 42.2	Grooved (G)	EPDM	20	
	50 x 40	60.3 x 48.3	G	EPDM	20	
	65 x 32	76.1 x 42.2	G	EPDM	20	
	65 x 40	76.1 x 48.3	G	EPDM	20	
	65 x 50	76.1 x 60.3	G	EPDM	20	
	80 x 32	88.9 x 42.2	G	EPDM	20	
	80 x 40	88.9 x 48.3	G	EPDM	20	
	80 x 50	88.9 x 60.3	G	EPDM	20	
	100 x 32	114.3 x 42.4	G	EPDM	20	
	100 x 40	114.3 x 48.3	G	EPDM	20	
	100 x 50	114.3 x 60.3	G	EPDM	20	
	100 x 65	114.3 x 76.1	G	EPDM	20	
	100 x 80	114.3 x 88.9	G	EPDM	20	
	150 x 40	165.1 x 48.3	G	EPDM	20	
	150 x 50	165.1 x 60.3	G	EPDM	20	
	150 x 65	165.1 x 76.1	G	EPDM	20	
	150 x 80	165.1 x 88.9	G	EPDM	20	
	150 x 100	165.1 x 114.3	G	EPDM	20	
	150 x 40	168.3 x 48.3	G	EPDM	20	
	150 x 50	168.3 x 60.3	G	EPDM	20	
	150 x 65	168.3 x 76.1	G	EPDM	20	
	150 x 80	168.3 x 88.9	G	EPDM	20	
	150 x 100	168.3 x 114.3	G	EPDM	20	
	200 x 65	219.1 x 76.1	G	EPDM	20	
	200 x 80	219.1 x 88.9	G	EPDM	20	
	200 x 100	219.1 x 114.3	G	EPDM	20	
Grinnell Fig 716 Reducing Coupling	50 x 40	60.3 x 48.3	R	EPDM	20	669a/05
	80 x 50	88.9 x 60.3	R	EPDM	20	
	100 x 50	114.3 x 60.3	R	EPDM	20	
	100 x 80	114.3 x 88.9	R	EPDM	20	
	150 x 100	168.3 x 114.3	R	EPDM	20	

Grinnell Fittings

Product Name	Pipe outside diameter (mm)	Max. working pressure (bar)	LPCB Ref. No.
Grinnell Fig 201 45 degree Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/07
Grinnell Fig 219 Tee	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/09
Grinnell Fig 260 End Cap	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/10
Grinnell Fig 501 45 degree Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/07
Grinnell Fig 519 Tee	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/09

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Certificate No: 673a to LPS 1219

Grinnell Pipe Couplings

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
Grinnell Fig 705 Flexible pipe coupling	32	42.2	R	EPDM	20	673a/01
	40	48.3	R	EPDM	20	
	50	60.3	R	EPDM	20	
	65	76.1	R	EPDM	20	
	80	88.9	R	EPDM	20	
	100	114.30	R	EPDM	20	
	150	165.1	R	EPDM	20	
	150	168.3	R	EPDM	20	
	200	219.1	R	EPDM	20	
Grinnell Fig 577 Rigid Pipe Coupling	40	48.3	R	EPDM	20	673a/02
	50	60.3	R	EPDM	20	
	65	76.1	R	EPDM	20	
	80	88.9	R	EPDM	20	
	100	114.3	R	EPDM	20	
	150	165.1	R	EPDM	20	
	150	168.3	R	EPDM	20	
	200	219.1	R	EPDM	20	
	32	42.2	R	EPDM	20	
Grinnell Fig 772 Rigid Pipe Coupling	32	42.2	R	EPDM	20	673a/03
	40	48.3	R	EPDM	20	
	50	60.3	R	EPDM	20	
	65	76.1	R	EPDM	20	
	80	88.9	R	EPDM	20	
	100	114.3	R	EPDM	20	
	150	165.1	R	EPDM	20	
	150	168.3	R	EPDM	20	
	200	219.1	R	EPDM	20	
	250	273	R	EPDM	20	
	300	323.9	R	EPDM	20	
Grinnell Fig 730 Mechanical Tee	65 x 32	76.1 x 42.2	Threaded (T)	EPDM	20	673a/04
	65 x 40	76.1 x 48.3	T	EPDM	20	
	65 x 50	76.1 x 60.3	T	EPDM	20	
	80 x 15	88.9 x 21.3	T	EPDM	20	
	80 x 20	88.9 x 26.9	T	EPDM	20	
	80 x 25	88.9 x 33.4	T	EPDM	20	
	80 x 32	88.9 x 42.2	T	EPDM	20	
	80 x 40	88.9 x 48.3	T	EPDM	20	
	80 x 50	88.9 x 60.3	T	EPDM	20	
	100 x 15	114.3 x 21.3	T	EPDM	20	
	100 x 20	114.3 x 26.9	T	EPDM	20	
	100 x 25	114.3 x 33.4	T	EPDM	20	
	100 x 50	114.3 x 60.3	T	EPDM	20	
	100 x 65	114.3 x 76.1	T	EPDM	20	
	100 x 80	114.3 x 88.9	T	EPDM	20	
	150 x 32	165.1 x 42.2	T	EPDM	20	
	150 x 32	168.3 x 42.2	T	EPDM	20	
	65 x 32	76.1 x 42.2	Grooved (G)	EPDM	20	
	65 x 40	76.1 x 48.3	G	EPDM	20	
	65 x 50	76.1 x 60.3	G	EPDM	20	
	80 x 32	88.9 x 42.2	G	EPDM	20	
	80 x 40	88.9 x 48.3	G	EPDM	20	
	80 x 50	88.9 x 60.3	G	EPDM	20	
	100 x 50	114.3 x 60.3	G	EPDM	20	
	100 x 65	114.3 x 76.1	G	EPDM	20	
	100 x 80	114.3 x 88.9	G	EPDM	20	
	150 x 32	165.1 x 42.2	G	EPDM	20	
	150 x 32	168.3 x 42.2	G	EPDM	20	
Grinnell Fig 716 Reducing Coupling	65 x 40	76.1 x 60.3	R	EPDM	20	673a/05
	80 x 65	88.9 x 76.1	R	EPDM	20	
	100 x 65	114.3 x 76.1	R	EPDM	20	
	150 x 100	165.1 x 114.3	R	EPDM	20	
Grinnell Fig 71 Flange Adaptor	200	219.1	R	EPDM	20	673a/06
	300	323.9	R	EPDM	16	
Grinnell Fig 522 Sprinkler Tee				EDPM		673a/11
Grinnell Fig 71 Flange Adaptor				EDPM		
	25 x 15	33.4 x 21.3		EDPM	20	
	25 x 20	33.4 x 26.9		EDPM	20	
	25 x 25	33.4 x 33.4		EDPM	20	
	32 x 10	42.2 x 17.2		EDPM	20	

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
	32 x 15	42.2 x 21.3		EDPM	20	
	32 x 20	42.2 x 26.9		EDPM	20	
	32 x 25	42.2 x 33.4		EDPM	20	
	40 x 15	48.3 x 21.3		EDPM	20	
	40 x 20	48.3 x 26.9		EDPM	20	
	40 x 25	48.3 x 33.4		EDPM	20	
	50 x 15	60.3 x 21.3		EDPM	20	
	50 x 20	60.3 x 26.9		EDPM	20	
	50 x 25	60.3 x 33.4		EDPM	20	
	65 x 15	76.1 x 21.3		EDPM	20	

Grinnell Fittings

Product Name	Pipe outside diameter (mm)	Max. working pressure (bar)	LPCB Ref. No.
Grinnell Fig 201 45 degree Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	673a/07
Grinnell Fig 210 90 Degree Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	673a/08
Grinnell Fig 219 Tee	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/09
Grinnell Fig 260 End Cap	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1, 273.0, 323.9	20	669a/10
Grinnell Fig 250 Concentric Reducer	48.3 x 33.4, 60.3 x 42.2, 60.3 x 48.3, 76.1 x 60.3, 88.9 x 76.1, 114.3 x 76.1, 114.3 x 88.9, 165.1 x 114.3, 168.3 x 114.3	20	673a/12
Grinnell Fig 510S 90 degree Short Elbow	60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	673a/13
Grinnell Fig 519S Short Tee	60.3, 76.1, 88.9, 114.3, 165.1, 168.3, 219.1	20	673a/14
Grinnell Fig 510 90 degree Elbow	42.2, 48.3, 60.3, 76.1, 88.9, 114.3, 165.1, 168,3, 219.1, 273.0, 323.9	20	673a/08

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Pipe Couplings

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
Style 005(1)	50	60.3	R&C	EPDM	16	104-1a/01
	50	73.0(2)	R&C	EPDM	16	
	65	76.1	R&C	EPDM	16	
	80	88.9	R&C	EPDM	16	
	80	108.0(2)	R&C	EPDM	16	
	100	114.3	R&C	EPDM	16	
	100	133.4(2)	R&C	EPDM	16	
	125	139.7	R&C	EPDM	16	
	125	141.3(2)	R&C	EPDM	16	
	125	158.8(2)	R&C	EPDM	16	
	150	165.1	R&C	EPDM	16	
	150	168.3	R&C	EPDM	16	
	200	219.1	R&C	EPDM	16	
Style 07(1)	25	33.7	R&C	EPDM	20	104-1a/02
	32	42.4	R&C	EPDM	20	
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	50	73.0(2)	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	80	108.0(2)	R&C	EPDM	20	

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
	100	114.3	R&C	EPDM	20	
	100	133.4(2)	R&C	EPDM	20	
	125	139.7	R&C	EPDM	20	
	125	141.3(2)	R&C	EPDM	20	
	125	158.8(2)	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Style 75	40	48.3	R&C	EPDM	20	104-1a/03
	50	60.3	R&C	EPDM	20	
	65	76.1	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	125	139.7	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Style 77	20	26.9	R&C	EPDM	20	104-1a/04
	25	33.7	R&C	EPDM	20	
	32	42.4	R&C	EPDM	20	
	40	48.3	R&C	EPDM	20	
	50	60.3	R&C	EPDM	20	
	65	76.2	R&C	EPDM	20	
	80	88.9	R&C	EPDM	20	
	100	114.3	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Style 750 Reducing	50 x 40	60.3 x 48.3	R&C	EPDM	20	104-1a/05
	80 x 50	88.9 x 60.3	R&C	EPDM	20	
	100 x 50	114.3 x 60.3	R&C	EPDM	20	
	100 x 80	114.3 x 88.9	R&C	EPDM	20	
	150 x 100	165.1 x 114.3	R&C	EPDM	20	
	200 x 150	219.1 x 165.1	R&C	EPDM	20	
	65 x 50	76.1 x 60.3	R&C	EPDM	20	078a/08
	80 x 65	88.9 x 76.1	R&C	EPDM	20	
	100 x 65	114.3 x 76.1	R&C	EPDM	16	078a/09
	150 x 80	165.1 x 88.9	R&C	EPDM	15	078a/10
Victaulic Mechanical Tees	100 x 50	114.3 x 60.3	G	EPDM	20	104-1a/06
	100 x 80	114.3 x 88.9	G	EPDM	20	
	150 x 50	165.1 x 60.3	G	EPDM	15	104-1a/07
	150 x 80	165.1 x 88.9	G	EPDM	15	
	150 x 100	165.1 x 114.3	G	EPDM	15	
	200 x 80	219.1 x 88.9	G	EPDM	20	104-1a/08
	200 x 100	219.1 x 114.3	G	EPDM	20	
Style 927	32 x 15	42.4 x 21.3	T	EPDM	12	104-1a/09
	32 x 20	42.4 x 26.7	T	EPDM	12	
	32 x 25	42.4 x 26.9	T	EPDM	12	
	40 x 15	48.3 x 21.3	T	EPDM	12	
	40 x 20	48.3 x 26.9	T	EPDM	12	
	40 x 25	48.3 x 33.7	T	EPDM	12	
	50 x 15	60.3 x 21.3	T	EPDM	12	
	50 x 20	60.3 x 26.9	T	EPDM	12	
	50 x 25	60.3 x 33.7	T	EPDM	12	
Style 741 (Vic adaptors)	80	88.9	R&C	EPDM	20	104-1a/10
	125	139.7	R&C	EPDM	20	
	150	165.1	R&C	EPDM	20	
	150	168.3	R&C	EPDM	20	
	200	219.1	R&C	EPDM	20	
Style 920	80 x 32	88.9 x 42.4	T	EPDM	20	104-1a/11
	80 x 40	88.9 x 48.3	T	EPDM	20	
	100 x 32	114.3 x 42.4	T	EPDM	20	
	100 x 40	114.3 x 48.3	T	EPDM	20	
	150 x 40	165.1 x 48.3	T	EPDM	20	
	150 x 80	165.3 x 88.9	T	EPDM	20	
	150 x 80	168.3 x 88.9	T	EPDM	20	
	200 x 80	219.1 x 88.9	T	EPDM	20	
	80 x 40	88.9 x 48.3	G	EPDM	20	
	100 x 40	114.3 x 48.3	G	EPDM	20	
	100 x 65	114.3 x 76.1	G	EPDM	20	
	150 x 50	165.1 x 60.3	G	EPDM	20	
	100 x 80	114.3 x 88.9	T	EPDM	20	

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
	150 x 100	165.1 x 114.3	T	EPDM	20	
	150 x 100	165.1 x 114.3	T	EPDM	20	
	200 x 65	219.1 x 76.1	T	EPDM	20	
	200 x 100	219.1 x 114.3	T	EPDM	20	
	100 x 65	114.3	T(2.5 in BSP)	EPDM	20	078a/13
	150 x 50	165.3	T(2 in BSP)	EPDM	20	
	100 x 65	114.3 x 76.1	G	EPDM	20	078a/14
	150 x 50	165.1 x 60.3	G	EPDM	20	
	150 x 65	168.3 x 76.1	G	EPDM	20	
	150 x 65	165.1 x 76.1	G	EPDM	20	
	150 x 80	168.3 x 88.9	G	EPDM	20	
	150 x 80	165.1 x 88.9	G	EPDM	20	
	150 x 100	168.3 x 114.3	G	EPDM	20	
	150 x 100	165.1 x 114.3	G	EPDM	20	
Mechanical Tees Style 920N	50 x 32	60.3 x 42.4	T	EPDM	20	104-1a/26
	50 x 32	60.3 x 42.4	G	EPDM	20	
	50 x 40	60.3 x 48.3	T	EPDM	20	
	50 x 40	60.3 x 48.3	G	EPDM	20	
	50 x 15	60.3 x 21.3	T	EPDM	20	
	50 x 20	60.3 x 26.9	T	EPDM	20	
	(2) x 25	73 x 33.7	T	EPDM	20	
	(2) x 32	73 x 42.4	T	EPDM	20	
	(2) x 32	73 x 42.4	G	EPDM	20	
	(2) x 40	73 x 48.4	T	EPDM	20	
	(2) x 40	73 x 48.3	G	EPDM	20	
	(2) x 15	73 x 21.3	T	EPDM	20	
	(2) x 20	73 x 26.7	T	EPDM	20	
	80 x 15	88.9 x 21.3	T	EPDM	20	
	80 x 20	88.9 x 26.9	T	EPDM	20	
	80 x 25	88.9 x 33.7	T	EPDM	20	
	80 x 32	88.9 x 42.4	T	EPDM	20	
	80 x 32	88.9 x 42.4	G	EPDM	20	
	80 x 40	88.9 x 48.3	T	EPDM	20	
	80 x 40	88.9 x 48.3	G	EPDM	20	
	80 x 50	88.9 x 60.3	T	EPDM	20	
	80 x 50	88.9 x 60.3	G	EPDM	20	
	100 x 15	114.3 x 21.3	T	EPDM	20	
	100 x 20	114.3 x 26.9	T	EPDM	20	
	100 x 25	114.3 x 33.7	T	EPDM	20	
	100 x 32	114.3 x 42.4	T	EPDM	20	
	100 x 32	114.3 x 42.4	G	EDPM	20	
	100 x 40	114.3 x 48.3	T	EPDM	20	
	100 x 40	114.3 x 48.3	G	EPDM	20	
	100 x 50	114.3 x 60.3	T	EDPM	20	
	100 x 50	114.3 x 60.3	G	EPDM	20	
	150 x 32	168.3 x 42.4	G	EPDM	20	
	150 x 40	168.3 x 48.3	T	EPDM	20	
	150 x 40	168.3 x 48.3	G	EPDM	20	
	150 x 50	168.3 x 60.3	T	EPDM	20	
	150 x 50	168.3 x 60.3	G	EPDM	20	
	(2) x 32	108 x 42.2	T	EPDM	20	
	(2) x 40	108 x 48.3	T	EPDM	20	
	(2) x 50	159 x 60.3	T	EPDM	20	
	65 x 32	76.1 x 42.4	T	EPDM	20	
	65 x 32	76.1 x 42.4	G	EPDM	20	
	65 x 40	76.1 x 48.3	T	EPDM	20	
	65 x 40	76.1 x 48.3	G	EDPM	20	
	50 x 25	60.3 x 33.4	T	EDPM	20	
Firelock Outlet-Tee Style 922	32 x 15	42.4 x 21.3	T	EDPM	16	491a/27
	32 x 18	42.4 x 26.9	T	EPDM	16	
	40 x 15	48.3 x 21.3	T	EPDM	16	
	40 x 18	48.3 x 26.9	T	EPDM	16	
	40 x 25	48.3 x 33.7	T	EPDM	16	
	50 x 15	60.3 x 21.3	T	EPDM	16	
	50 x 18	60.3 x 26.9	T	EPDM	16	
	50 x 21	60.3 x 33.7	T	EPDM	16	
	65 x 15	76.1 x 21.3	T	EPDM	16	
	65 x 18	76.1 x 26.9	T	EPDM	16	
	65 x 21	76.1 x 33.7	T	EPDM	16	
Style 005(1)	32	42.4	R	EDPM	16	104-1a/01

Product Name	Nominal size (mm)	Pipe outside diameter (mm)	Pipe ends	Gasket type	Max. working pressure (bar)	LPCB Ref. No.
	40	48.3	R	EDPM	16	

Notes:
1) The above range of couplings (i.e. style 005 and 07) are branded 'VICTAULIC'. 'PSE' or 'PIPECO'.
2) These sizes are not suitable for installations that require BS 1387 pipework due to the sizes not being included in that standard.

Fittings

Product Name	Model No.	Pipe outside diameter (mm)	Max. working pressure (bar)	LPCB Ref. No.
90° Elbow	10	20, 25, 32, 40, 50, 65, 80, 100, 150, 200	20	104-1a/12
		125	20	078a/15
90° Long Radius Elbow	100	50, 80, 100, 150, 200	20	104-1a/13
45° Elbow	11	20, 25, 32, 40, 50, 80, 100, 150, 200	20	104-1a/14
		65, 125	20	078a/16
45° Long Radius Elbow	110	50, 80, 100, 150, 200	20	104-1a/15
22.5° Elbow	12	25, 32, 40, 50, 65, 80, 100,150, 200	20	104-1a/16
11.25° Elbow	13	25, 32, 40, 50, 80, 100, 150, 200	20	104-1a/17
Tee	20	20, 25, 32, 40, 50, 80, 100, 150, 200	20	104-1a/18
		125	20	078a/17
Cross	35	20, 25, 32, 40, 50, 80, 100, 200	20	104-1a/19
Cap	60	20, 25, 32, 40, 50, 80, 100, 150, 200	20	104-1a/20
45° Lateral	30	20, 25, 32, 40, 50, 80, 100, 150, 200	20	104-1a/21
90° True Y	33	25, 32, 40, 50, 80, 100, 200	20	104-1a/22
Concentric Reducer	50	40 x 25, 50 x 20, 50 x 25, 50 x 32, 50 x 40, 80 x 25, 80 x 50, 100 x 125,100 x 40, 100 x 50, 100 x 80, 200 x 80, 200 x 100	20	104-1a/23
Eccentric Reducer	51	40 x 25, 50 x 20, 50 x 25, 50 x 32, 50 x 40, 80 x 25, 80 x 50, 100 x 125,100 x 40, 100 x 50, 100 x 80, 200 x 80, 200 x 100 x 25, 80 x 80 x 40, 80 x 80 x 50, 100 x 100 x 25, 100 x 100 x 50, 100 x 100 x 80, 150 x 150 x 50, 150 x 150 x 100, 200 x 200 x 50, 200 x 200 x 80, 200 x 200 x 100, 200 x 200 x 150	20	
45° Reducing Lateral	30R	80 x 80 x 50, 100 x 100 x 50, 100 x 100 x 80, 200 x 200 x 100	20	104-1a/24
Reducing Tee Grooved	25	50 x 50 x 20, 50 x 50 x 25, 50 x 50 x 40, 80 x 80 x 25, 80 x 80 x 40, 80 x 80 x 50, 100 x 100 x 25, 100 x 100 x 50, 100 x 100 x 80, 150 x 150 x 50, 150 x 150 x 100, 200 x 200 x 50, 200 x 200 x 80, 200 x 200 x 100, 200 x 200 x 150	20	104-1a/25
Reducing Tee Threaded	29R	50 x 50 x 20, 50 x 50 x 25, 50 x 50 x 40, 80 x 80 x 25, 80 x 80 x 40, 80 x 80 x 50, 100 x 100 x 25, 100 x 100 x 50, 100 x 100 x 80, 150 x 150 x 50, 150 x 150 x 100, 200 x 200 x 50, 200 x 200 x 80, 200 x 200 x 100, 200 x 200 x 150	20	
Blank End Grooved (Radial Branch)		65, 125	20	078a/18
Pitcher Tee		100 x 100 x 2.5 in BSP	20	078a/19
Firelock	001	60.3, 73, 76.1, 88.9, 114.3, 139.7, 141.3, 165.1, 168.3, 219.1	16	104-1a/28
	002	60.3, 73, 76.1, 88.9, 114.3, 139.7, 141.3, 165.1, 168.3, 219.1	16	104-1a/29
	003	60.3, 73, 76.1, 88.9, 114.3, 139.7, 141.3, 165.1, 168.3, 219.1	16	104-1a/30

All couplings and fittings to be installed in accordance with the Victaulic Field Assembly and Installation Instruction handbook.

This section lists products certificated to the following:

- LPS 1219 - *Specification for Pipe Couplings*

Notes:
Sizes may be covered by Pipe Fittings standards BS EN 10242, BS 143 & 1256 and ISO 49.

Where size permits the fittings are marked with the external pipe diameter(s).

All pipe fittings shall be installed in accordance with the manufacturer's installation instructions, including recommended maximum temperatures.

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Certificate No: 619a to LPS 1219

Malleable Iron Pipe fittings, Black and Galvanised finish, taper/taper threads.

Product Name	Fig No.	Fitting Size (inches)	LPCB Ref. No.
Hexagon Bush	140	¼" x ?" up to 6" x 4"	619a/01
Hexagon Nipple	144	¼" up to 6"	619a/02
	145	¼" x ?" up to 3" x 2½"	619a/03
Beaded Plug-Solid	146	" up to 2"	619a/04
Plain Plug-Hollow	147	½" up to 4"	619a/05
Plain Plug-Solid	148	" up to 2"	619a/06
Countersunk Plug	149	" up to 2"	619a/07
Backnut	150	¼" up to 3"	619a/08
Elbow - equal	151	" up to 6"	619a/09
Elbow - reducing	151	?" x ¼" up to 2" x 1½"	
M & F Elbow - equal	152	½" up to 4"	619a/10
M & F Elbox - reducing (1)	152	¾" x ½", 1" x ½", 1" x ¾"	
45° Elbow	155	¼" up to 6"	619a/11
Tee - equal	161	" up to 6"	
45° M & F Bend	156	¼" up to 4"	619a/12
Tee - increasing on branch	161	½" x ¾" up to 2" x 2½"	619a/13
Tee - reducing on branch	161	?" x ¼" up to 6" x 4"	
Tee - reducing on run	161	½" x ¼" x ½" up to 3" x 2" x 3"	
Tee - reducing on run & branch	161	½" x ?" x ?" up to 2" x 1½" x 1½"	
M & F Tee (1)	163	½", ¾", 1"	619a/14
Cross	171	" up to 4"	619a/15
Socket	176	" up to 6"	619a/16
	177	¼" up to 6"	619a/17
Reducing Socket	179	?" x ¼" up to 6" x 4"	619a/18
Eccentric Socket	180	¾" x ½" up to 3" x 2½"	619a/19
Cap	185	¼" up to 4"	619a/20
Male Bend	191	½" up to 2"	619a/21
M & F Bend	192	¼" up to 6"	619a/22
Bend	193	¼" up to 6"	619a/23
Twin Elbow	197	½" up to 3"	619a/24
Pitcher Tee - equal	199	½" up to 4"	619a/25
Pitcher Tee - reducing on branch	199	½" x ½" up to 4" x 3"	
Pitcher Tee - reducing on run & branch (1)	199	¾" x ½" x ½", 1 x ¾" x ½", 1 x ¾" x ¾"	
Pitcher Tee - reducing on run (1)	199	¾" x ½" x ¾"	
Return Bend	213	½" up to 2"	619a/26
Round Flange	233	½" up to 4"	619a/27
Union - flat seat (1)	241	½", ¾", 1"	619a/28
Union - spherical seat iron-iron	256	¼" up to 4"	619a/29
M & F Union	257	¼" up to 3"	619a/30
Elbow Union - spherical seat (1) iron-iron	261	½", ¾", 1"	619a/31
M & F Elbow Union (1) - spherical seat iron-iron	262	½", ¾", 1"	619a/32
Union - spherical seat bronze-iron	271	up to 4"	619a/33
M & F Union - spherical seat bronze-iron	272	½" up to 2"	619a/34
Elbow Union - spherical seat (1) bronze-iron	276	½", ¾", 1"	619a/35

Product Name	Fig No.	Fitting Size (inches)	LPCB Ref. No.
Union - spherical seat bronze-bronze	289	¼" up to 3"	619a/37
Union Self Aligning (1)	290	½", ¾", 1", 1¼", 1½", 2"	619a/38

Approved products for a maximum Working Pressure of 25 bar.

Note:
1) All sizes listed for this fitting. For full list of sizes for other fittings, contact BRE Certification for a copy of REB258-CRANE.

This section lists products certificated to the following:

- LPS 1261 - *Requirements for testing flexible hoses for sprinkler systems*.

Notes:
Some listed products may have been approved against an earlier set of requirements prior to LPS 1261 being issued and these products are LPCB approved. Flexible pipes may be used in different ways within a sprinkler system. For example some products are suitable for use behind ceiling grids whilst others are suitable for connecting supplies to storage racks. The user should contact the manufacturer to ensure they specify the correct type

Products approved to LPS 1261 are referenced in the listing.

All flexible hoses should be the subject of a maintenance contract, satisfying the requirements of the *LPC Rules for Automatic Sprinkler Installations.*

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Smart-Drop flexible sprinkler hose - STANDARD - 25 mm Diam Braided.

Product Name	Length (mm)	Supply nominal size/connection	Outlet nominal size/connection	Max. Working Pressure (bar)	LPCB Ref. No.
Smart Drop SD700/15	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	084m/01
Smart Drop SD1200/15	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	
Smart Drop SD1500/15	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	
Smart Drop SD700/20	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	
Smart Drop SD1200/20	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	
Smart Drop SD1500/20	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	

Smart-Drop flexible sprinkler hose - STANDARD - 25 mm Diam Unbraided.

Product Name	Length (mm)	Supply nominal size/connection	Outlet nominal size/connection	Max. Working Pressure (bar)	LPCB Ref. No.
Smart Drop SD700/15	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	084m/02
Smart Drop SD1200/15	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	

Product Name	Length (mm)	Supply nominal size/connection	Outlet nominal size/connection	Max. Working Pressure (bar)	LPCB Ref. No.
Smart Drop SD1500/15	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	
Smart Drop SD700/20	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	
Smart Drop SD1200/20	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	
Smart Drop SD1500/20	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1.Smart-Drop flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's	Pumped	
700	Yes	Yes	Yes
1200	No	Yes	Yes
1500	No	No	Yes

All pipework supplying Smart-Drop flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.
The above restrictions apply to Smart-Drop STANDARD with up to one 90° bend and includes a 90° sprinkler reducer

2. In suspended ceiling Smart-Drop flexible sprinkler connections must be installed in accordance with Installation Instructions SM095/00/A

3. In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

Smart-Drop flexible sprinkler hose – PREMIUM 28 mm Diam Unbraided

Product Name	Length (mm)	Supply nominal size/connection	Outlet nominal size/connection	Max. Working Pressure (bar)	LPCB Ref. No.
Smart Drop SD700/15/P	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	084m03
Smart Drop SD1200/15/P	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	084m/03
Smart Drop SD1500/15/P	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	
Smart Drop SD700/20/P	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	
Smart Drop SD1200/20/P	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	
Smart Drop SD1500/20/P	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	

1. Smart-Drop flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's	Pumped	
700	Yes	Yes	Yes
1200	Yes	Yes	Yes
1500	No	Yes	Yes

All pipework supplying Smart-Drop flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above restrictions apply to Smart-Drop PREMIUM with 1 bend up to 90º (700mm) and 2 bends up to 90ºeach (1200mm & 1500mm) and includes a sprinkler reducer

2. In suspended ceiling Smart-Drop flexible sprinkler connections must be installed in accordance with Installation Instructions SM0951001 A.

3. In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

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Dong-A Flexible sprinkler connections approved to LPS 1261

Product Name	Length (mm)	Supply nominal size / connection	Outlet nominal size / connection	Max. working pressure (bar)	LPCB Ref. No.
DA-SP-1A (1)(2)(3)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	566a/01
DA-SP-2A (1)(2)(3)	1220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SP-3A (1)(2)(3)	1540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SP-4A (1),2),3)	1880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SP-5A (1)(2)(3)	2540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SP-6A (1)(2)(3)	3220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SP-1B (1)(2)(3)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SP-2B (1)(2)(3)	1220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SP-3B (1)(2)(3)	1540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SP-4B (1)(2)(3)	1880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SP-5B (1)(2)(3)	2540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SP-6B (1)(2)(3)	3220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SP-1C (1)(4)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
DA-SP-2C (1)(4)	1220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	

Product Name	Length (mm)	Supply nominal size / connection	Outlet nominal size / connection	Max. working pressure (bar)	LPCB Ref. No.
DA-SP-3C (1)(4)	1540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
DA-SP-4C (1)(4)	1880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
DA-SP-5C (1)(4)	2540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
DA-SP-6C (1)(4)	3220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
DA-SPN-1A (1)(2)(3)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	566a/02
DA-SPN-2A (1)(2)(3)	1220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SPN-3A (1)(2)(3)	1540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SPN-4A (1)(2)(3)	1880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SPN-5A (1)(2)(3)	2540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SPN-6A (1)(2)(3)	3220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SPN-1B (1)(2)(3)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPN-2B (1)(2)(3)	1220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPN-3B (1)(2)(3)	1540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPN-4B (1)(2)(3)	1880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPN-5B (1)(2)(3)	2540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPN-6B (1)(2)(3)	3220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPW-1A (1,(2)(3)	780	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	566a/03
DA-SPW-2A (1)(2)(3)	1220	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SPW-3A (1)(2)(3)	1540	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SPW-4A (1)(2)(3)	1880	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SPW-5A (1)(2)(3)	2540	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SPW-6A (1)(2)(3)	3220	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
DA-SPW-1B (1)(2)(3)	780	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPW-2B (1)(2)(3)	1220	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPW-3B (1)(2)(3)	1540	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPW-4B (1)(2)(3)	1880	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPW-5B (1)(2)(3)	2540	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
DA-SPW-6B (1)(2)(3)	3220	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the twoends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

(1) Dong-A flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated Town's mains	Pre-calculated Pumped	Fully hydraulically calculated
Up to 1220	Yes	Yes	Yes
Up to 1880	No	Yes	Yes
Up to 3220	No	No	Yes

All pipework supplying Dong-A flexible sprinkler connections assemblies in pre-calculated systems shall be sized as distribution mains

(2) In suspended ceilings Dong-A flexible sprinkler connections must be installed in accordance with Installation Instructions DASP000501.

(3) In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

(4)For special applications the outlet is 1" Nipple for connection to normal standard pipe fittings, installer must supply & install brackets to ensure that the sprinkler is secure.

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Flexhead flexible sprinkler pipe

Product Name	Length (mm)	Nominal size/connection Supply	Nominal size/connection Outlet	Max. Working Pressure (bar)	LPCB Ref. No.
2024	600	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	12	764a/01
2036	900	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	12	
2048	1200	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	12	
2060	1500	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	12	
2072	1800	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	12	
2024H	600	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	20	764a/02
2036H	900	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	20	
2048H	1200	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	20	
2060H	1500	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	20	
2072H	1800	R1 (1" NPT) or (1" BSPT) External thread	Rc½ or Rc¾ (½" or ¾" NPT) or (½" or ¾" BSP Internal thread	20	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1 Flexhead flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's	Pumped	
600	Yes	Yes	Yes
900	Yes	Yes	Yes
1200	Yes	Yes	Yes
1500	Yes	Yes	Yes
1800	Yes	Yes	Yes

All pipework supplying Flexhead flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above applications apply to Flexhead Standard and Flexhead H with up to three bends of up to 90° each.

2. In a suspended ceiling Flexhead flexible sprinkler connections must be installed in accordance with the Flexhead Installation Guide, designated FlwxLPCB06.

3. In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

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Smart-Drop flexible sprinkler hose – STANDARD – 25 mm Diam Braided

Product Name	Length (mm)	Supply nominal size/connection	Outlet nominal size/connection	Max Working Pressure (bar)	LPCB Ref. No.
Smart Drop SD700/15	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	084m/01
Smart Drop SD1200/15	12	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	
Smart Drop SD1500/15	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	
Smart Drop SD700/20	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	
Smart Drop SD1200/20	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	
Smart Drop SD1500/20	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT) Internal thread	16	

Smart-Drop flexible sprinkler hose – STANDARD – 25 mm Diam Unbraided

Product Name	Length (mm)	Supply nominal size/connection	Outlet nominal size/connection	Max Working Pressure (bar)	LPCB Ref. No.
Smart Drop SD700/15	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	084m/02

Product Name	Length (mm)	Supply nominal size/connection	Outlet nominal size/connection	Max Working Pressure (bar)	LPCB Ref. No.
Smart Drop SD1200/15	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	
Smart Drop SD1500/15	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	
Smart Drop SD700/20	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT Internal thread	16	
Smart Drop SD1200/20	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT Internal thread	16	
Smart Drop SD1500/20	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT Internal thread	16	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1. Smart-Drop flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's	Pumped	
700	Yes	Yes	Yes
1200	No	Yes	Yes
1500	No	No	Yes

All pipework supplying Smart-Drop flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.
The above restrictions apply to Smart-Drop STANDARD with up to one 90° bend and includes a 90° sprinkler reducer

2. In suspended ceiling Smart-Drop flexible sprinkler connections must be installed in accordance with Installation Instructions SM095/00/A

3. In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

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Smart-Drop flexible sprinkler hose – PREMIUM 28 mm Diam Unbraided

Product Name	Length (mm)	Supply nominal size/connection	Outlet nominal size/connection	Max Working Pressure (bar)	LPCB Ref. No.
Smart Drop SD700/15/P	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	084m/03
Smart Drop SD1200/15/P	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	
Smart Drop SD1500/15/P	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ½ (½" BSPT or NPT) Internal thread	16	
Smart Drop SD700/20/P	700	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT Internal thread	16	

Product Name	Length (mm)	Supply nominal size/connection	Outlet nominal size/connection	Max Working Pressure (bar)	LPCB Ref. No.
Smart Drop SD1200/20/P	1200	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT Internal thread	16	
Smart Drop SD1500/20/P	1500	R1¼ (1¼" BSPT or NPT), or R1 (1" BSPT or NPT) External thread	Rc ¾ (¾" BSPT or NPT Internal thread	16	

1. Smart-Drop flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's	Pumped	
700	Yes	Yes	Yes
1200	Yes	Yes	Yes
1500	No	Yes	Yes

All pipework supplying Smart-Drop flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above restrictions apply to Smart-Drop PREMIUM with 1 bend up to 90º (700mm) and 2 bends up to 90ºeach (1200mm & 1500mm) and includes a sprinkler reducer

2. In suspended ceiling Smart-Drop flexible sprinkler connections must be installed in accordance with Installation Instructions SM0951001 A.

3. In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

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Rapidrop® Flexible sprinkler connections approved to LPS 1261

Product Name	Length (mm)	Supply nominal size / connection	Outlet nominal size / connection	Max. working pressure (bar)	LPCB Ref. No.
Rapidrop® SP-1A (1),(2),(3)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	566a/01
Rapidrop® SP-2A (1),(2),(3)	1220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SP-3A (1),(2),(3)	1540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SP-4A (1),(2),(3)	1880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SP-5A (1),(2),(3)	2540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SP-6A (1),(2),(3)	3220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SP-1B (1),(2),(3)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SP-3B (1),(2),(3)	1540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SP-4B (1),(2),(3)	1880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SP-5B (1),(2),(3)	2540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	

Product Name	Length (mm)	Supply nominal size / connection	Outlet nominal size / connection	Max. working pressure (bar)	LPCB Ref. No.
Rapidrop® SP-6B (1),(2),(3)	3220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SP-1C (1),(4)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
Rapidrop® SP-2C (1),(4)	1220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
Rapidrop® SP-3C (1),(4)	1540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
Rapidrop® SP-4C (1),(4)	1880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
Rapidrop® SP-5C (1),(4)	2540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
Rapidrop® SP-6C (1),(4)	3220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	R1(1" BSPT) or 1"NPT External thread	16	
Rapidrop® SPN-1A (1),(2),(3)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	566a/02
Rapidrop® SPN-2A (1),(2),(3)	1220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SPN-3A (1),(2),(3)	1540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SPN-4A (1),(2),(3)	1880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SPN-5A (1),(2),(3)	2540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SPN-6A (1),(2),(3)	3220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SPN-1B (1),(2),(3)	780	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPN-2B (1),(2),(3)	1220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPN-3B (1),(2),(3)	1540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPN-4B (1),(2),(3)	1880	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPN-5B (1),(2),(3)	2540	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPN-6B (1),(2),(3)	3220	R1(1"BSPT) or 1"NPT or R1.1/4 (1.1/4"BSPT) External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPW-1A (1),(2),(3)	780	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	566a/03
Rapidrop® SPW-2A (1),(2),(3)	1220	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SPW-3A (1),(2),(3)	1540	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SPW-4A (1),(2),(3)	1880	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SPW-5A (1),(2),(3)	2540	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SPW-6A (1),(2),(3)	3220	R1(1"BSPT) or 1"NPT External thread	Rc1/2(1/2"BSPT) or 1/2"NPT Internal thread	16	
Rapidrop® SPW-1B (1),(2),(3)	780	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPW-2B (1),(2),(3)	1220	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPW-3B (1),(2),(3)	1540	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPW-4B (1),(2),(3)	1880	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPW-5B (1),(2),(3)	2540	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	
Rapidrop® SPW-6B (1),(2),(3)	3220	R1(1"BSPT) or 1"NPT External thread	Rc3/4(3/4"BSPT) or 3/4"NPT Internal thread	16	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1) Rapidrop® flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated Town's mains	Pre-calculated Pumped	Fully hydraulically calculated
Up to 1220	Yes	Yes	Yes
Up to 1880	No	Yes	Yes
Up to 3220	No	No	Yes

All pipework supplying Rapidrop® flexible sprinkler connections assemblies in pre-calculated systems shall be sized as distribution mains

2) In suspended ceilings Rapidrop® flexible sprinkler connections must be installed in accordance with Installation Instructions SPT000707.

3) In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

4) For special applications the outlet is 1" Nipple for connection to normal standard pipe fittings, installer must supply & install brackets to ensure that the sprinkler is secure.

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Modgal Quikdrop Style 50 flexible sprinkler connections approved to LPS1261

Product Name	Length (mm)	Nominal Size/Connection Supply (mm)	Nominal Size/Connection Outlet	Max Working Pressure (bar)	LPCB Ref. No.
ST.50	700	R1 (1" PT or 1" NPT) External thread	Rc$^1/_2$ or Rc$^3/_4$ ($^1/_2$" or $^3/_4$" PT or NPT) Internal thread	16	123b/01
	1000	R1 (1" PT or 1" NPT) External thread	Rc$^1/_2$ or Rc$^3/_4$ ($^1/_2$" or $^3/_4$" PT or NPT) Internal thread	16	
	1200	R1 (1" PT or 1" NPT) External thread	Rc$^1/_2$ or Rc$^3/_4$ ($^1/_2$" or $^3/_4$" PT or NPT) Internal thread	16	
	1500	R1 (1" PT or 1" NPT) External thread	Rc$^1/_2$ or Rc$^3/_4$ ($^1/_2$" or $^3/_4$" PT or NPT) Internal thread	16	
	1800	R1 (1" PT or 1" NPT) External thread	Rc$^1/_2$ or Rc$^3/_4$ ($^1/_2$" or $^3/_4$" PT or NPT) Internal thread	16	
	2100	R1 (1" PT or 1" NPT) External thread	Rc$^1/_2$ or Rc$^3/_4$ ($^1/_2$" or $^3/_4$" PT or NPT) Internal thread	16	

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1. Modgal Quickdrop flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated Town's mains	Pre-calculated Pumped	Fully hydraulically calculated
Up to 700	Up to 1 x 90° bend	Up to 2 x 90° bend	Yes
Up to 1000	No	Up to 2 x 90° bend	Yes
Up to 1500	No	Up to 1 x 90° bend	Yes
Up to 2100	No	No	Yes

All pipework supplying Modgal Quickdrop flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.
The above restrictions apply to Modgal Quickdrop which includes a sprinkler reducer.

1. In suspended ceilings Modgal Quickdrop flexible sprinkler connections must be installed in accordance with the latest Modgal Quickdrop Installation Instructions.

2. In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

Tyco Fire Products Manufacturing Limited

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Certificate No: 007m to LPS 1261

flexible sprinkler hose

Product Name	Length (mm)	Nominal Size/Connection Supply	Nominal Size/Connection Outlet	Max.Working Pressure (bar)	LPCB Ref. No.
YN25-700	700	R1 (1"PT or 1"NPT) External thread	Rc1/2 or Rc3/4 (½" or ¾" PT or NPT) Internal thread	16	007m/01
YN25-1000	1000				
YN25-1200	1200				
YN25-1500	1500				
YN25-1800	1800				
YN25-2000	2000				
YN25-2500	2500				007m/001
YN25-2700	2700				007m/01
YN25-3100	3100				
YN25-3700	3700				

These products have been approved as a Type 2 hose of moderate flexibility in accordance with LPS 1261. These may be used in applications where little or no differential movement between the two ends is expected after installation (e.g. supply to single sprinklers in suspended ceilings)

1. Tyco Fastflex flexible sprinkler connections are approved for use in the following applications:

Assembly length (mm)	Pre-calculated		Fully hydraulically calculated
	Town's mains	Pumped	
Up to 700	Yes	Yes	Yes
Up to 1500	No	Yes	Yes
Up to 3700	No	No	Yes

All pipework supplying Fastflex flexible sprinkler connection assemblies in pre-calculated systems shall be sized as distribution mains.

The above restrictions apply to Fastflex with up to one 90° bend and includes a sprinkler reducer incorporating a bend up to 90°

2. In suspended ceilings Fastflex flexible sprinkler connections must be installed in accordance with Fastflex Installation Guide Rev 1.

3. In suspended ceilings, outlet reducer must be secured to the ceiling support system with brackets supplied. For other applications the installer must supply brackets to ensure sprinkler is secure.

Witzenmann GmbH

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Hydra stainless steel flexible pressure hoses

Approved Products		**LPCB Ref. No.**
Hydra RS 331 L 12/RS 321 L	12 threaded connections DN16, DN20, DN25, DN32, DN40, DN50(1)	398a/01
Hydra RS 331 L 12/RS 32I L	12 flanged connections DN20, DN25, DN32, DN40, DN 50(1)	398a/02
Hydra RS 330 L	12 flanged connections DN65, DN80, DN100(1)	398a/03

(1) The maximum working pressure for the ranges is 20 bar.

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Pre-action control systems for use under the *LPC Rules for Automatic Sprinkler Installations* have been approved to a schedule of requirements developed by LPCB (please contact LPCB for further details). The products shall be installed and maintained in accordance with the manufacturers instructions.

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ANGUS PA MK III TYPE 1 PRE-ACTION SYSTEM (Pre-Action Control Valve Description)

Product Name	Size(s)	Mounting Attitude	Body Material	Type	Max Working Pressure	Flanged or Grooved	LPCB Ref. No.
MKIII	100mm	Vertical	Cast Iron	Pre-Action 100	12 bar	Flanged	084g/01
	150mm	Vertical	Cast Iron	Pre-Action 150	12 bar	Flanged	

Approval Conditions:
1) The system employs duplicate solenoid valves, which are manufactured by Danfoss, as detailed above.
2) Solenoid valves shall be installed in parallel.
3) Solenoid valves shall function in pneumatic condition only, and be protected by a strainer.
4) LPCB Certificated detectors compatible with the control and indicating equipment shall be used.
5) Suitable electrical detection control and indicating equipment and pneumatic systems which are compatible with the equipment above shall be used.
   The control and indicating equipment shall be LPCB approved/certificated.
6) Connecting cables shall comply with BS 6387 : 1994, classification C, W, Z.
7) The system shall be electrically monitored to demonstrate that it is in a ready-to-operate state at all times.
8) Clean dry air shall be used.
9) The equipment must be installed, operated and maintained as prescribed in Angus Fire Ltd. installation, operating and maintenance manual.
10) The pre-action system shall be configured in accordance with Angus specification numbers, PA1/100 and PA1/150 for the 100mm and 150mm versions respectively.
11) The Pre-Action systems shall comply with the details specified in LPC Technical Bulletin 21 Supplementary requirements for sprinkler installations which can operate in the dry mode.
12) Angus Fire, Denmark, is responsible for the complete pre-action system.

Certificate No: 084g/01

ANGUS PA MK III TYPE 1 PRE-ACTION SYSTEM (Solenoid Valve Description)

Product Name	Manufacturer	Voltage (V)	Power (W)	LPCB Ref. No.
EVSI 15 (nc)	Danfoss	24 DC	15	084g/01

Approval Conditions:
1) The system employs duplicate solenoid valves, which are manufactured by Danfoss, as detailed above.
2) Solenoid valves shall be installed in parallel.
3) Solenoid valves shall function in pneumatic condition only, and be protected by a strainer.
4) LPCB Certificated detectors compatible with the control and indicating equipment shall be used.
5) Suitable electrical detection control and indicating equipment and pneumatic systems which are compatible with the equipment above shall be used.
   The control and indicating equipment shall be LPCB approved/certificated.
6) Connecting cables shall comply with BS 6387 : 1994, classification C, W, Z.
7) The system shall be electrically monitored to demonstrate that it is in a ready-to-operate state at all times.
8) Clean dry air shall be used.
9) The equipment must be installed, operated and maintained as prescribed in Angus Fire Ltd. installation, operating and maintenance manual.

10) The pre-action system shall be configured in accordance with Angus specification numbers, PA1/100 and PA1/150 for the 100mm and 150mm versions respectively.
11) The Pre-Action systems shall comply with the details specified in LPC Technical Bulletin 21 Supplementary requirements for sprinkler installations which can operate in the dry mode.
12) Angus Fire, Denmark, is responsible for the complete pre-action system.

The Reliable Automatic Sprinkler Co. Inc

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RELIABLE SUPERTROL TYPE 1 PRE-ACTION SYSTEM (Pre-action Control Valve Description)

Product Name	Size(s) (mm)	Mounting Attitude	Body Material	Type	Max Working Pressure	Flanged or Grooved	LPCB Ref. No.
BX/E	100	Vertical	Cast Iron	Pre-action	12 bar	Flanged	034d/01
	150	Vertical	Cast Iron	Pre-action	12 bar	Flanged	

Approval Conditions:
1) The above pre-action system employs duplicate solenoid valves, which are manufactured by firms, as detailed below. One of each shall be used.
2) Solenoid valves shall be installed in parallel.
3) Solenoid valves shall function in pneumatic condition only, and be protected by a strainer.
4) LPCB Certificated detectors compatible with the control and indicating equipment shall be used.
5) Suitable electrical detection control and indicating equipment and pneumatic systems which are compatible with the equipment identified above shall be used. The control and indicating equipment should be LPCB approved/certificated.
6) Connecting cables shall comply with BS 6387: 1994, classification C, W, Z evidenced by LPCB certification.
7) The system shall be electrically monitored to demonstrate that it is in a 'ready-to-operate' state at all times.
8) Clean dry air shall be used.
9) The equipment must be installed, operated and maintained as prescribed in The Reliable Automatic Sprinkler Co Inc installation, operating and maintenance manual.
10) The pre-action system shall be configured in accordance with Reliable specifications.
11) The pre-action systems shall comply with the details specified in LPC Technical Bulletin 21 Supplementary Requirements for sprinkler installations which can operate in the dry mode and in the LPC Rules for Automatic Sprinkler Installations.
12) The Reliable Automatic Sprinkler Company Inc are the firm responsible for the complete pre-action station, including electrics. It should be noted that only the equipment specifically referenced above is LPCB approved.

RELIABLE SUPERTROL TYPE 1 PRE-ACTION SYSTEM (Solenoid Valve Description)

Product Name	Manufacturer	Voltage (V)	Power (W)	LPCB Ref. No.
LV2LBX25	Skinner	24 DC	11	034d/01
R8210A107	ASCO	24 DC	16.8	

Approval Conditions:
1) The above pre-action system employs duplicate solenoid valves, which are manufactured by firms, as detailed above. One of each shall be used.
2) Solenoid valves shall be installed in parallel.
3) Solenoid valves shall function in pneumatic condition only, and be protected by a strainer.
4) LPCB Certificated detectors compatible with the control and indicating equipment shall be used.
5) Suitable electrical detection control and indicating equipment and pneumatic systems which are compatible with the equipment identified above shall be used. The control and indicating equipment should be LPCB approved/certificated.
6) Connecting cables shall comply with BS 6387: 1994, classification C, W, Z evidenced by LPCB certification.
7) The system shall be electrically monitored to demonstrate that it is in a 'ready-to-operate' state at all times.
8) Clean dry air shall be used.
9) The equipment must be installed, operated and maintained as prescribed in The Reliable Automatic Sprinkler Co Inc installation, operating and maintenance manual.
10) The pre-action system shall be configured in accordance with Reliable specifications.
11) The pre-action systems shall comply with the details specified in LPC Technical Bulletin 21 Supplementary Requirements for sprinkler installations which can operate in the dry mode and in the LPC Rules for Automatic Sprinkler Installations.

12) The Reliable Automatic Sprinkler Company Inc are the firm responsible for the complete pre-action station, including electrics. It should be noted that only the equipment specifically referenced above under (a) and (b) is LPCB approved.

The Viking Corporation

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Viking Pre-Action Systems (Pre-Action Control Valves descriptions)

Product Name	Size(s) (mm)	Mounting Attitude	Body Material	Type	Max. Working Pressure (bar)	Connections	LPCB Ref. No.
Type 1 Single-Interlocked Pre-action system	50	Angle style	Ductile Iron	E-1	16	Screwed/Screwed	096f/01
	80, 100, 150	Angle Style	Ductile Iron	E-1	16	Flange/Flange Flange/Groove	096f/02
Type 1 Surefire (TM) Single-Interlocked Pre-action system	50	Angle Style	Ductile Iron	E-1	16	Screwed/Screwed	096f/03
	80, 100, 150	Angle Style	Ductile Iron	E-1	16	Flange/Flange Flange/Groove	096f/04
Type 2 Non-Interlocked Pre-action system	50	Angle Style	Ductile Iron	E-1	16	Screwed/Screwed	096f/05
	80, 100, 150	Angle Style	Ductile Iron	E-1	16	Flange/Flange Flange/Groove	096f/06

Notes
1) The above systems are approved for use with hydraulic, pneumatic and pneu-lectric release systems.
2) The above systems are available with TrimPac™
3) The above systems are available as TotalPac™

Approval Conditions:
1) The above pre-action system employs duplicate solenoid valves. For details of the solenoid valves contact Viking. The solenoid valves shall be LPCB approved.
2) Solenoid valves shall be installed in parallel.
3) Solenoid valves shall function in pneumatic conditions only, and be protected by a strainer.
4) LPCB Certificated detectors compatible with the control and indicating equipment shall be used.
5) Suitable electrical detection control and indicating equipment and pneumatic systems which are compatible with the equipment identified above shall be used. The control and indicating equipment should be LPCB approved/certificated.
6) Connecting cables shall comply with BS 6387:1994, classification C, W, Z evidenced by LPCB certification.
7) The system shall be electrically monitored to demonstrate that it is in a 'ready to operate' state at all times.
8) Clean dry air shall be used.
9) The equipment must be installed, operated and maintained as prescribed in the Viking Corporation installation, operating and maintenance manual.
10) The pre-action system shall be configured in accordance with Viking Corporation's datasheets.
11) The pre-action systems shall comply with the details specified in LPC Technical Bulletin TB208: Supplementary Requirements for Sprinkler Installations which can operate in the dry mode.
12) The Viking Corporation is the firm responsible for the complete pre-action station.

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Sprinkler system re-cycling systems for use under the *LPC Rules for Automatic Sprinkler Installations* have been approved to a schedule of requirements developed by LPCB (please contact LPCB for further details). The products shall be installed and maintained in accordance with the manufacturers instructions.

The Viking Corporation

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Approved Products		**LPCB Ref. No.**
Viking Firecycle III Cyling (single interlocked) System	Flow control valves (Model H-1) 50mm 80mm 100mm 150mm Control panel (Model B-1) Heat detectors (Type FC 1002 - 140° F) M1 cable used for connecting the heat detectors in a series circuit	096d/02
Viking Firecycle III Cyling (double interlocked) System	Flow control valves (Model H-1) 50mm 80mm 100mm 150mm Control panel (Model E-1) Heat detectors (Type FC 1002 - 140° F)	096d/03

Approval Conditions:

1) The above Firecycle systems employs duplicate solenoid valves. For details of the solenoid valves contact Viking. The solenoid valves shall be LPCB approved.
2) Solenoid valves shall be installed in parallel.
3) Solenoid valves may function in hydraulic or pneumatic conditions, and be protected by a strainer.
4) Heat detectors compatible with the control and indicating equipment shall be used.
5) Suitable electrical detection control and indicating equipment which is compatible with the equipment identified above shall be used. The control and indicating equipment should be LPCB approved/certificated.
6) Connecting cables shall comply with BS 5839-1: 2002 and be LPCB approved.
7) The system shall be electrically monitored to demonstrate that it is in a 'ready-to-operate' state at all times.
8) Clean dry air shall be used where applicable.
9) The equipment must be installed, operated and maintained as prescribed in Viking Corporation's installation, operating and maintenance manual.
10) The Firecycle III systems shall be configured in accordance with Viking Corporation's specifications.
11) The Firecycle III systems shall comply with the details specified in LPC Technical Bulletin 208 Supplementary Requirements for sprinkler installations which can operate in dry mode.
12) Viking Corporation are the firm responsible for the complete Firecycle III station, including electrics.

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Pressure switches for use under *LPC Rules for Automatic Sprinkler Installations* have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturers instructions.

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Certificated Products	LPCB Ref. No.
Pressure Switch Type 1381, 1381V, 1381F	085a/01
Pressure Switch Type 108, 108V	085a/02

Potter Electric Signal Company

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Certificated Products	LPCB Ref. No.
Model PS 10A	125a/01
Model PS 40A	125a/02
Model PS 100A	125a/03
Model PS 120A	125a/04

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European Sales Enquiries: System Sensor, Pittway Technologica SpA

Via Cabato, 19,, 34147 Triests, Italy
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Certificate No: 118f to LPS 1226

Pressure Switches

Approved Products	LPCB Ref. No.
Pressure Switch Model EPS40-1	118f/01
Pressure Switch Model EPS40-2	118f/02

This section lists products certificated against one of the following standards:

- EN 12259-1 - *Fixed firefighting systems. Components for sprinkler and water spray systems. Sprinklers*
- LPS1039 - Requirements and testing methods for automatic sprinklers

Notes:
LPCB is a Notified Body and all of the products in this section (with the exception of ESFR and specialist sprinklers) will need to be assessed against the new European Norm EN12259-1 before they can be CE marked. Please contact us if you want further information on the current CE status of any of the products in the Red Book.

LPCB is currently developing new standards for Specialist Sprinklers with extended spacings in Ordinary Hazard Occupancies. When these are Certificated the listing will include guidance for the specifier. Please contact us if you would like further information on this work.

The LPCB recommends the removal and testing of 1% of sprinkler heads from a system after 25 years and every 5 years thereafter. The areas from which the sprinkler heads are removed should take account of the different makes and models used and variation of atmospheric conditions. The LPCB further recommends that sprinkler heads are replaced where problems are found.

KEY to abbreviations

Each entry includes the nominal orifice size in millimetres and the temperature ratings in degrees centigrade.
† indicates glass bulb sprinkler head; all others are fusible element sprinkler heads.
* indicates that a corrosion-resistant coating for the body and yoke of the sprinkler has been approved under the LPC *Rules for Automatic Sprinkler Installations.*

The type of sprinkler is indicated by the following abbreviations:

Type	LPS 1039	EN 12259-1
Conventional (upright and pendent)	CU/P	CUP
Conventional (Upright)	CU	CU
Conventional (Pendent)	CP	CP
Spray (Upright)	SU	SU
Spray (Pendent)	SP	SP
Sidewall (Upright and pendent)	WU/P	WUP
Sidewall (Upright)	WU	WU
Sidewall (Pendent)	WP	WP
Sidewall (Horizontal)	WH	WH
Sidewall, flush (Horizontal)	WHF	WLH
Sidewall, extended coverage (Horizontal)	WHEC	-
Conventional, dry (Upright and pendent)	CDU/P	CDUP
Conventional, dry (Upright)	CDU	CDU
Conventional, dry (Pendent)	CDP	CDP
Spray, dry (Upright)	SDU	SDU
Spray, dry (Pendent)	SDP	SDP
Conventional, flush (Pendent)	CF	CLP
Spray, flush (Pendent)	SF	SLP
Spray, dry, flush (Pendent)	SFD	SDLP
Spray, recessed (Pendent)	SR	SRP
Spray, concealed (Pendent)	SK	SCCP
Early suppression fast response	ESFR	-

Models marked "-" are not recognised in EN12259-1

Angus Fire Armour Limited (Denmark)

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Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

UK Sales Enquiries:
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Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† Angus R-F2 (2),(4),(5)	15	WHEC	57°, 68°, 79°	084k/01
† Angus S(7) (1),(2)	10	SR	57°, 68°, 79°, 93° (5mm bulb)	084b/01
† Angus S(7) (2)	10	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(8) (2)	10	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(4) (1),(2),(7)	10	SR	57°, 68°, 79°, 93° (5mm bulb)	
† Angus S(4) (2),(7)	10	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(6) (2),(7)	10	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(1) (2)	15	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(2) (2)	15	SR	57°, 68°, 79°, 93°,(5mm bulb)	
	15	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(3) (2)	15	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(5) (2)	15	WU/P	57°, 68°, 79°, 95°, 141°, 182° (5mm bulb)	
† Angus S(14) (2),(6)	20	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(12) (2),(6)	20	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(13) (2),(6)	20	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(9) (2)	20	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(10) (2)	20	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(11) (2)	20	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† Angus S(7)QR (1),(2)	10	SR	57°, 68°, 79°, 93°, 141°	084b/02
† Angus S(7)QR (2),(3)	10	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(8)QR (2),(3)	10	SU	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(2)QR (1),(2)	15	SR	57°, 68°, 79°, 93°, 141°	
† Angus S(2)QR (2),(3)	15	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(3)QR (2),(3)	15	SU	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(1)QR (2),(3)	15	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(5)QR (2),(3)	15	WU/P	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(4)QR (1),(2),(7)	10	SR	57°, 68°, 79°, 93°, 141°	
† Angus S(4)QR (2),(3),(7)	10	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(6)QR (2),(3),(7)	10	SU	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(12)QR (2),(3),(6)	20	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(14)QR (2),(3),(6)	20	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(13)QR (2),(3),(6)	20	SU	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(9)QR (2),(3)	20	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(10)QR (2),(3)	20	SU	57°, 68°, 79°, 93°, 141° (quick response)	
† Angus S(11)QR (2),(3)	20	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
Model HC (8),(9)	15	SK	(adjustable) 68° with 57° ceiling plate (5mm bulb)	184d/04
	15	SK	(adjustable) 93° with 74° ceiling plate (5mm bulb)	
	15	SK	(adjustable) 68° with 57° ceiling plate (3mm bulb)	184d/05
	15	SK	(adjustable) 93° with 74° ceiling plate (3mm bulb)	

Notes:
1) Approved with brass, chrome or coloured recessing cup.
2) Also approved with chromium and painted finishes.
3) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
4) This extended coverage horizontal sidewall sprinkler should be handled with care to ensure that the deflector is not deformed. After installation the deflector angle should be checked with the manufacturer's gauge to verify its angle of 92.5°.
5) The Product manufacturer should be consulted to determine the product fire protection capability and installation practice. Available test evidence and the CEA document 'Requirements and Test Methods for Hotel Room Horizontal Sidewall Sprinklers' should also be consulted to ensure correct usage in light hazard installations only.
6) This 20mm orifice sprinkler is fitted with a pintle to denote that it has a 15mm nominal thread size.
7) This 10mm sprinkler is fitted with a pintle to denote that it has a 15mm nominal thread size.
8) Approved with chrome and coloured coverplate
9) To be installed in accordance with specific installation instructions. Not to be installed in ceilings with a positive pressure in the void above. The ceiling plate is not to be repainted NOTE: The numbers in brackets are not marked on the Angus S and Angus S QR Sprinklers.

Central Sprinkler Company (An Affiliate of Tyco Fire Products Manufacturing Ltd)

Stockport Trading Estate, Yew Street, Stockport SK4 2JW UK
Tel: +44 (0)161 875 0500 • Fax: +44 (0)161 875 0509

Certificate No: 007k

Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† TY2208 (1)	10	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	007k/03
† TY2108 (1)	10	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY3251 (1)	15	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY3151 (1)	15	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY3651 (1)	15	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY3251 (1),(5)	15	SR	57°,68°,79°,93° (5mm bulb)	
† TY3451 (1)	15	WU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY3351 (7)	15	WH	57°,68°,79°,93°,141°,182° (5mm bulb)	
† TY4251 (1)	20	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY4151 (1)	20	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY4651 (1)	20	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY4251 (1),(5)	20	SR	57°,68°,79°,93° (5mm bulb)	
† TY2209 (1),(3)	10	SP	57°,68°,79°,93°,141° (quick response)	007k/04
† TY2109 (1),(3)	10	SU	57°,68°,79°,93°,141° (quick response)	
† TY3631 (1),(3)	15	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
† TY3131 (1),(3)	15	SU	57°, 68°, 79°, 93°, 141° (quick response)	
† TY3231 (1),(3)	15	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† TY3231 (1),(5)	15	SR	57°,68°,79°,93°	
† TY3431 (1),(3)	15	WU/P	57°, 68°, 79°, 93°, 141° (quick response)	
† TY3331 (7)	15	WH	57°,68°,79°,93°,141°	
† TY3331 (1),(5)	15	WHR	57°,68°,79°,93°	
† TY4631 (1),(3)	20	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
† TY4131 (1),(3)	20	SU	57°, 68°, 79°, 93°, 141° (quick response)	
† TY4231 (1),(3)	20	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† TY4631 (1),(5)	20	SR	57°,68°,79°,93°	

Notes:
1) Also approved with coloured and chromium finishes.
3) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
5) Approved with Model F700 recessed escutcheon
7) Also approved in chromium finish

G.W. Sprinkler A/S

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Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† GW-DD-F2 (1),(5),(6)	15	WHEC	57° 68° 79°	084k/01
† GW-S (1)	10	SR	57°, 68°, 79°, 93° (5mm bulb)	084l/01
	10	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
	10	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† GW-S (1),(2),(7)	10	SR	57°, 68°, 79°, 93° (5mm bulb)	
† GW-S (1),(7)	10	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
	10	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† GW-S (1)	15	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	

Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† GW-S (1),(2)	15	SR	57°, 68°, 79°, 93° (5mm bulb)	
† GW-S (1)	15	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
	15	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
	15	WU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† GW-S (1),(3)	20	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
	20	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
	20	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† GW-S (1)	20	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
	20	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
	20	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† GW-S QR (1),(2)	10	SR	57°, 68°, 79°, 93°, 141°	084l/02
† GW-S QR (1),(4)	10	SP	57°, 68°, 79°, 93°, 141°, (quick response)	
	10	SU	57°, 68°, 79°, 93°, 141°, (quick response)	
† GW-S QR (1),(2),(7)	10	SR	57°, 68°, 79°, 93°, 141°	
† GW-S QR (1),(4),(7)	10	SP	57°, 68°, 79°, 93°, 141°, (quick response)	
	10	SU	57°, 68°, 79°, 93°, 141°, (quick response)	
† GW-S QR (1),(2)	15	SR	57°, 68°, 79°, 93°, 141°	
† GW-S QR (1),(4)	15	SP	57°, 68°, 79°, 93°, 141°, (quick response)	
	15	SU	57°, 68°, 79°, 93°, 141°, (quick response)	
	15	CU/P	57°, 68°, 79°, 93°, 141°, (quick response)	
	15	WU/P	57°, 68°, 79°, 93°, 141°, (quick response)	
† GW-S QR (1),(3),(4)	20	SP	57°, 68°, 79°, 93°, 141°, (quick response)	
	20	CU/P	57°, 68°, 79°, 93°, 141°, (quick response)	
	20	SU	57°, 68°, 79°, 93°, 141°, (quick response)	
† GW-S QR (1),(4)	20	SP	57°, 68°, 79°, 93°, 141°, (quick response)	
	20	SU	57°, 68°, 79°, 93°, 141°, (quick response)	
	20	CU/P	57°, 68°, 79°, 93°, 141°, (quick response)	

Notes:
1) Also approved with chromium and painted finishes.
2) Approved with brass, chrome or coloured recessing cup.
3) This 20mm orifice sprinkler is fitted with a pintle to denote that it has a 15mm nominal thread size.
4) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
5) This extended coverage horizontal sidewall sprinkler should be handled with care to ensure that the deflector is not deformed. After installation the deflector angle should be checked with the manufacturers gauge to verify its angle of 92.5°.
6) The product manufacturer should be consulted to determine the product fire protection capability and installation practice. Available test evidence and the CEA document "Requirements and Test Methods for Hotel Room Horizontal Sidewall Sprinklers" should also be consulted to ensure correct usage in light hazard applications.
7) This sprinkler is fitted with a pintle to denote that it has a 15mm nominal thread size.

Globe Fire Sprinkler Corporation

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UK Sales Enquiries:

Fire Protection Centre Ltd
Tel: +44 (0)1724 854199 • Fax: +44 (0)1724 854213

Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† Globe Model JN (1),(2)	15	CU/P	57°, 68°, 79°, 93°, 141° (5mm bulb)	147c/02
	15	SU	57°,68°,79°,93°,141° (5mm bulb)	
	15	SP	57°, 68°, 79°, 93°, 141° (5mm bulb)	
	15	SR	57°, 68°, 79°, 93° (5mm bulb)	
† Globe Model JN1, (2),(3)	15	SK	57° with 57° ceiling plate, 68° with 57° or 68° ceiling plate, 79° with 68° ceiling plate, 93° with 68° ceiling plate (5mm bulb)	

Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† Globe Model JN (1),(2)	20	CU/P	57°, 68°, 79°, 93°, 141° (5mm bulb)	
	20	SU	57°, 68°, 79°, 93°, 141° (5mm bulb)	
	20	SP	57°, 68°, 79°, 93°, 141° (5mm bulb)	
	20	SR	57°, 68°, 79°, 93° (5mm bulb)	
	15	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	147c/03
	15	SU	57°,68°,79°,93°,141°(quick response)	
	15	SP	57°, 68°, 79°, 93°, 141° (quick response)	
	15	SR	57°, 68°, 79°, 93°	
† Globe Model JN1, (2),(3)	15	SK	57° with 57° ceiling plate, 68° with 57° or 68° ceiling plate, 79° with 68° ceiling plate, 93° with 68° ceiling plate (3mm bulb)	
† Globe Model JN (1),(2)	20	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
	20	SU	57°, 68°, 79°, 93°, 141° (quick response)	
	20	SP	57°, 68°, 79°, 93°, 141° (quick response)	
	20	SR	57°, 68°, 79°, 93°	

Notes:
1) Also approved with chromium finish
2) Also approved with coloured finish
3) Not to be installed in ceilings with a positive pressure in the void above.

Globe Sprinklers Europa S.A.

Avda. de las Flores 13, 28970 Madrid, Spain
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Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
Globe Model J (1), (2)	15	SU	57º, 68º, 79º, 93º, 141º (5mm bulb)	289c/03
	15	SP	57º, 68º, 79º, 93º, 141º (5mm bulb)	
	15	CU/P	57º, 68º, 79º, 93º, 141º (5mm bulb)	
	20	SU	57º, 68º, 79º, 93º, 141º (5mm bulb)	
	20	SP	57º, 68º, 79º, 93º, 141º (5mm bulb)	
	20	CU/P	57º, 68º, 79º, 93º, 141º (5mm bulb)	
	15	SU	57º, 68º, 79º, 93º, 141º (quick response)	289c/04
	15	SP	57º, 68º, 79º, 93º, 141º (quick response)	
	15	CU/P	57º, 68º, 79º, 93º, 141º (quick response)	
	20	SU	57º, 68º, 79º, 93º, 141º (quick response)	
	20	SP	57º, 68º, 79º, 93º, 141º (quick response)	
	20	CU/P	57º, 68º, 79º, 93º, 141º (quick response)	

Notes:
1) Also approved with chromium finish
2) Also approved with coloured finish

Kidde Fire Fighting Inc., Fire Control Division

Executive Way, Ranson, West Virginia 25438, USA
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Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† 'Automatic' Model H(1),(2)	15	CU/P	57° 68° 79° 93° 141° 182°	184d/01
	15	SU	57° 68° 79° 93° 141° 182°	

Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
	15	SP	57° 68° 79° 93° 141° 182°	
	20	SU	57° 68° 79° 93° 141° 182°	
Model HC (3),(4)	15	SK	(adjustable) 68° with 57° ceiling plate (5mm bulb)	184d/04
	15	SK	(adjustable) 93° with 74° ceiling plate (5mm bulb)	
	15	SK	(adjustable) 68° with 57° ceiling plate (3mm bulb)	184d/05
	15	SK	(adjustable) 93° with 74° ceiling plate (3mm bulb)	
† Model K1 ESFR(5)	20	SP	68°, 93°	184e/01

Notes:
1) Also approved with a chromium finish.
2) The 68°, 79° and 93° sprinklers are also approved with wax and wax over lead finishes.
3) Approved with chrome and coloured coverplate
4) To be installed in accordance with specific installation instructions. Not to be installed in ceilings with a positive pressure in the void above. The ceiling plate is not to be repainted
5) This ESFR sprinkler has a k-factor of 200 $l.min^{-1}.bar^{-/2}$ (US k-factor of 14 $gal.min^{-1}.psi^{-/2}$

Rolland Sprinklers

Usine de 73410, Mognard, France
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Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† Rolland Model N (1)	15	SP	57°,68°,79°,93°,141° (quick response)	295a/01
	15	SU	57°,68°,79°,93°,141° (quick response)	
	15	CU/P	57°,68°,79°,93°,141° (quick response)	
	15	SP	57°,68°,79°,93°,141°,182° (5mm bulb)	295a/02
	15	SU	57°,68°,79°,93°,141°,182° (5mm bulb)	295a/01
	15	CU/P	57°,68°,79°,93°,141°,182° (5mm bulb)	

Note:
1) Also approved with chromium and painted finishes

The Reliable Automatic Sprinkler Co. Inc

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UK Sales Enquiries:
Tel: +44 (0)1372 728899 • Fax: +44 (0)1372 724461

Certificate No: 034g

Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† Reliable F1 (2),(3)	10	SU	57°, 68°,79°,93°,141°, 182° (5mm bulb)	034g/02
† Reliable F12, (3),(4)	10	SP	57°, 68°,79°,93°,141°, 182° (5mm bulb)	
† Reliable F1 (5),(13)	10	SR	57°, 68°,79°,93° (5mm bulb)	
† Reliable F1 (20)	10	SU	57°, 68°,79°,93°,141° (5mm bulb)	
	10	SP	57°, 68°,79°,93°,141° (5mm bulb)	
† Reliable F1 (20),(22),(24)	10	SR	57°, 68°,79°,93° (5mm bulb)	
† Reliable F1 (2),(3)	15	CU/P	57°, 68°,79°,93°,141°, 182° (5mm bulb)	

Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
	15	SU	57°, 68°,79°,93°,141°, 182° (5mm bulb)	
† Reliable F12, (3),(4)	15	SP	57°, 68°,79°,93°,141°, 182° (5mm bulb)	
† Reliable F1 (2),(3)	15	WP	57°, 68°,79°,93°,141°, 182° (5mm bulb)	
† Reliable F1 (5),(13)	15	SR	57°, 68°,79°,93° (5mm bulb)	
† Reliable F1 (20)	15	SU	57°, 68°,79°,93°,141° (5mm bulb)	
	15	SP	57°, 68°,79°,93°,141° (5mm bulb)	
	15	WP	57°, 68°,79°,93°,141° (5mm bulb)	
† Reliable F1 (20),(22),(24)	15	SR	57°, 68°,79°,93° (5mm bulb)	
† Reliable F1 (2),(3)	20	CU/P	57°, 68°,79°,93°,141°, 182° (5mm bulb)	
† Reliable F1	20	SU	57°, 68°,79°,93°,141°,182° (5mm bulb)	
	20	SP	57°, 68°,79°,93°,141°,182° (5mm bulb)	
† Reliable F1 (20)	20	SU	57°, 68°,79°,93°,141° (5mm bulb)	
	20	SP	57°, 68°,79°,93°,141° (5mm bulb)	
† Reliable F1 (22),(24)	20	SR	57°, 68°,79°,93° (5mm bulb)	
† Reliable F1FR (14),(20)	10	SU	57°, 68°, 79°, 93°, 141° (quick response)	034g/03
	10	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† Reliable F1FR (20),(21),(22)	10	SR	57°, 68°, 79°, 93°	
† Reliable F1FR (20),(22),(23)	10	SR	57°, 68°, 79°, 93°	
† Reliable F1FR (14),(20)	15	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
	15	SU	57°, 68°, 79°, 93°, 141° (quick response)	
	15	SP	57°, 68°, 79°, 93°, 141° (quick response)	
	15	WP	57°, 68°, 79°, 93°, 141° (quick response)	
† Reliable F1FR (20),(21),(22)	15	SR	57°, 68°, 79°, 93°	
† Reliable F1FR (20),(22),(23)	15	SR	57°, 68°, 79°, 93°	
† Reliable F1FR (14),(20)	20	SP	57°, 68°, 79°, 93°, 141° (quick response)	
	20	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
	20	SU	57°, 68°, 79°, 93°, 141° (quick response)	
	20	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† Reliable F1FR (22),(23)	20	SR	57°, 68°, 79°, 93°	
* Reliable G (2)	10	SU	57°, 74°, 100°, 141°	034g/04
	10	SP	57°, 74°, 100°, 141°	
	15	CU/P	57°, 74°, 100°, 141°	
	15	SU	57°, 74°, 100°, 141°	
	15	SP	57°, 74°, 100°, 141°	
	15	WU/P	57°, 74°, 100°, 141°	
Reliable G (7),(8),(9)	15	SR	57°, 74°, 100°	
* Reliable G (2)	20	CU/P	57°, 74°, 100°, 141°	
	20	SU	57°, 74°, 100°, 141°	
	20	SP	57°, 74°, 100°, 141°	
Reliable G3 (2)	15	SDP	(fixed and adjustable) 57°, 74°	034g/06
Reliable G/F (16),(12),(13)	10	SR	57°, 74° 100°	034g/07
	15	SR	57°, 74°, 100°	
Reliable ZX - (12),(14),(16),(25)	15	SF	74° (quick response)	034g/10
Reliable G4FR (9),(26)	15	SK	(adjustable ceiling plate) 74° with 57° ceiling plate	034g/11
† Reliable ESFR-H(1)	20	SP	68°, 93°	034h/01
Reliable F3	15	DSP (27)	57°, 68°, 93°, 141°	034i/01
	15	DRSP (27)	57°, 68°, 93°, 141°	
	15	CCDSP	57° with 57° ceiling plate 68° with 57° ceiling plate 93° with 74° ceiling plate	
	15	DWH	57°, 68°, 93°, 141°	
	15	RDWH	57°, 68°, 93°, 141°	
Reliable F4FR(9)(28)	15	CCP	57° and 68° adjustable ceiling plate	034j/01
Reliable ESFR-K22(29)	20	SP	68°, 93°	034k/01
Reliable F1FR-EPEC(1)	20	SP	57°, 68°, 93°	034l/01

Notes:
1) This ESFR sprinkler has a k-factor of 200 $l.min^{-1}.bar^{-/2}$ (US k-factor of 14 $gal.min^{-1}.psi^{-/2}$
2) Approved with a chromium finish.
3) Also approved with plated brass, black plate and dull and bright chrome finishes.
4) The "57°, 68°, 79° and 93° sprinklers are also approved with a white paint finish.
5) Incorporating Reliable F1 SP Sprinkler in Model G/F1 recessed escutcheon. To be installed in accordance with installation bulletin 119.
7) To be installed in accordance with installation bulletin 111G. Approved with brass, chrome or coloured recessing cup.
8) The Reliable G has slotted holes in the recessing cup. (The Reliable G/F1, which is similar in appearance, has no slotted holes in the recessing cup.)
9) Not to be installed in ceilings with a positive pressure in the void above.
12) Incorporating Reliable G SP Sprinkler in Model G/F1 recessed escutcheon. To be installed in accordance with installation bulletin 120.

13) Approved with brass, chrome or white G/F1 recessed escutcheon.
14) The suitability of 'quick response' sprinklers for many risks is not yet proven.Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
16) Every five years, all sprinklers should be visually examined and representative samples removed and tested to the requirements of the authority and/or insurer.
20) Approved with plated brass, bronze, chrome, black-plated and coloured finish.
21) Incorporating reliable F1FR SP sprinkler in Model F1 recessed escutcheon.
22) To be installed in accordance with specific installation instructions.
23) Incorporating Reliable F1FR SP sprinkler in Model F2 recessed escutcheon.
24) Incorporating Reliable F1 SP (5mm bulb)" sprinkler in Model F1 recessed escutcheon.
25) Also approved with white painted cover and sensor and white cover with chrome sensor.
26) This sprinkler is approved with BeNi and Cu links.
27) Also approved with chrome and white paint finish.
28) Approved with brass.chrome, black plated and white painted finish.
29) This ESFR sprinkler has a k-factor of 322 $l.min^{-1}.bar^{-2}$ (US k-factor of 22.4 $gal.min^{-1}.psi^{-2}$)

The Viking Corporation

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Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
Viking H	15	SF"74°	104°"	096e/01
† Viking M Microfast (1), (2), (6), (15)	20	SU	57°68°79°141°(quick response)	096e/03
	20	SP	57°68°79°141°(quick response)	
† Viking M Microfast (1), (2),(6)	20	CU/P	57°68°79°141°(quick response)	
† Viking F-1 Microfast (3)	15	SR	57°68°79°93°141°(recessed and adjustable)	096e/04
Viking Model B-1 (4),(5)	15	SK	72° sprinkler with 72° ceiling plate	096e/05
† Viking M (6),(7)	10	SU	57°68°79°93°141°182°(5mm bulb)	096e/06
	10	SP	57°68°79°93°141°182°(5mm bulb)	
	15	CU/P	57°68°79°93°141°182°(5mm bulb)	
	15	SU	57°68°79°93°141°182°(5mm bulb)	
	15	SP	57°68°79°93°141°182°(5mm bulb)	
	15	WH	57°68°79°93°141°182°(5mm bulb)	
	20	CU/P	57°68°79°93°141°182°(5mm bulb)	
	20	SU	57°68°79°93°141°182°(5mm bulb)	
	20	SP	57°68°79°93°141°182°(5mm bulb)	
† Viking M (8)	15	SDP	57°68°79°93°(adjustable recessed) (5mm bulb)	
† Viking M (9)	15	SDP	57°68°79°93°141°(adjustable standard) (5mm bulb)	
† Viking M (10)	15	SDP	57°68°79°93°141°(plain barrel) (5mm bulb)	
Viking S-1ESFR(13)	20	SP	74º	096e/07
Viking Horizon Model H(1) (11),(12)	15	SF	74º (quick response)	096e/08
† Viking M/E-1 (3), (14)	15	SR	57º, 68º, 79º, 93º (5mm bulb)	096e/06
	20	SR	57º, 68º, 79º, 93º (5mm bulb)	

Notes:
1) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
2) Approved with plain and chrome finishes.
3) Approved with brass, chrome or coloured recessing cup.
4) Approved with chrome, bright brass and painted finish coverplates.
5) Not to be installed in ceilings with a positive pressure in the void above.
6) Approved with chrome, polished brass and coloured finishes.
7) The "57°, 68°, 79° and 93° heads are approved with wax finishes.
8) Approved with chrome and white finishes.
9) Approved with chrome finish.
10) Approved with chrome and brass finishes.
11) Every five years, all sprinklers should be visually examined and representative samples removed and tested to the requirements of the authority and/or insurer
12) Approved with polished chrome and white polyester finishes.
13) This ESFR sprinkler has a k-factor of 200 $l.min^{-1}.bar^{-/2}$ (US k-factor of 14 $gal.min^{-1}.psi^{/2}$
14) Approved with recessed and adjustable escutcheon.

15) 141° head only approved when fitted with Job bulbs.

Tyco Fire & Building Products

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Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
†TY3251 (1),(8)	15	SP	57°, 68°, 79°, 93°, 141°, 182°, 260° (5mm bulb)	094a/05
†TY3151 (1),(8)	15	SU	57°, 68°, 79°, 93°, 141°, 182°, 260° (5mm bulb)	
†TY3651 (1),(8)	15	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
†TY3451 (1),(8)	15	WU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
†TY3351 (1)	15	WH	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
†TY4251 (1),(8)	20	SP	57°, 68°, 79°, 93°, 141°, 182°, 260° (5mm bulb)	
†TY4151 (1),(8)	20	SU	57°, 68°, 79°, 93°, 141°, 182°, 260° (5mm bulb)	
†TY4651 (1),(8)	20	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
†TY3631 (1),(6),(8)	15	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	094a/06
†TY3131 (1),(6),(8)	15	SU	57°, 68°, 79°, 93°, 141° (quick response)	
†TY3231 (1),(6),(8)	15	SP	57°, 68°, 79°, 93°, 141° (quick response)	
†TY3431 (1),(6),(8)	15	WU/P	57°, 68°, 79°, 93°, 141° (quick response)	
†TY3331 (1)	15	WH	57°, 68°, 79°, 93°, 141°	
†TY4631 (1),(6),(8)	20	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
†TY4131 (1),(6),(8)	20	SU	57°, 68°, 79°, 93°, 141° (quick response)	
†TY4231 (1),(6),(8)	20	SP	57°, 68°, 79°, 93°, 141° (quick response)	
†TFP ESFR-1(2)	20	SP	74°, 101°	094b/01
TY3221 (Nickel Link) (6),(7)	15	SP	74° (quick response)	094a/03
TY3121 (Nickel Link) (6),(7)	15	SU	74° (quick response)	
TY3111 (1)	15	SU	74°, 100°, 138°	
TY3211 (1)	15	SP	74°, 100°, 138°	
TY3311 (1)	15	WH	74°, 100°, 138°	
TY3211 (3),(4),(9)	15	SR	74°, 100°	
TY4111 (1)	15	SU	74°, 100°, 138°	
TY4211 (1)	15	WH	74°, 100°, 138°	
TY4211 (3),(4),(9)	15	SR	74°, 100°	
TY4811 (1)	20 (1/2" PT)	SU	74°, 100°, 138°	
TY4911 (1)	20 (1/2" PT)	SP	74°, 100°, 138°	
TY3551(10)	15	CCP	(adjustable) 68° sprinkler with 57° ceiling plate (5mm bulb)	094a/09
	15	CPP	(adjustable) 93° sprinkler with 74° ceiling plate (5mm bulb)	
TY3531(10)	15	CCP	(adjustable) 68° sprinkler with 57° ceiling plate (3mm bulb)	094a/10
	15	CCP	(adjustable) 93° sprinkler with 74° ceiling plate (5mm bulb)	
TY3155 (1)(8)	15	DSU	57°C, 68°C, 79°C, 93°C, 141°C	094a/11
TY3255 (1)(8)	15	DSP	57°C, 68°C, 79°C, 93°C, 141°C	
TY3355 (1)(8)	15	DWH	57°C, 68°C, 79°C, 93°C, 141°C	
†G1036	15	SU	260°C	094a/01
†G1040	15	SP	260°C	
ESFR-17	20	SP	74°C, 101°C	094b/02
ESFR-25	20	SP	74°C, 101°C	094b/03

Notes:
1) Also approved with chromium finish
2) This ESFR sprinkler has a k-factor of 200 $l.min^{-1}.bar^{-/2}$ (US k-factor of 14 $gal.min^{-1}.psi^{-/2}$
3) Not to be installed in ceilings with a positive pressure in the void above.
4) Approved with brass, c hrome, or coloured recessing cup.
6) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
7) Every five years, all sprinklers should be visually examined, and representative samples removed and tested to the requirements of the authority and/or insurer.
8) Also approved with polyester finish
9) To be installed with specific installation instructions.
10) Certificated with Chrome, Brass and painted coverplates.

11) The ESFR-17 sprinkler has a k-factor of 241.9 $l.min^{-1}.bar^{-/2}$ (US k-factor of 16.8 $gal.min^{-1}.psi^{-/2.}$
12) The ESFR-25 sprinkler has a k-factor of 362.9 $l.min^{-1}.bar^{-/2}$ (US k-factor of 25.2 $gal.min^{-1}.psi^{-/2}$.

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Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
† TY2208 (1)	10	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	007k/03
† TY2108 (1)	10	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY3251 (1)	15	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY3151 (1)	15	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY3651 (1)	15	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY3251 (1),(5)	15	SR	57°,68°,79°,93° (5mm bulb)	
† TY3451 (1)	15	WU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY3351 (7)	15	WH	57°,68°,79°,93°,141°,182° (5mm bulb)	
† TY4251 (1)	20	SP	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY4151 (1)	20	SU	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY4651 (1)	20	CU/P	57°, 68°, 79°, 93°, 141°, 182° (5mm bulb)	
† TY4251 (1),(5)	20	SR	57°,68°,79°,93° (5mm bulb)	
† TY2209 (1),(3)	10	SP	57°,68°,79°,93°,141° (quick response)	007k/04
† TY2109 (1),(3)	10	SU	57°,68°,79°,93°,141° (quick response)	
† TY3631 (1),(3)	15	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
† TY3131 (1),(3)	15	SU	57°, 68°, 79°, 93°, 141° (quick response)	
† TY3231 (1),(3)	15	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† TY3231 (1),(5)	15	SR	57°,68°,79°,93°	
† TY3431 (1),(3)	15	WU/P	57°, 68°, 79°, 93°, 141° (quick response)	
† TY3331 (7)	15	WH	57°,68°,79°,93°,141°	
† TY3331 (1),(5)	15	WHR	57°,68°,79°,93°	
† TY4631 (1),(3)	20	CU/P	57°, 68°, 79°, 93°, 141° (quick response)	
† TY4131 (1),(3)	20	SU	57°, 68°, 79°, 93°, 141° (quick response)	
† TY4231 (1),(3)	20	SP	57°, 68°, 79°, 93°, 141° (quick response)	
† TY4631 (1),(5)	20	SR	57°,68°,79°,93°	
TFP ESFR-1(2)	20	SP	74°, 101°	007l/01
ESFR-17	20	SP	74°, 101°	007l/02
ESFR-25	20	SP	74°, 101°	007l/03
Tyco EPEC	20	SP	57°,68°,79°,93°, 141°	007p/01

Notes:
1) Also approved with coloured and chromium finishes.
2) This ESFR sprinkler has a k-factor of 200 $l.min^{-1}.bar^{-1/2}$ (US k-factor of 14 $gal.min^{-1}.psi^{-1/2}$)
3) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
5) Approved with Model F700 recessed escutcheon
6) Approved with Job G5 and Geissler type 'E' bulbs
7) Also approved in chromium finish
8) The EPEC sprinkler has a k-factor of 112.8 $l.min^{-1}.bar^{-1/2}$. Also approved with coloured and chrome finishes.
9) The ESFR-25 sprinkler has a k-factor of 362.9 $l.min^{-1}.bar^{-1/2}$ (US k-factor of 25.2 $gal.min^{-1}.psi^{-1/2}$)

Viking S.A.

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Product Name	Nominal orifice size (mm)	Type	Temperature rating (°C)	LPCB Ref. No.
Viking M Microfast (4),(5),(8)	15	CU/P	57°68°(quick response)	167a/02
† Viking M Microfast (4),(5),(8)	15	SU	57°68°(quick response)	
	15	SP	57°68°(quick response)	
† Viking F-1 Microfast (6)	15	SR	57°68°(recessed and adjustable)	167a/03
†Viking M (2),(3)	10	SU	57°,68°,79°,93°,141°,182° (5mm bulb)	167a/04
	10	SP	57°,68°,79°,93°,141°,182° (5mm bulb)	
	15	CU/P	57°,68°,79°,93°,141°,182° (5mm bulb)	
	15	SU	57°,68°,79°,93°,141°,182° (5mm bulb)	
	15	SP	57°,68°,79°,93°,141°,182° (5mm bulb)	
	15	WH	57°,68°,79°,93°,141°,182° (5mm bulb)	
	20	CU/P	57°,68°,79°,93°,141°,182° (5mm bulb)	
	20	SU	57°,68°,79°,93°,141°,182° (5mm bulb)	
	20	SP	57°,68°,79°,93°,141°,182° (5mm bulb)	
†Viking M/E-1 (6),(7)	15	SR	57°,68°,79°,93°(5mm bulb)	
	20	SR	57°,68°,79°,93°(5mm bulb)	

Notes;
2) Approved with plain, chrome, polished brass and coloured finish.
3) The "57°,68°,79° and 93° heads are approved with wax finishes.
4) The suitability of 'quick response' sprinklers for many risks is not yet proven. Use is therefore limited to where the purchaser, authority having jurisdiction and/or insurers consent to its use. Quick response sprinklers must be handled with care due to the fragile nature of the operating element, with packaging and instructions being marked accordingly.
5) Approved with plain and chrome finishes.
6) Approved with brass, chrome or coloured recessing cup.
7) Approved with recessed and adjustable escutcheon.
8) Approved with chrome, polished brass and coloured finishes

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Sprinkler Heads included in this Section include a means of electronic operation in addition to the normal glass bulb mode.

Approval Conditions

1. LPCB approved detectors compatible with the control and indicating equipment shall be used;
2. Suitable electrical detection control and indicating equipment compatible with the equipment below shall be used. The control and indicating equipment shall be LPCB Approved/Certificated;
3. Connecting cables shall comply with BS 6387:1994 (Specification for performance requirements for cables required to maintain circuit integrity under fire conditions), classification C,W,Z or equivalent;
4. The equipment must be installed, operated and maintained as prescribed in the manufacturer's Installation, Operating and Maintenance Manual;
5. To guard against inadvertent operation it is recommended that electrically operated sprinklers be used in conjunction with coincidence detection;
6. Where 'Metron' actuators are employed the maximum allowable operating temperature shall not be exceeded;
7. Where 'Metron' actuators are used, these shall also be LPCB approved; and
8. The 'Guidance' in the Part 5 Section 22 'Metron' Actuators, shall also be taken into account.

G.W. Sprinkler A/S

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Product Name	Nominal orifice size (mm)	Type	Temperature ratings (°C)	LPCB Ref. No.
GW-S-EL(1),(2),(3)	10	SP	57°, 68°, 79° (5mm bulb)	084h/01
	10	SU	57°, 68°, 79° (5mm bulb)	
GW-S-EL(1),(2),(3),(4)	10	SP	57°, 68°, 79° (5mm bulb)	
	10	SU	57°, 68°, 79° (5mm bulb)	
GW-S-EL(1),(2),(3)	15	CU/P	57°, 68°, 79° (5mm bulb)	
	15	SP	57°, 68°, 79° (5mm bulb)	
	15	SU	57°, 68°, 79° (5mm bulb)	
GW-S-QR-EL(1),(2),(3)	10	SP	57°, 68°, 79° (quick response)	084h/02
	10	SU	57°, 68°, 79° (quick response)	
GW-S-QR-EL(1),(2),(3),(4)	10	SP	57°, 68°, 79° (quick response)	
	10	SU	57°, 68°, 79° (quick response)	
GW-S-QR EL(1),(2),(3)	15	SP	57°, 68°, 79° (quick response)	
	15	SU	57°, 68°, 79° (quick response)	
	15	CU/P	57°, 68°, 79° (quick response)	

Notes:
1) Also approved with chrome and painted finishes.
2) To be installed, operated and maintained in accordance with the GW Sprinkler A/S Installation, Operating and Maintenance Manual.
3) Sprinklers marked EL incorporate a 'Metron' actuator.
4) This sprinkler is fitted with a pintle to denote that it has a 15mm nominal thread size.

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Dual sensing sprinkler heads have been evaluated in relation to their general performance capability but not in relation to their suitability for specific applications.

LPCB strongly recommends that:

1. The manufacturers installation and maintenance instructions shall be followed.
2. Dual sensing sprinkler heads are only suitable for use on fully hydraulically calculated systems.

Project Fire Products Limited

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Certificate No: 060b

Product Name	Nominal orifice size (mm)	Type	Temperature Rating (°C)	LPCB Ref. No.
'Gemini'	15 (1, 2)	SP	68 (1)	060b/01

Notes:
1) Sprinkler assembly only approved when fitted with Viking Model M “Microfast” 15mm SP Sprinkler head as per section 11.1 .
2) The K factor of the ‘Gemini’ dual sensing sprinkler head is 58.6 $l.min^{-1}.bar^{-1/2}$.
3) Dual sensing sprinkler heads are only suitable for use on fully hydraulically calculated systems.

This section lists products certificated against applicable parts of one of the following standards:

- LPS 1039 - *Requirements & Testing Methods for automatic sprinklers*
- EN 12259-1 - *Fixed firefighting systems. Components for sprinkler and water spray systems. Sprinklers*

Notes:
These bulbs may be used in sprinkler heads listed in Section 11.

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Product Name	Bulb size (mm)	Temperature rating (°C)	LPCB Ref. No.
941(1)	3	57, 68, 79, 93	291a/01
937	5	57, 68, 79, 93, 141, 182	291a/02
817	8	57, 68, 79, 93, 141	291a/03

Note:
1) Suitable for use in quick response sprinklers

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Certificate No: 310a

Product Name	Bulb size (mm)	Temperature rating (°C)	LPCB Ref. No.
E	5	57, 68, 79, 93, 141, 182	310a/01

Job GmbH

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Certificate No: 351a

Product Name	Bulb size (mm)	Temperature rating (°C)	LPCB Ref. No.
F2.5 Quick Response(1)	2.5	68,93	351a/01
F3 Quick Response(1)	3	57,68,79,93,141	351a/02
F3-SP 'superior' Quick Response(1)	3	57,68,79,93,141	351a/04
G5	5	57,68,79,93,141,182	351a/03

Note:
1) Suitable for use in quick response sprinklers

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Certificate No: 428a

Product Name	Bulb size (mm)	Temperature rating (°C)	LPCB Ref. No.
N5	5	57, 68, 79, 93, 141, 182	428a/01

This section lists products certificated to the following:

- LPS 1254 - *Requirements for suction tanks for automatic pumps*.

Notes:
Approval Conditions are set out below and take precedence over any material contained in other documentation for the purposes of LPCB recognition.

The current standard LPS 1254 will shortly be replaced by LPS 1276.

1. The LPC *Rules for Automatic Sprinkler Installations* identifies the following types of pump suction tanks:

Type A Not dependent on inflow, fed from a potable water supply, and suitable for sprinkler service without emptying, cleaning, maintenance or repair for a period of not less than 15 years.
Type B Not dependent on inflow.
Type C Dependent on inflow.
Type D Dependent on inflow, fed from a potable water supply, and suitable for sprinkler service without emptying, cleaning, maintenance or repair for a period of not less than 15 years.

The type of tank approved or certificated is indicated by capital the letter A. B, C or D at the end of the LPCB Reference number in the product listing.

2. Each single-supply or multi-level take-off tank supplied under this approval scheme must not exceed a maximum capacity of 1300m^3. Duplicate sub-divided tanks may have a total capacity not exceeding 2600m^3, provided the dividing wall is structurally capable of supporting either full compartment whilst the other is empty, and the maximum capacity of each compartment does not exceed 1300m^3.

3. Continuation of approval is conditional upon a current Regulations Advisory Scheme, WRAS (formerly WrC) Certificate being held by the manufacturer, specific to each tank listed.

4.[1,2] Galvanised steel tanks Type A and D shall have the tank shell protected by:

(a) a coating weight of at least 610g/m^2 each side, with such tank entries marked 'g', or
(b) an equivalent corrosion protection system which has been specifically approved and Listed by the LPCB, with such tank entries marked 'e'.

5.[1] Galvanised steel tanks Types B and C shall have the tank shell protected by a coating weight of at least 300g/m^2 each side, or an equivalent corrosion protection system, Approved and Listed by the LPCB.

6. The purchaser shall specify the required tank designation A, B, C or D in accordance with the LPC *Rules for Automatic Sprinkler Installations,* together with the tank reference number.

7. The tank must bear a plate stating:

(i) The name and address of the manufacturer.
(ii) The date of installation.
(iii) The LPCB Reference Number, including the type suffix (A,B,C or D) which has been specified by the purchaser and agreed by the manufacturer.
(iv) The maximum capacity in cubic metres. Multi-supply tanks must indicate the capacity for the automatic sprinkler system separately.

Tanks which do not bear such a plate are not approved.

8. Specifiers of LPCB approved sprinkler suction tanks are advised to ensure that where a vortex inhibitor is used in accordance with the LPC Sprinkler Rules, that the vortex inhibitor used is listed in Part 5 Section 14 of the Red Book as LPCB approved.

Note 1. Corrosion protection systems specified should be regarded as minimum levels and additional protection may be warranted in special circumstances to achieve a design life of at least 15 years (Types A & D) or 6 years (Types B & C).

Note 2. Where Type A or D tank shell exteriors are not protected by 610g/m^2 or equivalent, appropriate inspection, service and maintenance shall be specified. Exterior shell protection of 300g/m^2 galvanising is set as the minimum acceptable level of exterior protection, together with specified inspection service and maintenance.

Note 3. Immersion heaters used to prevent the ball valve and water in the vicinity from freezing shall be dual element type.

LPCB are currently developing a new standard, LPS1276 with new requirements and in line with BS EN12845.

A.C. Plastic Industries Limited

Armstrong Road, Daneshill East, Basingstoke RG24 8NU UK
Tel: +44 (0)1256 329334 • Fax: +44 (0)1256 817862

Approved Products		**LPCB Ref. No.**
Suction Tank For Automatic Pumps	Aquastow rectangular sectional GRP tank. Maximum height 3.5m *Maximum capacity 1300m^3*	065a/01A
Suction Tank For Automatic Pumps	Aquastow rectangular sectional GRP tank. Maximum height 3.5m *Maximum capacity 1300m3*	065a/01B
Suction Tank For Automatic Pumps	Aquastow rectangular sectional GRP tank. Maximum height 3.5m *Maximum capacity 1300m3*	065a/01C
Suction Tank For Automatic Pumps	Aquastow rectangular sectional GRP tank. Maximum height 3.5m *Maximum capacity 1300m3*	065a/01D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Balmoral Tanks

Balmoral Park, Loirston, Aberdeen AB12 3GY UK
Tel: +44 (0)1224 859100 • Fax: +44 (0)1224 859123
E-mail: tanks@balmoral.co.uk • Website: www.balmoral-group.com

Certificate No: 445a to LPS 1254: Issue 1

Certificated Products		**LPCB Ref. No.**
Suction Tank For Automatic Pumps	M100 rectangular, sectional, hot press moulded GRP panel tank. Maximum height 3m. *Maximum capacity 192m^3*	445a/01A
Suction Tank For Automatic Pumps	M100 rectangular, sectional, hot press moulded GRP panel tank. Maximum height 3m. *Maximum capacity 192m^3*	445a/01B
Suction Tank For Automatic Pumps	M100 rectangular, sectional, hot press moulded GRP panel tank. Maximum height 3m. *Maximum capacity 192m^3*	445a/01C
Suction Tank For Automatic Pumps	M100 rectangular, sectional, hot press moulded GRP panel tank. Maximum height 3m. *Maximum capacity 192m^3*	445a/01D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Braithwaite Engineers Limited

Neptune Works, Uskway, Newport, South Wales NP20 2UY UK
Tel: +44 (0)1633 262141 • Fax: +44 (0)1633 250631
E-mail: tanks@braithwaite.co.uk • Website: www.braithwaite.co.uk

Approved Products		**LPCB Ref. No.**
Suction Tank For Automatic Pumps	Braithwaite, galvanised, rectangular, sectional, non-standard dimensions. BS 1564 steel tank with galvanised steel roof. *Maximum capacity 1300m^3*	103a/01Ag
Suction Tank For Automatic Pumps	Braithwaite, galvanised, rectangular, sectional, non-standard dimensions. BS 1564 steel tank with galvanised steel roof. *Maximum capacity 1300m^3*	103a/01B
Suction Tank For Automatic Pumps	Braithwaite, galvanised, rectangular, sectional, non-standard dimensions. BS 1564 steel tank with galvanised steel roof. *Maximum capacity 1300m^3*	103a/01C
Suction Tank For Automatic Pumps	Braithwaite, galvanised, rectangular, sectional, non-standard dimensions. BS 1564 steel tank with galvanised steel roof. *Maximum capacity 1300m^3*	103a/10Dg
Suction Tank For Automatic Pumps	Braithwaite (Bridgestone) rectangular, sectional GRP tank. Maximum height 4m. *Maximum capacity 500m^3*	103a/02A
Suction Tank For Automatic Pumps	Braithwaite (Bridgestone) rectangular, sectional GRP tank. Maximum height 4m. *Maximum capacity 500m^3*	103a/02B
Suction Tank For Automatic Pumps	Braithwaite (Bridgestone) rectangular, sectional GRP tank. Maximum height 4m. *Maximum capacity 500m^3*	103a/02C
Suction Tank For Automatic Pumps	Braithwaite (Bridgestone) rectangular, sectional GRP tank. Maximum height 4m. *Maximum capacity 500m^3*	103a/02D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Devi Polymers Private Ltd

NP 23 & 24, Developed Plot, Ekkattuthangal, Chennai - 600 097, India
Tel: +91 44 2225 0349 • Fax: +91 44 2225 0349

Certificate No: 753a to LPS 1254: Issue 1.1

Certificated Products		**LPCB Ref. No.**
Suction Tank for Automatic Pumps	FLOSTO GRP hot press moulded sectional rectangular water storage tank. Maximum capacity 1300m^3 , maximum height 3m.	753a/01A
Suction Tank for Automatic Pumps	FLOSTO GRP hot press moulded sectional rectangular water storage tank. Maximum capacity 1300m^3 , maximum height 3m.	753a/01B
Suction Tank for Automatic Pumps	FLOSTO GRP hot press moulded sectional rectangular water storage tank. Maximum capacity 1300m^3 , maximum height 3m.	753a/01C
Suction Tank for Automatic Pumps	FLOSTO GRP hot press moulded sectional rectangular water storage tank. Maximum capacity 1300m^3 , maximum height 3m.	753a/01D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Dewey Waters Limited

Cox's Green, Wrighton, Bristol BS40 5QS UK
Tel: +44 (0)1934 862601 • Fax: +44 (0)1934 862602
E-mail: sales@deweywaters.co.uk • Website: www.deweywaters.co.uk

Approved Products		LPCB Ref. No.
Suction Tank For Automatic Pumps	Rectangular, sectional, contact moulded GRP tank. Maximum height 3m. Approved for use where not exposed to sunlight. *Maximum capacity 75m^3*	135a/01A
Suction Tank For Automatic Pumps	Rectangular, sectional, contact moulded GRP tank. Maximum height 3m. Approved for use where not exposed to sunlight. *Maximum capacity 75m^3*	135a/01B
Suction Tank For Automatic Pumps	Rectangular, sectional, contact moulded GRP tank. Maximum height 3m. Approved for use where not exposed to sunlight. *Maximum capacity 75m^3*	135a/01C
Suction Tank For Automatic Pumps	Rectangular, sectional, contact moulded GRP tank. Maximum height 3m. Approved for use where not exposed to sunlight. *Maximum capacity 75m^3*	135a/01D
Suction Tank For Automatic Pumps	Rectangular, sectional (1200 module), contact moulded GRP tank. Maximum height 2.4m. *Maximum capacity 300m^3*	135a/02A
Suction Tank For Automatic Pumps	Rectangular, sectional (1200 module), contact moulded GRP tank. Maximum height 2.4m. *Maximum capacity 300m^3*	135a/02B
Suction Tank For Automatic Pumps	Rectangular, sectional (1200 module), contact moulded GRP tank. Maximum height 2.4m. *Maximum capacity 300m^3*	135a/02C
Suction Tank For Automatic Pumps	Rectangular, sectional (1200 module), contact moulded GRP tank. Maximum height 2.4m. *Maximum capacity 300m^3*	135a/02D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Franklin Hodge Industries

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Tel: +44 (0)1432 269605 • Fax: +44 (0)1432 277454
E-mail: dolphinsales@denco.co.uk • Website: www.franklinhodge.com

Approved Products		LPCB Ref. No.
Suction Tank For Automatic Pumps	Bolted, aluminium panel tank lined internally with butyl rubber or EPDM, with aluminium deck roof: Cylindrical *Maximum capacity 1300m^3*	037a/01A
Suction Tank For Automatic Pumps	Bolted, aluminium panel tank lined internally with butyl rubber or EPDM, with aluminium deck roof: Cylindrical *Maximum capacity 1300m^3*	037a/01B
Suction Tank For Automatic Pumps	Bolted, aluminium panel tank lined internally with butyl rubber or EPDM, with aluminium deck roof: Cylindrical *Maximum capacity 1300m^3*	037a/01C
Suction Tank For Automatic Pumps	Bolted, aluminium panel tank lined internally with butyl rubber or EPDM, with aluminium deck roof: Cylindrical *Maximum capacity 1300m^3*	037a/01D
Suction Tank For Automatic Pumps	Bolted, aluminium panel tank lined internally with butyl rubber or EPDM, with aluminium deck roof: Rectangular *Maximum capacity 1300m^3*	037a/02A
Suction Tank For Automatic Pumps	Bolted, aluminium panel tank lined internally with butyl rubber or EPDM, with aluminium deck roof: Rectangular *Maximum capacity 1300m^3*	037a/02B

Approved Products		LPCB Ref. No.
Suction Tank For Automatic Pumps	Bolted, aluminium panel tank lined internally with butyl rubber or EPDM, with aluminium deck roof: Rectangular *Maximum capacity 1300m^3*	037a/02C
Suction Tank For Automatic Pumps	Bolted, aluminium panel tank lined internally with butyl rubber or EPDM, with aluminium deck roof: Rectangular *Maximum capacity 1300m^3*	037a/02D
Suction Tank For Automatic Pumps	Bolted, galvanised steel panel tank lined internally with butyl rubber or EPDM. Cylindrical, with galvanised steel decking, externally coated with PVC *Maximum capacity 1300m^3*	037a/03Ae
Suction Tank For Automatic Pumps	Bolted, galvanised steel panel tank lined internally with butyl rubber or EPDM. Cylindrical, with galvanised steel decking, externally coated with PVC *Maximum capacity 1300m^3*	037a/03B
Suction Tank For Automatic Pumps	Bolted, galvanised steel panel tank lined internally with butyl rubber or EPDM. Cylindrical, with galvanised steel decking, externally coated with PVC *Maximum capacity 1300m^3*	037a/03C
Suction Tank For Automatic Pumps	Bolted, galvanised steel panel tank lined internally with butyl rubber or EPDM. Cylindrical, with galvanised steel decking, externally coated with PVC *Maximum capacity 1300m^3*	037a/03De
Suction Tank For Automatic Pumps	Bolted, galvanised steel panel tank lined internally with butyl rubber or EPDM. Rectangular, with aluminium deck roof. *Maximum capacity 1300m^3*	037a/04Ae
Suction Tank For Automatic Pumps	Bolted, galvanised steel panel tank lined internally with butyl rubber or EPDM. Rectangular, with aluminium deck roof. *Maximum capacity 1300m^3*	037a/04B
Suction Tank For Automatic Pumps	Bolted, galvanised steel panel tank lined internally with butyl rubber or EPDM. Rectangular, with aluminium deck roof. *Maximum capacity 1300m^3*	037a/04C
Suction Tank For Automatic Pumps	Bolted, galvanised steel panel tank lined internally with butyl rubber or EPDM. Rectangular, with aluminium deck roof. *Maximum capacity 1300m^3*	037a/04De
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank,with the walls internally coated with bitumen paint in accordance with BS 3416, sealed to a concrete base, with one of the following roofs: (i) galvanised steel decking, externally coated with PVC or; (ii) aluminium decking. *Maximum capacity 1300m^3*	037a/05Ag
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank,with the walls internally coated with bitumen paint in accordance with BS 3416, sealed to a concrete base, with one of the following roofs: (i) galvanised steel decking, externally coated with PVC or; (ii) aluminium decking. *Maximum capacity 1300m^3*	037a/05B
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank,with the walls internally coated with bitumen paint in accordance with BS 3416, sealed to a concrete base, with one of the following roofs: (i) galvanised steel decking, externally coated with PVC or; (ii) aluminium decking. *Maximum capacity 1300m^3*	037a/05C
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank,with the walls internally coated with bitumen paint in accordance with BS 3416, sealed to a concrete base, with one of the following roofs: (i) galvanised steel decking, externally coated with PVC or; (ii) aluminium decking. *Maximum capacity 1300m^3*	037a/05Dg

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Galglass Limited

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E-mail: sales@galglass.co.uk • Website: www.galglass.com

Certificated Products		LPCB Ref. No.
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank lined internally with bitumen paint in accordance with BS 3416, with a galvanised steel decking roof externally coated with PVC.	108a/01Ag

Certificated Products		LPCB Ref. No.
	Maximum capacity 1300m³	
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank lined internally with bitumen paint in accordance with BS 3416, with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/01B
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank lined internally with bitumen paint in accordance with BS 3416, with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/01C
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank lined internally with bitumen paint in accordance with BS 3416, with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/01Dg
Suction Tank For Automatic Pumps	Bolted, cylindrical, vitreous enamelled steel plate tank, with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/02A
Suction Tank For Automatic Pumps	Bolted, cylindrical, vitreous enamelled steel plate tank, with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/02B
Suction Tank For Automatic Pumps	Bolted, cylindrical, vitreous enamelled steel plate tank, with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/02C
Suction Tank For Automatic Pumps	Bolted, cylindrical, vitreous enamelled steel plate tank, with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/02D
Suction Tank for Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank lined with a butyl rubber liner and fitted with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/03Ae
Suction Tank for Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank lined with a butyl rubber liner and fitted with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/03De
Suction Tank for Automatic Pumps	Curved Panel Rectangular Tank constructed from bolted galvanised steel plate and lined with a butyl rubber liner and fitted with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/04Ae
Suction Tank for Automatic Pumps	Curved Panel Rectangular Tank constructed from bolted galvanised steel plate and lined with a butyl rubber liner and fitted with a galvanised steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	108a/04De

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m² each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Irish Industrial Tanks Limited

Unit C1, Ballymount Drive Industrial Estate, Ballymount Road, Walkinstown, Dublin 12, Ireland
Tel: +353 1 450 7893 • Fax: +353 1 450 6404
E-mail: irishind@connect.ie

Approved Products		LPCB Ref. No.
Suction Tank For Automatic Pumps	Bolted, cylindrical, glass-lined, mild steel storage tank with a galvanized steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	112a/01A
Suction Tank For Automatic Pumps	Bolted, cylindrical, glass-lined, mild steel storage tank with a galvanized steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	112a/01B
Suction Tank For Automatic Pumps	Bolted, cylindrical, glass-lined, mild steel storage tank with a galvanized steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	112a/01C
Suction Tank For Automatic Pumps	Bolted, cylindrical, glass-lined, mild steel storage tank with a galvanized steel decking roof externally coated with PVC. *Maximum capacity 1300m³*	112a/01D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Mitsubishi Plastics Inc

Hiratsuka Factory, 2-1-35 Nishishindo, Hiratsuka City, Kanagawa Prefecture 254-8614, Japan
Tel: +81 4 6322 8065 • Fax: +81 4 6355 9450
E-mail: mpi1377@cc.mpi.co.jp

Approved Products		**LPCB Ref. No.**
Suction Tank For Automatic Pumps	Mitsubishi Hishi hot press moulded rectangular sectional GRP G type panel tanks. Max. height 4m *Maximum capacity 210m^3*	447a/01A
Suction Tank For Automatic Pumps	Mitsubishi Hishi hot press moulded rectangular sectional GRP G type panel tanks. Max. height 4m *Maximum capacity 210m^3*	447a/01B
Suction Tank For Automatic Pumps	Mitsubishi Hishi hot press moulded rectangular sectional GRP G type panel tanks. Max. height 4m *Maximum capacity 210m^3*	447a/01C
Suction Tank For Automatic Pumps	Mitsubishi Hishi hot press moulded rectangular sectional GRP G type panel tanks. Max. height 4m *Maximum capacity 210m^3*	447a/01D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Sekisui Aqua Systems Company Limited

77 Kami-Onogo, Iwata City, Shizuoka Prefecture 438, Japan
Tel: +81 5 3835 0101 • Fax: +81 5 3836 2229

Approved Products		**LPCB Ref. No.**
Suction Tank For Automatic Pumps	Sekisui rectangular, sectional, hot press moulded panel, GRP tank. Maximum height 4m. *Maximum capacity 1000m^3*	242b/01A
Suction Tank For Automatic Pumps	Sekisui rectangular, sectional, hot press moulded panel, GRP tank. Maximum height 4m. *Maximum capacity 1000m^3*	242b/01B
Suction Tank For Automatic Pumps	Sekisui rectangular, sectional, hot press moulded panel, GRP tank. Maximum height 4m. *Maximum capacity 1000m^3*	242b/01C
Suction Tank For Automatic Pumps	Sekisui rectangular, sectional, hot press moulded panel, GRP tank. Maximum height 4m. *Maximum capacity 1000m^3*	242b/01D

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Stokota N.V.

Dijkstraat 23, B-9160 Lokeren (Industrie Park E17/1), Belgium
Tel: +32 9 349 1718 • Fax: +32 9 349 1725
E-mail: info@stokota.be • Website: www.stokota.be

Approved Products		**LPCB Ref. No.**
Suction Tank For Automatic Pumps	Stokota Model GK cylindrical, bolted, galvanized steel plate tank internally painted with a double coating of bitumen solution in accordance with BS3416, with a galvanized steel decking roof externally coated with PVC. *Maximum capacity 1300m^3*	575a/01Ag
Suction Tank For Automatic Pumps	Stokota Model GK cylindrical, bolted, galvanized steel plate tank internally painted with a double coating of bitumen solution in accordance with BS3416, with a galvanized steel decking roof externally coated with PVC. *Maximum capacity 1300m^3*	575a/01B
Suction Tank For Automatic Pumps	Stokota Model GK cylindrical, bolted, galvanized steel plate tank internally painted with a double coating of bitumen solution in accordance with BS3416, with a galvanized steel decking roof externally coated with PVC. *Maximum capacity 1300m^3*	575a/01C
Suction Tank For Automatic Pumps	Stokota Model GK cylindrical, bolted, galvanized steel plate tank internally painted with a double coating of bitumen solution in accordance with BS3416, with a galvanized steel decking roof externally coated with PVC. *Maximum capacity 1300m^3*	575a/01Dg

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

Vulcan Tanks Limited

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Tel: +44 (0)1773 835321 • Fax: +44 (0)1773 836578
E-mail: info@cstvulcan.com • Website: www.cstvulcan.com

Certificated Products		**LPCB Ref. No.**
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank internally coated with a bitumen solution in accordance with BS 3416, with a galvanised steel decking roof externally coated with PVC. (1) *Maximum capacity 1300m3^3*	044a/01Ag
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank internally coated with a bitumen solution in accordance with BS 3416, with a galvanised steel decking roof externally coated with PVC. (1) *Maximum capacity 1300m^3*	044a/01B
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank internally coated with a bitumen solution in accordance with BS 3416, with a galvanised steel decking roof externally coated with PVC. (1) *Maximum capacity 1300m^3*	044a/01C
Suction Tank For Automatic Pumps	Bolted, cylindrical, galvanised steel plate tank internally coated with a bitumen solution in accordance with BS 3416, with a galvanised steel decking roof externally coated with PVC. (1) *Maximum capacity 1300m^3*	044a/01Dg
Suction Tank For Automatic Pumps	Bolted, cylindrical, vitreous enamelled steel plate tank, with a galvanised steel decking roof externally coated with PVC. (2) *Maximum capacity 825m^3*	044a/02A
Suction Tank For Automatic Pumps	Bolted, cylindrical, vitreous enamelled steel plate tank, with a galvanised steel decking roof externally coated with PVC. (2) *Maximum capacity 825m^3*	044a/02B
Suction Tank For Automatic Pumps	Bolted, cylindrical, vitreous enamelled steel plate tank, with a galvanised steel decking roof externally coated with PVC. (2) *Maximum capacity 825m^3*	044a/02C
Suction Tank For Automatic Pumps	Bolted, cylindrical, vitreous enamelled steel plate tank, with a galvanised steel decking roof externally coated with PVC. (2) *Maximum capacity 825m^3*	044a/02D

Certificated Products		**LPCB Ref. No.**
Suction Tank For Automatic Pumps	Bolted, rectangular, up to 3 m high, galvanised steel panel tank, with the walls internally coated with bitumen paint in accordance with BS 3416, sealed to a concrete base, with a galvanised steel decking roof externally coated with PVC. (3) *Maximum capacity 1300m^3*	044a/03Ag
Suction Tank For Automatic Pumps	Bolted, rectangular, up to 3 m high, galvanised steel panel tank, with the walls internally coated with bitumen paint in accordance with BS 3416, sealed to a concrete base, with a galvanised steel decking roof externally coated with PVC. (3) *Maximum capacity 1300m^3*	044a/03B
Suction Tank For Automatic Pumps	Bolted, rectangular, up to 3 m high, galvanised steel panel tank, with the walls internally coated with bitumen paint in accordance with BS 3416, sealed to a concrete base, with a galvanised steel decking roof externally coated with PVC. (3) *Maximum capacity 1300m^3*	044a/03C
Suction Tank For Automatic Pumps	Bolted, rectangular, up to 3 m high, galvanised steel panel tank, with the walls internally coated with bitumen paint in accordance with BS 3416, sealed to a concrete base, with a galvanised steel decking roof externally coated with PVC. (3) *Maximum capacity 1300m^3*	044a/03Dg
Suction Tank for Automatic pumps	Bolted, cylindrical, galvanized steel plate tank lined with a butyl rubber liner and fitted with a galvanized steel decking roof externally coated with PVC. *Maximum capacity 1300m^3*	044a/04Ae
Suction tank for automatic pump	Bolted, cylindrical, galvanized steel plate tank lined with a butyl rubber liner and fitted with a galvanized steel decking roof externally coated with PVC. *Maximum capacity 1300m^3*	044a/04De

All tank approvals are strictly subject to tanks being supplied in accordance with LPCB Approved Conditions set out in the 'Introduction'. For galvanized steel tanks, Types A and D, the designation 'g' refers to tanks protected by 610g/m^2 each side and the designation 'e' refers to equivalent corrosion protection as set out in Item 5 of the Introduction.

1) The LPCB reference number for this tank design was formerly T14
2) The LPCB reference number for this tank design was formerly T20
3) The LPCB referenc e number for this tank design was formerly T30

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
The following inhibitors have been approved for use under the LPC Rules for Automatic Sprinkler Installations. The products shall be installed and maintained in accordance with the manufacturers instructions.

Specifiers of LPCB approved sprinkler suction tanks are advised to ensure that where a vortex inhibitor is used in accordance with the LPC Sprinkler Rules, that the vortex inhibitor used is listed below as LPCB approved.

The new Edition of the LPC Sprinkler Rules, incorporating EN12845 *Fixed Firefighting Systems. Automatic Sprinkler Systems. Design, Installation and Maintenance*, includes requirements whereby the minimum dimension from the suction pipe to the minimum low water level can be reduced if a suitable vortex inhibitor is installed. Where the listed vortex inhibitors meet this requirement this is shown by a note in the listing.

Franklin Hodge Industries

Jubilee Building, Faraday Road, Westfields Trading Estate, Hereford HR4 9NS UK
Tel: +44 (0)1432 269605 • Fax: +44 (0)1432 277454
E-mail: dolphinsales@denco.co.uk • Website: www.franklinhodge.com

Certificated Products		LPCB Ref. No.
F.H.I. Anti - Vortex Plate	Suitable for the following nominal bore suction pipes (mm): 100, 150, 200, 250, 300, 350, 400 and 450 *These Vortex Inhibitors have been assessed as being in compliance with the requirements of EN12845, Fixed firefighting systems - Automatic sprinkler systems - Design, installation and maintenance.*	037b/01

Galglass Limited

321 Hough Lane, Wombwell, Barnsley, South Yorkshire S73 0LR UK
Tel: +44 (0)1226 340370 • Fax: +44 (0)1226 756170
E-mail: sales@galglass.co.uk • Website: www.galglass.com

Certificated Products		LPCB Ref. No.
Galglass Vortex Inhibitors	Inhibitors suitable for the following nominal bore suction pipes(mm):- 80, 100, 150, 200, 250, 300, 350, 400 and 450 mm. *These Vortex Inhibitors have been assessed as being in compliance with the requirements of EN12845, Fixed firefighting systems - Automatic sprinkler systems - Design, installation and maintenance.*	108b/01

Tyco Fire Products Manufacturing Limited

Stockport Trading Estate, Yew Street, Stockport SK4 2JW UK
Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729
E-mail: tycofireproducts.uk@tyco-bspd.com • Website: www.tycobuilding.com

Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Certificated Products		LPCB Ref. No.
Tyco Vortex Inhibitors	Inhibitors suitable for the following nominal bore suction pipes (mm):	007h/01

Certificated Products		LPCB Ref. No.
	65, 80, 100, 150, 200, 250, 300, 350 and 400.	

Vulcan Tanks Limited

Cotes Park Lane, Cotes Park Industrial Estate, Alfreton, Derbyshire DE55 4NJ UK
Tel: +44 (0)1773 835321 • Fax: +44 (0)1773 836578
E-mail: info@cstvulcan.com • Website: www.cstvulcan.com

Certificated Products		LPCB Ref. No.
Vulcan Tanks Vortex Inhibitors	Inhibitors suitable for the following nominal bore suction pipes (mm): 150, 200, 250 and 300.	044b/01

This section lists products certificated against one of the following standards:

- EN12259-5 - *Fixed firefighting systems. Components for sprinkler and water spray systems. Water flow detectors.*
- LPCB Schedule of requirements.

Notes:
The following water flow alarm switches have been approved for use in wet pipe sprinkler systems in accordance with the LPC Rules for Automatic Sprinkler Installations. The products shall be installed and maintained in accordance with the manufacturers instructions.

LPCB is a European Notified Body and all of the products in this section will need to be assessed against the new European Norm EN12259-5 *Fixed firefighting systems. Components for sprinkler and water spray systems. Water flow detectors* before they can be CE marked.

Potter Electric Signal Company

2081 Craig Road, St Louis, Missouri 63146, USA
Tel: +1 314 878 4321 • Fax: +1 314 878 7264
E-mail: info@pottersignal.com • Website: www.pottersignal.com

Product Name	Sizes	LPCB Ref. No.
Potter Type VSR-F	50mm, 65mm, 75mm, 100mm, 125mm, 150mm, 200mm (2-in, 2.5-in, 3-in, 4-in, 5-in, 6-in, 8-in, sizes)	125b/01

System Sensor

3825 Ohio Avenue, Saint Charles, Illinois 60174, USA
Tel: +1 630 377 6580 • Fax: +1 630 377 7245
Website: www.systemsensor.com

Product Name	Sizes (mm)	Max. working pressure (bar)	LPCB Ref. No.
Type WDF	50, 65, 75, 100, 125, 150, 200	15	118e/01
WFD20E	50mm	17.25	118e/02
WFD25E	65mm	17.25	118e/03
WFD30E	80mm	17.25	118e/04
WFD30-2E	80mm	17.25	118e/08
WFD40E	100mm	17.25	118e/05
WFD60E	150mm	17.25	118e/06
WFD80E	200mm	17.25	118e/07

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Flow switch testing devices for use under *LPC Rules for Automatic Sprinkler Installations* have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturers instructions.

Project Fire Products Limited

Pasturefields Lane Industrial Estate, Pasturefields Lane, Hixon, Staffordshire ST18 0PH UK
Tel: +44 (0)1889 271271 • Fax: +44 (0)1889 270974

Flow switch automatic tester system

Certificated Products		**LPCB Ref. No.**
ZONECHECK	Flow switch automatic tester system.	060a/01

Guidance and approval conditions.
Zonecheck shall be installed in accordance with Project Fire Products Limited 'Instruction Booklet', but subject to guidance below taking precedence.

1) The Zonecheck system circulates, but does not draw-off water from the sprinkler system and consequently does not test any zone or control valves.
2) System approval based on use with LPCB approved and listed flow switch.
3) Effective operation of the Zonecheck system should be monitored.
4) In the event of any servicing being warranted on this system, it shall be ensured that this does not impair effective sprinkler protection.
5) Provision to test flow switches in the normal way (LPC Sprinkler Rules) should also be incorporated.
6) It shall be ensured that the associated pipework is adequately vented and charged hydraulically.
7) The automatic means of operation and recording does not form part of this approval.

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Medium and high velocity sprayers for use under *LPC Rules for Automatic Sprinkler Installations* on oil and flammable liquid hazards have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturers instructions.

Angus Fire Armour Limited (Denmark)

Kastanievej, DK-5620, Glamsberg, Denmark
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

UK Sales Enquiries:
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

Approved Products	LPCB Ref. No.
Fyrhed High Velocity Waterspray System	084i/01
Thermospray Medium Velocity Waterspray System	084i/02

The Reliable Automatic Sprinkler Co. Inc

1470 Smith Grove Road, Liberty, South Carolina 29657, USA
Tel: +1 864 843 1734 • Fax: +1 864 843 1418
E-mail: jcevallos@reliablesprinkler.com • Website: www.reliablesprinkler.com

UK Sales Enquiries:
Tel: +44 0)1372 728899 • Fax: +44 (0)1372 724461

Approved Products	LPCB Ref. No.
Reliable Medium Velocity Water Spray System	034e/01

The Viking Corporation

210 N Industrial Park, Hastings, Michigan 49058, USA
Tel: +1 269 945 9501 • Fax: +1 269 945 9599
E-mail: techsvcs@vikingcorp.com • Website: www.vikingcorp.com

Sales Enquiries:
Tel: +352 583737 • Fax: +352 583736

Approved Products	LPCB Ref. No.
Viking Medium Velocity Water Spray System	096e/01
Viking High Velocity Water Spray System	096e/02

Tyco Fire and Integrated Solutions (the trading company for Tyco Fire and Integrated Solutions (UK), Limited and Tyco Fire and Integrated Solutions (Ireland) Limited)

Unit House, 2-8 Morfa Road, Swansea SA1 2HS UK
Tel: +44 (0)1792 465006 • Fax: +44 (0)1792 648535
E-mail: enquiries@atlasfire.co.uk

Approved Products	LPCB Ref. No.
Oilfyre System	012a/01
Titan Fyrejet System	012a/02
Titan Firespray System	012a/03

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

Tyco Park, Grimshaw Lane, Newton Heath, Manchester M40 2WL UK
Tel: +44 (0)161 205 2321 • Fax: +44 (0)161 455 4459
E-mail: wfs.manchester@tycoint.com • Website: www.tycofis.com

Approved Products	LPCB Ref. No.
Mulsifyre System	014a/01
Protectospray System	0141/02
Wormald High Velocity Water Spray System	014a/03
Wormald Medium Velocity Water Spray System	014a/04

Tyco Fire Products Manufacturing Limited

Stockport Trading Estate, Yew Street, Stockport SK4 2JW UK
Tel: +44 (0)161 429 3400 • Fax: +44 (0)161 477 6729
E-mail: tycofireproducts.uk@tyco-bspd.com • Website: www.tycobuilding.com

Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Approved Products	LPCB Ref. No.
Mulsifyre System	007i/01
Protectospray System	007i/02

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Water sprayers for use under *LPC Rules for Automatic Sprinkler Installations* on oil and flammable liquid hazards have been approved to a schedule of requirements developed by LPCB. The products shall be installed and maintained in accordance with the manufacturers instructions.

Angus Fire Armour Limited (Denmark)

Kastanievej, DK-5620, Glamsberg, Denmark
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

UK Sales Enquiries:
Tel: +44 (0)1844 214545 • Fax: +44 (0)1844 213511

Approved Products	**LPCB Ref. No.**
Angus R (1),(2),(3), 15mm long-throw horizontal open sprinkler	084j/01

1) Also approved with chromium finish.
2) To be installed in accordance with the supplier's installation instructions.
3) Application is limited to where purchaser, authority having jurisdiction and/or insurer consent to use.

This section lists products certificated to the following:

- LPS 1131 - *Pumps for Automatic Sprinkler Installation. Pump Sets - Requirements and testing methods.*

Notes:
Firms listed in this Section shall control and be responsible for the design, construction, testing and performance of all fire pump sets incorporating their LPCB approved fire pumps.

All fire pump sets incorporating LPCB approved fire pumps shall conform to the *LPC Rules for Automatic Sprinkler Installations*, or Rules specified in the contract, and shall be tested in accordance with the LPC Sprinkler Rules.

Note: Only LPCB approved fire pumps shall be used to comply with the *LPC Rules for automatic sprinkler installations.*

Pumps are approved for a maximum working pressure of 12 bar except where stated.

Armstrong Pumps Limited

1 Miles Street, Manchester M12 5BZ UK
Tel: +44 (0)161 223 2223 • Fax: +44 (0)161 274 2464

Product Name	Type	Suction inlet diameter/ discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated flow (L/min) (at NPSH req. 5.38)	Rated head (bar)(at NPSH req. 5.38m)	Closed valve head (bar)	LPCB Ref. No.
4030 FP 8x5x11½	Direct coupled end suction	200/125	292	2900	7450	7.5	10	197a/01
			241	2900	7000	3.8	6.8	
			292	2900)*	7450	7.5	10	
			292	1450)*	4800	1.6	2.3	
4030FP 6x4x10	Direct coupled end suction	150/100	259)*	2900	7680	5.3	8.6	197a/02
			205)*	2900	5280	3.6	4.8	
			259	2900)*	7680	5.3	8.6	
			259	1450)	3120	1.6	2.1	
4030 FP(1) 4x3x8½	Direct coupled end suction	100/80	224	2900	3360	3.4	6.3	197a/03
4030 FP 4x3x8½			175	2900	2460	1.9	3.9	
4030FP 3x2x6	Direct coupled end suction	80/50	157	2900	1300	1.2	2.9	197a/04
			113	2900	750	0.9	1.5	
4020 FP(1) 4x3x8½	Close coupled end suction	100/80	224	2900	3360	3.4	6.3	197a/05
			175	2900	2460	1.9	3.9	
4020 FP 8x5x11½	Close coupled end suction	200/125	292	2900	7450	7.5	10	197a/06
			241	2900	7000	3.8	6.8	
			292	2900)*	7450	7.5	10	
			292	1450)*	4800	1.6	2.3	
4020FP 6x4x10	Close coupled end suction	150/100	259)*	2900	7680	5.3	8.6	197a/07
			205)*	2900	5280	3.6	4.8	
			259	2900)*	7680	5.3	8.6	
			259	1450)*	3120	1.6	2.1	
4020FP 3x2x6	Close coupled end suction	80/50	157	2900	1300	1.2	2.9	197a/08
			113	2900	750	0.9	1.5	
40MF 8x6x13 LPC (2),(3) & (4)	Direct Coupled End Suction	200/150	295	2900	9050	8.1	11.1	197a/09
			279	2900	8850	7.2	9.8	
			330	2600	10430	6.8	10.7	
			273	2600	9850	4.2	7.5	

Product Name	Type	Suction inlet diameter/ discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated flow (L/min) (at NPSH req. 5.38)	Rated head (bar)(at NPSH req. 5.38m)	Closed valve head (bar)	LPCB Ref. No.
40MF 6x5x13 PLC(2),(3) & (4)	Direct Coupled End Suction	150/125	295	2900	7700	8.5	12.0	197a/10
			250	2900	7700	4.8	8.6	
			330	2600	8000	8.7	12.1	
			250	2600	7500	303	6.9	
40MF 5x4x11.5 LPC(2),(3) & (4)	Direct Coupled End Suction	125/100	292	2900	5750	7.9	10.9	197a/11
			241	2900	5100	4.5	7.4	
			292	2600	5850	5.4	8.8	
			241	2600	4825	303	5.9	

)*These pumps are approved with impeller diameters and, where applicable, speeds within the ranges shown, to provide flows and heads within those ranges.

Notes:
1) Maximum working pressure: 10 bar. The above pumps are fitted with 'closed head' relief valve Part No. UKDO 5493 - 145 Issue A.
2) This pump is fitted with 'closed head' relief valve Part No. UKDO5286-204.
3) Pump configurations which generate a closed valve head exceeding 10 bar are approved for use in accordance with TB13:1990:1 - High rise sprinkler systems.
4) Maximum working pressure: 12 bar.

Godwin Pumps Limited

Quenington, Cirencester, Gloucestershire GL7 5BX UK
Tel: +44 (0)1285 750271 • Fax: +44 (0)1285 750352
E-mail: sales@godwinpumps.co.uk • Website: www.godwinpumps.co.uk

Pumps

Product Name	Type	Suction inlet diameter / discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated Flow (L/min) (at NPSH req. = 5.38m)	Rated head (bar) (at NPSH req. = 5.38m)	Closed valve head (bar)	LPCB Ref. No.
Isoflow Model 100-80-160	Direct coupled end suction	100/80	174	2985	3150	0.7	4.1	224a/01
			140	2985	1800	0.9	2.7	
Isoflow Model 100-65-200	Direct coupled end suction	100/65	214	2985	2400	2.8	6.5	224a/02
			165	2985	2250	0.8	3.8	
Isoflow Model 80-50-200	Direct coupled end suction	80/50	214	2985	1580	1.3	6.1	224a/03
			165	2985	1160	1	3.5	
Isoflow Model 125-100-260	Direct coupled end suction	125/100	264	2985	5500	7.1	10.3	224a/04
			210	2985	5250	2.5	6.1	
Isoflow Model 50-32-200	Direct coupled end suction	50/32	214	2985	385	3.9	6.2	224a/05
			165	2985	275	2.3	3.7	
Isoflow Model 125-80-200	Direct coupled end suction	125/80	214	2990	4285	2.8	6.5	224a/06
			165	2990	3485	1	3.8	
	Close coupled end suction	125/80	214	2990	4285	2.8	6.5	224a/07
			165	2990	3485	1	3.8	
Isoflow Model 100-80-160	Close coupled end suction	100/80	174	2985	3150	0.7	4.1	224a/08
			140	2985	1800	0.9	2.7	
Isoflow Model 100-65-200	Close coupled end suction	100/65	214	2985	2400	2.8	6.5	224a/09

Product Name	Type	Suction inlet diameter / discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated Flow (L/min) (at NPSH req. = 5.38m)	Rated head (bar) (at NPSH req. = 5.38m)	Closed valve head (bar)	LPCB Ref. No.
			165	2985	2250	0.8	3.8	
Isoflow Model 80-50-200	Close coupled end suction	80/50	214	2985	1580	1.3	6.1	224a/10
			165	2985	1160	1	3.5	
Isoflow Model 50-32-200	Close coupled end suction	50/32	214	2985	385	3.9	6.2	224a/11
			165	2985	275	2.3	3.7	
Isoflow Model 125-100-260	Close coupled end suction	125/100	264	2985	5500	7.1	10.3	224a/17
			210	2985	5250	2.5	6.1	
Isoflow Model 150-125-320	Close coupled end suction	150/125	270	2980	7200	5.6	9.9	224a/12
			250	2980	6900	4	8	
Unibloc Isoflow 150-125-320	Close coupled end suction	150/125	270	2980	7200	5.6	9.9	224a/13
	Close coupled end suction	150/125	250	2980	6900	4	8	
Isoflow Model 100-65-260	Direct coupled end suction	100/65	264	2995	3250	5.3	10.3	224a/14
	Direct coupled end suction	100/65	205	2995	2500	2.6	6.4	
Isoflow Unibloc Model 100-65-260	Close coupled end suction	100/65	264	2995	3250	5.3	10.3	224a/15
	Close coupled end suction	100/65	205	2995	2500	2.6	6.4	
Isosplit Model HGTI-150-315	Split case	200/150	290	2975	10500	7.2	11.2	224a/16
	Split case	200/150	255	2975	10200	3.9	8.2	
Isoflow Unibloc Model 100-65-260	Close coupled end suction	125/100	264	2985	5500	7.1	10.3	224a/17
	Close coupled end suction	125/100	210	2985	5250	2.5	6.1	
Isoflow Model 100-65-320 (1, 2 & 3)	Direct Coupling	100/65	329	2900	2400	11.5	15.1	224a/18
			255		2200	4.0	9.4	
Isoflow Model 125-80-320 (1, 2, 3)	Direct Coupled End suction	125/80	305	2960	4500	6.8	12.2	224a/19
			255	2960	4200	2.9	8.7	

These pumps are approved with impeller diameters within the ranges shown, to provide flows and heads within those ranges.
The above pumps are fitted with 'closed head' relief valve Part No. 44-0474-9912. The above pumps are approved with mechanical seals.

Notes:
1) The pump is fitted with closed head relief valve assembly ACC-FP-20.
2) Pump configurations which generate a closed valve head exceeding 10 bar are approved for use in accordance with TB13: 1990: 1 - High rise sprinkler systems.
3) Maximum working pressure : 12.2 bar.

Grundfos Fire Systems / Grundfos Pumps Limited

Grovebury Road, Leighton Buzzard, Bedfordshire LU7 8TL UK
Tel: +44 (0)1525 850000 • Fax: +44 (0)1525 850011

Product Name	Type	Suction inlet diameter/ discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated flow (L/min) (at NPSH req. 5.38m)	Rated head (bar) (at NPSH req. 5.38m)	Closed valve head (bar)	LPCB Ref. No.
FK80-200	End suction long coupled	100/80	222	2950	3417	4.9	6.2	510a/01
			185	2950	3250	2.9	4.2	
FB80-200	End suction close coupled	100/80	222	2950	3417	4.9	6.2	510a/02
			185	2950	3250	2.9	4.2	
FK80-250	End suction long coupled	100/80	227	2950	3330	5.1	6.5	510a/03
FK65-160	End suction long coupled	80/65	177	2950	2466	2.5	4.1	510a/05
			137	2950	2050	1.1	2.3	
FB65-160	End suction close coupled	80/65	177	2950	2466	2.5	4.1	510a/06
			137	2950	2050	1.1	2.3	
FK65-200	End suction long coupled	80/65	219	2950	2633	4.3	6.3	510a/07
			180	2950	2233	2.2	4.1	
FB65-200	End suction close coupled	80/65	219	2950	2633	4.3	6.3	510a/08
			180	2950	2233	2.2	4.1	
FK125-100/260	End suction long coupled	125/100	264	2985	5500	7.1	10.3	224a/04
			210	2985	5250	2.5	6.1	
FK125-80/200	End suction long coupled	125/80	214	2990	4285	2.8	6.5	224a/06
			165	2990	3485	1.0	3.8	
FB125-80/200	End suction close coupled	125/80	214	2990	4285	2.8	6.5	224a/07
			165	2990	3485	1.0	3.8	
FK150-125/320	End suction long coupled	150/125	270	2980	7200	5.6	9.9	224a/12
			250	2980	6900	4.0	8.0	
FB150-125/320	End suction close coupled	150/125	270	2980	7200	5.6	9.9	224a/13
			250	2980	6900	4.0	8.0	
FK100-65/260	End suction long coupled	100/65	264	2995	3250	5.3	10.3	224a/14
			205	2995	2500	2.6	6.4	
FB100-65/260	End suction close coupled	100/65	264	2995	3250	5.3	10.3	224a/15
			205	2995	2500	2.6	6.4	
HSC150-315	Split case	200/150	290	2975	10500	7.2	11.2	224a/16
			255	2975	10200	3.9	8.2	
FB125-100/260	End suction close coupled	125/100	264	2985	5500	7.1	10.3	224a/17
			210	2985	5250	2.5	6.1	

}* These pumps are approved with impeller diameters within the ranges shown to provide flows and heads within these ranges.
The above pumps are approved with mechanical seals and fitted with Danfoss EVSI 15 Special 'closed head' relief valves, Part No. 032U7190

KSB Ajax Pumps Pty. Limited

27 Indwe Street, Tottenham, Victoria 3012, Australia
Tel: +61 3 9314 0611 • Fax: +61 3 9314 7435

Certificate No: 198a to LPS 1131: Issue 1

Product Name	Type	Suction inlet diameter / discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated flow (L/min) (at NPSH req. ≤ 5.38m)	Rated head (bar) (at NPSH req. < 5.38m)	Closed valve head (bar)	LPCB Ref. No.
E100-26	Direct coupled end suction	125/100	230	2950	4700	5.9	7.5	198a/01
			205	2950	3800	5	5.9	
			230	2950	4700	5.9	7.5	
			230	1800	3000(1)	2.1(1)	2.8	
E100-20	Direct coupled end suction	125/100	214	2950	4500	5.5	6.4	198a/02
			175	2950	3000	3.5	4.2	
			214	2950	4500	5.5	6.4	
			214	1800	2700(1)	2.0(1)	2.4	
E80-20	Direct coupled end suction	100/80	214	2950	3800	5.4	6.5	198a/03
			165	2950	2800	2.5	3.7	
			214	2950	3800	5.4	6.5	
			214	1800	2350(1)	1.9(1)	2.4	
E65-20			195	2950	2500	3.5	5.4	198a/04
	Direct coupled end suction	80/65	165	2950	2100	2.3	3.8	
			195	2950	2500	3.5	5.4	
			195	1800	1800	1	2	
E65-16	Direct coupled end suction	80/65	174	2930	2250	2.6	4.1	198a/05
			125	2930	1450	1.2	2	
			174	2930	2250	2.6	4.1	
			174	1800	1500(1)	0.9(1)	1.6	
E50-20	Direct coupled end suction	65/50	214	2930	1350	4.6	6.4	198a/06
			165	2930	1000	2.4	3.8	
			214	2930	1350	4.6	6.4	
			214	1800	850	1.6	2.4	
E50-16	Direct coupled end suction	65/50	174	2930	1500	3.1	4.4	198a/07
			135	2930	1000(1)	1.6(1)	2.5	
			174	2930	1500	3.1	4.4	
			174	1800	870(1)	1.4(1)	1.7	

)* These pumps are approved with impeller diameters and speeds within the ranges shown, to provide flows and heads within the ranges shown.
The above pumps are fitted with 'closed head' relief valve Part no. 5-70.1.
(The above pumps are approved with packed glands or mechanical seals.)

[1] NPSH required less than 5.38m

Patterson Pump Ireland Limited

Unit 14, Mullingar Business Park, Mullingar, Co Westmeath, Ireland
Tel: +353 44 47078 • Fax: +353 44 47896
E-mail: rpelot@ie.pattersonpumps.com • Website: www.ie.pattersonpumps.com

Product Name	Type	Suction inlet diameter / discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated flow (L/min) (at NPSH req. £ 5.38m)	Rated head (bar) (at NPSH req. £ 5.38m)	Closed valve head (bar)	LPCB Ref. No.
4 x 3 VIP	Vertical in-line close coupled	100/75	216*	2950	2000	4.5	6.5	436a/01
			178*	2950	1850	2	4.2	
5 x 3 VIP	Vertical in-line close coupled	125/75	222*	2950	3300	4.2	6.8	436a/02
			162*	2950	2700	1.3	3.3	
5 x 4 MAC	Horizontal split case	125/100	219*	2950	4810	4.9	6.6	436a/03
			159*	2950	4475	1.4	3.4	
			219*	3000	4850	5.1	6.8	
			159*	3000	4400	1.6	3.6	
			219*	3300	4500	6.9	8.2	
			197*	3300	4500	4.9	6.6	
4 x 3 ME	Horizontal split case	100/75	394*	1750	3325	5.5	7.5	436a/04
			270*	3300	3225	1.7	3.5	
5 x 4 M	Horizontal split case	125/100	314*	1750	4000	3.3	4.7	436a/05
			270*	1750	4100	1.9	3.4	
6 x 5 MAA	Horizontal split case	150/125	257*	2950	5075	4.3	9	436a/06
			184*	2950	4000	1.5	4.7	
			257*	3000	5050	4.3	9.3	
			184*	3000	4100	1.5	4.9	
			257*	3300	5150	6.7	11.2	
			206*	3300	5000	2.5	7.2	
8 x 6 MI	Horizontal split case	200/150	406*	1750	9400	5.6	8.1	436a/07
			327*	1750	8775	2.1	5.1	
			406*	2100	9100	9.4	11.5	
			338*	2100	10100	4.5	7.9	
10 x 8 M	Horizontal split case	250/200	457*	1470	13000	5.4	7.4	436a/08
			400*	1470	12300	2.7	5.6	
			457*	1750	13200	8.6	10.5	
			356	1750	11000	3.6	6.1	
5x4x10 VES	End suction long coupled	125/100	259*	2950	4900	7.9	9.3	436a/09
			215*	2950	4800	3.5	5.9	
			259*	2800	4950	7.1	8.3	
			215*	2800	4750	2.9	5.3	
			259*	2600	4750	5.7	7.2	
			215*	2600	4550	2.3	4.6	
			259*	2400	4350	5	6.1	
			215*	2400	4000	2.3	3.9	
			259*	2200	4550	3.9	5.1	
			215*	2200	3800	1.7	3.3	
5x3x13 VES (2)	End suction long coupled	125/75	318.5*	2950	4000	10	13.3(1)	436a/010
			260*	2950	3675	4.5	8.7	
			318.5*	2800	3950	8.7	12.0(1)	
			260*	2800	3530	3.9	7.9	
			318.5*	2600	3900	7	10.3(1)	
			260*	2600	3350	3	6.8	
			318.5*	2400	3475	6.2	8.8	
			260*	2400	3075	3	5.5	
			318.5*	2200	3640	4.2	7.4	
			260*	2200	2900	2.3	4.9	
6x5x11 VES (3)	End suction long coupled	150/125	290*	2900	6600	9.6	10.7(1)	436a/011
			250*	2900	6300	5.9	7.8	
			290*	2800	6500	8.8	9.9	

Product Name	Type	Suction inlet diameter / discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated flow (L/min) (at NPSH req. £ 5.38m)	Rated head (bar) (at NPSH req. £ 5.38m)	Closed valve head (bar)	LPCB Ref. No.
			250*	2800	6500	5.3	7.3	
			310*	2600	6550	8.8	9.9	
			250*	2600	6700	3.9	6.2	
			330*	2400	6050	9.4	10.0(1)	
			250*	2400	6000	3.6	5.3	
			330*	2200	5900	7.7	8.5	
			250*	2200	6150	2.5	4.4	
10x8x17SSC (4)	Horizontal split case	250/200	406)*	2100	12200	8.9	12.2(1)	436a/012
			349)	2100	12200	5.3	9.1	
			422)*	1750	12200	6.7	9.3	
			349)	1750	11800	2.6	6.3	
			422)*	1475	12800	3.2	6.6	
			349)	1475	9900	2	4.5	
			422)*	1750)*	12200	6.7	9.3	
			349	1475)	9900	2	4.5	
8x6YR (3)	Horizontal split case	200/150	300	2950	7700	8.2	12.1(1)	436a/13
			263	2950	7675	4.9	9.5	
8x6YS (3)			384	2100	12500	8	11.0(1)	436a/014
			340	2100	11500	5.2	8.5	

*These pumps are approved with impeller diameters and speeds within the ranges shown, to provide flows and heads within those ranges.
The above pumps are fitted with Danfoss type EVSI 'closed head' relief valves.
1) Pump configurations which generate a closed valve head exceeding 10 bar are approved for use in accordance with TB13: 1990: 1 - High rise sprinkler systems
2) Maximum working pressure: 15.6 bar.
3) Maximum working pressure: 13 bar.
4) Maximum working pressure: 16.5 bar

SPP Pumps Limited

Theale Cross, Pincents Lane, Calcot, Reading, Berkshire RG31 7SP UK
Tel: +44 (0)118 932 3123 • Fax: +44 (0)118 932 3302
E-mail: solutions@spppumps.com • Website: www.spppumps.com

Product Name	Type	Suction inlet diameter/ discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated flow (L/min) (at NPSH req. = 5.38m)	Rated head (bar) (at NPSH req. = 5.38m)	Closed valve head (bar)	LPCB Ref. No.
TD20D Thru-stream (2),(5)	Horizontal split case	250/200	340	2950	13600	10.8	15.7(1)	111b/01
			275	2950	12000	7.6	10.3(1)	
			273	2950	11600	7.4	10	
			245	2950	8500	6	8	
			340	2950	13600	10.8	15.7(1)	
			340	2400	13500	6	10.3(1)	
			340	2200	13300	4.4	8.8	
TD20E Thru-stream (2),(5)	Horizontal split case	250/200	290	2950	13300	6.7	11.3(1)	111b/02
			273	2950	13300	5.7	10	
			240	2950	10800	4.9	7.7	
			290	2950	13300	6.7	11.3(1)	
			290	2800	13800	5.3	10.2	
			290	2200	12700	2	6.3	
TD15F Thru-stream (3),(5)	Horizontal split case	200/150	325	2950	9600	7.9	13.3(1)	111b/03
			282	2950	9600	5.4	10	

Product Name	Type	Suction inlet diameter/ discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated flow (L/min) (at NPSH req. = 5.38m)	Rated head (bar) (at NPSH req. = 5.38m)	Closed valve head (bar)	LPCB Ref. No.
			275	2950	9600	5.1	9.5	
			245	2950	9600	3.9	7.5	
			325	2950	9600	7.9	13.3(1)	
			325	2550	9600	5	10	
			325	2200	9600	2.7	7.3	
TD15A Thru-stream (3),(5)	Horizontal split case	200/150	325	2950	7300	12.8	14.4(1)	111b/04
			270	2950	7300	8.5	9.9	
			240	2950	7300	5.9	7.7	
			270	2950	7300	8.5	9.8	
			270	2400	8650	4.3	6.4	
			325	2950	7300	12.8	14.4(1)	
			325	2450	8200	7.7	10.2	
			325	2200	8700	6	8.2	
KP12X Unistream (5)	Direct coupled end suction	150/125	264	2950	6800	8.5	10.4(1)	111b/05
			200	2950	6650	2.4	5.4	
			264	2950	6800	8.5	10.4(1)	
			264	2200	5700	4.7	5.8	
KP10X Unistream (5)	Direct coupled end suction	125/100	264	2950	5500	7.6	9.8	111b/06
			195	2950	4200	3.6	5.3	
			264	2950	5500	7.6	9.8	
			264	2200	5500	3	5.7	
KP15Y Unistream (5)	Direct coupled end suction	200/150	272	2950	7800	7.8	9.8	111b/07
			239	2950	7600	5.2	7.7	
			272	2950	7800	7.8	9.8	
			272	2200	8200	3.2	5.6	
			310	2600	8600	8.6	10.5	
			239	2600	7800	3.2	5.9	
			310	2600	8600	8.6	10.5	
			310	2000	7350	4.7	6.2	
KP08Y Unistream (4),(5)	Direct coupled end suction	100/80	329	2950	3600	13.2	15.2(1)	111b/08
			270	2950	3500	7	10	
			255	2950	3450	5.6	8.8	
			329	2950	3600	13.2	15.2(1)	
			329	2400	3650	7	10	
			329	2200	3650	5	8.3	
KP08V Unistream (5)	Direct coupled end suction	100/80	214	2920	2700	2.4	5.6	111b/09
			165	2920	2340	1.6	3.3	
KP06C Unistream (5)	Direct coupled end suction	80/65	174	2900	2590	2.3	4.3	111b/10
			125	2900	1790	0.6	2	
KP05D Unistream (5)	Direct coupled end suction	65/50	214	2900	1380	3.3	6.3	111b/11
			165	2900	1090	1.6	3.7	
KP06D Unistream (5)	Direct coupled end suction	80/65	214	2950	2580	5	6.6	111b/12
			165	2950	2250	2.3	3.8	
			214	2950	2580	5	6.6	
			214	2200	2550	1.7	3.6	
KP08D Unistream (5)	Direct coupled end suction	100/80	214	2950	3400	4.8	6.5	111b/13
			165	2950	2820	2.4	3.8	
			214	2950	3400	4.8	6.5	
			214	2200	3300	1.8	3.7	
KM10E Eurostream(5)	Close coupled end suction	125/100	264	2950	5500	7.6	9.8	111b/14
			195	2950	4200	3.6	5.3	
KM08V Eurostream(5)	Close coupled end suction	100/80	214	2920	2700	2.4	5.6	111b/15
			165	2920	2340	1.6	3.3	
KM06C Eurostream (5)	Close coupled end suction	80/65	174	2900	2590	2.3	4.3	111b/16

Product Name	Type	Suction inlet diameter/ discharge outlet diameter (mm)	Impeller diameter (mm)	Rated speed (rev/min)	Rated flow (L/min) (at NPSH req. = 5.38m)	Rated head (bar) (at NPSH req. = 5.38m)	Closed valve head (bar)	LPCB Ref. No.
			125	2900	1790	0.6	2	
KM05D Eurostream (5)	Close coupled end suction	65/50	214	2900	1380	3.3	6.3	111b/17
			165	2900	1090	1.6	3.7	
KM06D Eurostream (5)	Close coupled end suction	80/65	214	2950	2580	5	6.6	111b/18
			165	2950	2250	2.3	3.8	
KM08D Eurostream (5)	Close coupled end suction	100/80	214	2950	3400	4.8	6.5	111b/19
			165	2950	2820	2.4	3.8	
AV03N Unistream (5)	Close coupled end suction	100/80	174	2900	2540	1.3	3.8	111b/20
			135	2900	1840	1	2.3	
AV03P Eurostream (5)	Close coupled end suction	100/80	174	2900	2540	1.3	3.8	111b/21
			135	2900	1840	1	2.3	
KP10Y Unistream (5)	Direct coupled end suction	150/100	264	2950	7680	5.2	9.7	111b/23
AV03P Eurostream (5)			210	2950	5100	4.2	6	
			264	2950	7680	5.2	9.7	
			264	2200	6480	2	5.4	
KM08E (5)	Close coupled end suction	100/80	264	2950	2800	9.5	10	111b/24
			205	2950	2800	4.2	5.9	
KP08E (5)	Direct coupled end suction	100/80	264	2950	2800	9.5	10	111b/25
			205	2950	2800	4.2	5.9	
			264	2600	3150	6.6	7.8	
			205	2600	2750	2.8	4.6	
			264	2950	2800	9.5	10	
			264	2200	3200	3.8	5.5	
KP12Z (5),(6)	Direct coupled end suction	150/125	329	2600	6500	10.6	12.1	111b/26
			255	2600	6000	5	6.9	
			329	2600	6500	10.6	12.1	
			329	2000	6350	5.4	7.1	
KP15Y (5)	Direct coupled end suction	200/150	272	2950	7800	7.8	9.8	111b/27
			239	2950	7600	5.2	7.7	
			272	2950	7800	7.8	9.8	
			272	2200	8200	3.2	5.6	
			310	2600	8600	8.6	10.5	
			239	2600	7800	3.2	5.9	
			310	2600	8600	8.6	10.5	
			310	2000	7350	4.7	6.2	

}* These pumps are approved with impeller diameters and, where applicable, speeds within the ranges shown, to provide flows and heads within those ranges.

1) Pump configurations which generate a closed valve head exceeding 10 bar are approved for use in accordance with TB13: 1990: 1 - High rise sprinkler systems.
2) Maximum working pressure: 21 bar
3) Maximum working pressure: 20 bar.
4) Maximum working pressure: 18 bar.
5) The above pumps are also approved with alternate material options of bronze impeller and/or stainless steel shaft.
6) Maximum working pressure 14 bar

The above pumps are fitted with "closed head" relief valve Pt. No. 25652 - 511 - 000 - 7 or Pt. No. 25652-501-000-2.a

This section lists products certificated to the following:

- LPS 1131 - *Pumps for Automatic Sprinkler Installation. Pump Sets - Requirements and testing methods*.

Notes:
Firms listed in this Section shall control and be responsible for the design, construction, testing and performance of all fire pump sets incorporating their LPCB approved fire pumps.

All fire pump sets incorporating LPCB approved fire pumps shall conform to the *LPC Rules for Automatic Sprinkler Installations*, or Rules specified in the contract, and shall be tested in accordance with the LPC Sprinkler Rules.

Only LPCB approved fire pumps shall be used to comply with the *LPC Rules for automatic sprinkler installations.*

Pumps listed in this section are suitable for use in pump sets for high-rise and multi-storey buildings.

SPP Pumps Limited

Theale Cross, Pincents Lane, Calcot, Reading, Berkshire RG31 7SP UK
Tel: +44 (0)118 932 3123 • Fax: +44 (0)118 932 3302
E-mail: solutions@spppumps.com • Website: www.spppumps.com

Product Name	Suction inlet diameter / discharge outlet diameter (mm)	Delivery configuration	Impeller diameter (mm)	Rated speed (rev/min)	Rated flow (1/min) (at NPSH req. <= 5.38m)	Rated head (bar) (at NSPH req. <= 5.38m)	Closed valve head (bar)	LPCB Ref. No.
CD10K Multistream 2-5 stage multistage pump	125/100	(1) Single stage - closed stage or final outlet	219	2950	2800	4.8	7.0	111b/22
			202	2950	2800	3.3	5.5	
		(2) Single stage - intermediate outlet	219	2950	2800	3.7	7.5	
			202	2950	2800	1.4	5.9	
		(3) Final outlet of five stage pump	219	2950	2800	24.0	35.0	
			202	2950	2800	16.5	27.5	

The pump performance is the summation of each stage, i.e. the performance at the final outlet of a four stage pump ism 4 x (1).
The performance at the fourth stage intermediate outlet of a five stage pump is 3 x (1) +(2).
The performance at the final outlet of a five stage pump is 5 x (1), as detailed in (3).
The above pump is approved with impeller diameters within the range shown, to provide flows and heads within the ranges shown.
The above pump is fitted with 'closed head' relief valve part no. 25652-511-000-7.

This section lists products certificated to the following:

- LPS 1239 - *Requirements for LPCB Approval of Diesel Engines for Sprinkler Pump Sets.*

Notes:
LPCB approved diesel engines shall be used in fire pump sets which conform to the *LPC Rules for Automatic Sprinkler Installations.*

For pump sets requiring a diesel engine with a power/speed rating outside the range of approved diesel engines listed, such diesel engines should conform to LPS 1239, Issue 1.

LPCB Approved engines are approved for use between the following limits:

- Not greater than the approved rated engine power at the rated speed.
- Not less than 40% of the approved rated engine power at the rated speed

The responsibility for the design, construction, testing and performance of all fire pump sets incorporating LPCB approved diesel engines lies with the pump set manufacturer.

Clarke UK Limited

Grange Works, Lomond Road, Coatbridge ML5 2NN, Scotland
Tel: +44 (0)1236 429946 • Fax: +44 (0)1236 427274

Certificate No: 601 to LPS 1239

Product Name	1760*	2100*	2350*	2600*	2800*	2960*	LPCB Ref. No.
IK4H-LP50(1)	55.5	63	68.5	73	75.5	76	601a/01
IK6H-LP30(1)	84.5	101	107	110	112	113	601a/02
IK6H-LP60(2)	125	147	161	175	179	179	601a/03
IK6H-LP80(3)	159	232	255	264	273	273	601a/04
JU4H - LP20 (1)	60	67	72	-	-	-	601b/01
JU4H - LP24 (1)	-	-	72	75	80	83	601b/02
JU4H - LP50 (2)	110	130	127	-	-	-	601b/03
JU4H - LP54 (2)	-	-	122	139	145	145	601b/04
JU4H - LP84 (3)	-	-	139	175	179	185	601b/05
JU6H - LP50 (2)	183	210	210	-	-	-	601b/06
JU6H - LP54 (2) **	-	-	210	216	216	216	601b/07
JU6H - LP60 (3)	200	240	240	-	-	-	601b/08
JU6H - LP84 (3) **	-	-	243	247	259	275	601b/09

* Approved rated engine power (bhp) at rated speed (rev/min)
** These engines are not suitable for continuous operation in the range 2650 to 2750 rpm

1) Normally aspirated
2) Turbocharged & Jacket Water Aftercooled
3) Turbocharged & Raw Water Aftercooled

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Components of pipe support systems listed below are considered acceptable for use in installations conforming to the *LPC Rules for Automatic Sprinkler Installations*. The products shall be installed and maintained in accordance with the manufacturers instructions.

Anvil International Inc (Pennsylvania)

1411 Lancaster Avenue, Columbia, Pennsylvania 17512, USA
Tel: +1 717 684 4400 • Fax: +1 717 684 2131
E-mail: jondracek@anvilintl.com

Sales Enquiries:
Tel: +31 53 5725570 • Fax: +31 53 5725579

Pipe Hanger Clamps

Approved Products		LPCB Ref. No.
Figure 90 Universal C-Clamps	M10 and M12 rod sizes[1,2,3]	119b/01
Figure 90E Universal C-Clamps	M16 rod sizes[1,2,3]	119b/02
Figure 91 Universal C-Clamps	M10 and M12 rod sizes[1,2,3]	119b/03

Notes:
1) Rod drilled and rod threaded versions.
2) Plain and galvanised finishes.
3) A restraining strap shall be used where significant vibration is likely to be encountered.

Debro Engineering & Presswork

Stourvale Trading Estate, Banners Lane, Halesowen B63 2AX UK
Tel: +44 (0)1384 636359/633004 • Fax: +44 (0)1384 633746

Filbow

Product Name	Pipe size (mm)	Material	Galvanised	LPCB Ref. No.
Debro Flat Filbow	20	Mild Steel	Galvanised	015a/01
	25	Mild Steel	Galvanised	
	32	Mild Steel	Galvanised	
	40	Mild Steel	Galvanised	
	50	Mild Steel	Galvanised	
	65	Mild Steel	Galvanised	
	80	Mild Steel	Galvanised	
	100	Mild Steel	Galvanised	
	150	Mild Steel	Galvanised	
	200	Mild Steel		

Universal Fixings Limited

Jubilee Business Park, Balds Lane, Lye, Stourbridge, West Midlands DY9 8SH UK
Tel: +44 (0)1384 422284 • Fax: +44 (0)1384 897446

Filbow Pipe Hangers

Product Name	Pipe Size (mm)	Material	Finnished	LPCB Ref. No.
UF 015	15	Mild Steel	Galvanised	766a/01
UF 020	20	Mild Steel	Galvanised	
UF 025	25	Mild Steel	Galvanised	
UF 032	32	Mild Steel	Galvanised	
UF 040	40	Mild Steel	Galvanised	
UF 050	50	Mild Steel	Galvanised	
UF 065	65	Mild Steel	Galvanised	
UF 080	80	Mild Steel	Galvanised	
UF 100	100	Mild Steel	Galvanised	
UF 150	150	Mild Steel	Galvanised	
UF 200	200	Mild Steel	Galvanised	

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Check valves listed below are considered acceptable for use in installations conforming to the *LPC Rules for Automatic Sprinkler Installations*. The products shall be installed and maintained in accordance with the manufacturers instructions.

Tyco Fire & Building Products

9700 West Gulf Bank Road, Houston, Texas 77040, USA
Tel: +1 713 937 5342 • Fax: +1 713 937 5457

Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0-)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Product Name	Size (mm)	Body material	Max. working pressure (bar)	Attitude	Connections	LPCB Ref. No.
Series 7800FP GLV 7811 FP	50	Cast iron	17	Vertical & horizontal	Grooved	437-4d/01
	65	Cast iron	17	Vertical & horizontal	Grooved	
	80	Cast iron	17	Vertical & horizontal	Grooved	
	100	Cast iron	17	Vertical & horizontal	Grooved	
	150	Cast iron	17	Vertical & horizontal	Grooved	
	200	Cast iron	17	Vertical & horizontal	Grooved	
	300	Cast iron	17	Vertical & horizontal	Grooved	

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Stop valves listed below are considered acceptable for use in installations conforming to the *LPC Rules for Automatic Sprinkler Installations*. The products shall be installed and maintained in accordance with the manufacturers instructions.

Anvil International Inc.

Highway 70, Cleveland (Rowan County), North Carolina 27013, USA
Tel: +1 603 422 8000 • Fax: +1 603 422 8033
E-mail: webmaster@anvilintl.com • Website: www.anvilintl.com

Certificate No: 481a to LPS 1185

Gear operated stop valve with or without electrical monitor switches

Product Name	Nominal size	Pipe outside diameter (mm)	Body material	Max. working pressure (bar)	Connections	LPCB Ref. No.
AE7722-3A Butterfly Valves	DN 50	60.3	Ductile Iron	20	Grooved	481a/01
	DN65	76.1	Ductile Iron	20	Grooved	
	DN80	88.9	Ductile Iron	20	Grooved	
	DN 100	114.3	Ductile Iron	20	Grooved	
	DN 125	139.7	Ductile Iron	20	Grooved	
	DN 150	165.1	Ductile Iron	20	Grooved	
	DN 150	168.3	Ductile Iron	20	Grooved	
	DN 200	219.1	Ductile Iron	20	Grooved	
	DN 250	273.0	Ductile Iron	20	Grooved	

AnvilStar LLC, Division of Anvil International

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Certificate No: 481a to LPS 1185

Gear operated stop valve with or without electrical monitor switches

Product Name	Nominal Size	Pipe outside Diameter (mm)	Body material	Max. working pressure (bar)	Connections	LPCB Ref. No.
AE7722-3A Butterfly Valves	DN 50	60.3	Ductile Iron	20	Grooved	481a/01
	DN 65	76.1	Ductile Iron	20	Grooved	
	DN80	88.9	Ductile Iron	20	Grooved	
	DN 100	114.3	Ductile Iron	20	Grooved	
	DN 125	139.7	Ductile Iron	20	Grooved	
	DN 150	165.1	Ductile Iron	20	Grooved	
	DN 150	168.3	Ductile Iron	20	Grooved	
	DN 200	219.1	Ductile Iron	20	Grooved	
	DN 250	273.0	Ductile Iron	20	Grooved	

SAPAG Industrial Valves

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Gear operated stop valve with or without electrical monitor swiitches

Product Name	Size (mm)	Body material	Max. working pressure (bar)	Connections	LPCB Ref. No.
Model JPL 39109 Butterfly stop valve	100	Ductile Iron	12.1	Grooved	571a/01
	125	Ductile Iron	12.1	Grooved	
	150	Ductile Iron	12.1	Grooved	
	200	Ductile Iron	12.1	Grooved	
	250	Ductile Iron	12.1	Grooved	
	300	Ductile Iron	12.1	Grooved	

Tyco Fire & Building Products

9700 West Gulf Bank Road, Houston, Texas 77040, USA
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Sales Enquiries:
Tel: +44 (0)161 875 0400 • Fax: +44 (0)161 875 0491
E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Gear operated stop valve with or without electrical monitor switches

Product Name	Size (mm)	Body material	Max. working pressure (bar)	Connections	LPCB Ref. No.
Fig 7700 FP Butterfly	50	SG Cast Iron	12	Grooved	437a/01
	65	SG Cast Iron	12	Grooved	
	80	SG Cast Iron	12	Grooved	
	100	SG Cast Iron	12	Grooved	
	125	SG Cast Iron	12	Grooved	
	150	SG Cast Iron	12	Grooved	
	200	SG Cast Iron	12	Grooved	
	250	SG Cast Iron	12	Grooved	
	300	SG Cast Iron	12	Grooved	

This section lists products certificated to the following:

- LPS 1260 - *Requirements for testing plastic pipes and fittings for sprinkler systems.*

Notes:
The 'scope of use' of plastic pipe shall be agreed between the plastics suppliers, purchaser/installer, authority having jurisdiction, and/or insurer in accordance with documented supplier 'Installation Instructions' but subject to the following criteria taking precedence.

1. Use of plastic pipe and fittings is subject to water authority agreement for the territory concerned.
2. LPCB Approved quick response sprinklers shall be used with exposed (i.e. fire exposure) plastic pipe and fittings.
3. Plastic pipe and fittings are suitable for use only with wet pipe systems.
4. Use of additives is only permitted in accordance with the manufacturers installation instructions.
5. Care should be exercised to ensure that the adhesive joints are adequately cured, in accordance with the manufacturer's installation instructions, prior to pressurisation.
6. Plastic pipe and fittings shall not be installed outdoors.
7. Where plastic pipe and fittings are exposed (i.e. fire exposure), the system shall be installed close to a flat ceiling construction.
8. Sprinkler systems which employ plastic pipe and fittings shall be designed where possible to ensure there are no 'no flow' sections of pipework in the event of sprinkler operation.

Aquatherm GmbH

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Certificate No: 684a to LPS 1260

Aquatherm GmbH Firestop PPR Plastic Pipe & Fittings

Product Name	Nominal diameter range (mm)	Max working pressure (bar)	LPCB Ref. No.
Firestop Sprinkler Pipe	20,25,32,40,50,63,75,90,110,125	12	684a/01
Socket	20,25,32,40,50,63,75,90,110,125	12	684a/02
Reducer	20,25,32,40,50,63,75,90,110,125	12	684a/03
Elbow, 90°	20,25,32,40,50,63,75,90,110,125	12	684a/04
Elbow, 45°	20,25,32,40,50,63,75,90,110,125	12	684a/05
Tee	20,25,32,40,50,63,75,90,110,125	12	684a/06
Reducing Tee	20x25x20;25x20x20;25x20x25;32x20x20; 32x20x32;32x25x32;40x20x40;40x25x40; 40x32x40;50x20x50;50x25x50;50x32x50; 50x40x50;63x40x63;63x50x63;75x40x75; 75x50x75;75x63x75;90x40x90;90x50x90; 90x63x90;90x75x90;110x63x110;110x75x110; 110x90x110;125x75x125;125x90x125;125x110x125	12	684a/07
End Cap	20,25,32,40,50,63,75,90,110,125	12	684a/08
Socket Welded Nipple	32,40,50,63,75,90,110,125	12	684a/09
Saddle Weld-in	40/20;40/25;50/20;50/25;63/20;63/25;63/32;75/20; 75/25;75/32;90/20;90/25;90/32;90/40;110/20;110/25; 110/32;110/40;125/20;125/25;125/32;125/40	12	684a/10
Coupling screw joint	32,40,50,63,75	12	684a/11
Wall connection	20x1/2"F;25x3/4"F	12	684a/12
Transition piece Female	20x1/2" F; 25x3/4" F; 32x1"F;40x1 ¼"F 50x1 ½"F; 63x2"F; 75x2"	12	684a/13
Transition piece Male	20x1/2" M; 25x3/4" M; 32x1"M;40x1 ¼"M; 50x1 ½"M; 63x2"M; 75x2 ½"M; 90x3"M; 110x4"M	12	684a/14
Connecting Union	20/nut R 1"; 25/nut R 1 ¼"; 32/nut R 1 ½"; 40/nut R 2"; 50/nut R 2 ¼"; 50/nut 2 ½"; 63/nut R 2 ¾"; 75/nut R3 ½""; 90/nut R 4"	12	684a/15
Transition joint	nut R 1"x20; nut R 1 ¼"/25; nut R 1 ½"/32; nut R 2"/40 nut R 2 ¼"x50; nut R 2 ¾"x63	12	684a/16

Product Name	Nominal diameter range (mm)	Max working pressure (bar)	LPCB Ref. No.
Counterpart	1"Mx20; 1 ¼"Mx25; 1 ½"Mx32; 2"Mx40; 2 ¼"Mx50; 2 ¾"Mx63	12	684a/17
Transition Tee	20x1/2Fx20; 25x3/4Fx25; 32x1Fx32	12	684a/18
Saddle Weld-in with Female thread & hexagon socket	40/25x1/2F; 50/25x1/2F; 63/25x1/2F; 75/25x1/2F; 90/25x1/2F; 40/25x3/4F; 50/25x3/4F; 63/25x3/4F; 75/25x3/4F; 90/25x3/4F; 110/25x3/4F; 125/125x3/4F;	12	684a/19
Screw-down valve	20,25,32,40	12	684a/20
Inclined valve	20,25,32,40	12	684a/21
Ball cock	20,25,32,40,50,63,75,90	12	684a/22
Draining branch	20,25,32,40,50,63	12	684a/23

Notes relating to Aquatherm pipes and fittings:
1) The system of pipes and fittings must be installed in accordance with the Aquatherm installation instructions, which include the LPCB conditions of use agreed with Aquatherm.
2) The maximum normal ambient temperature of use shall not exceed 70°C.
3) The products shall only be installed by LPCB Certificated or Registered Installing companies (see Part 5, Section 1A and 1B above) or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be Certificated to ISO 9000.

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HARVEL® PLASTICS INC BLAZEMASTER® CHLORINATED POLYVINYLCHLORIDE (CPVC) SPRINKLER PIPE

Product Name	Nominal diameter range	Max. working pressure (bar)	LPCB Ref. No.
CPVC Sprinkler Pipe	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3.0"	12	445a/01

Harvel® is a registered trademark of Harvel Plastics Inc.
Blazemaster® is a registered trademark of Noveon Inc.

Notes relating to Spears fittings and Harvel pipes
1) The system of pipe and fittings must be installed in accordance with Harvel Plastics Inc. and Spears Manufacturing Company. 'Blazemaster' Installation Instructions, which includes LPCB Conditions of Use agreed with Harvel and Spears.
2) The maximum nominal ambient temperature of use shall not exceed 50°C.
3) The products shall only be installed by LPCB Certificated or Registered installing companies (see Part 5, Section 1A and 1B above), or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9000.

Harvel Plastics Incorporated (Easton)

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HARVEL® PLASTICS INC BLAZEMASTER® CHLORINATED POLYVINYLCHLORIDE (CPVC) SPRINKLER PIPE

Product Name	Nominal diameter range	Max. working pressure (bar)	LPCB Ref. No.
CPVC Sprinkler Pipe	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3.0"	12	270a/01

Harvel® is a registered trademark of Harvel Plastics Inc.
Blazemaster® is a registered trademark of Noveon Inc.

Notes relating to Spears fittings and Harvel pipes:

1) The system of pipe and fittings must be installed in accordance with Harvel Plastics Inc. and Spears Manufacturing Company, 'Blazemaster' Installation Instructions, which includes LPCB Conditions of Use agreed with Harvel and Spears.
2) The maximum normal ambient temperature of use shall not exceed 50°C.
3) The products shall only be installed by LPCB Certificated or Registered installing companies (see Part 5, Section 1A and 1B above), or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9000.

Hershey Valve Co Limited

No 356 Tzuli Road, Wuchi, Taichung, Taiwan ROC
Tel: +886 4 2639 2777 • Fax: +886 4 2639 7064

Hershey Blazemaster® Chlorinated Polyvinyl chloride (CPVC) Sprinkler Pipe and Fittings

Product Name	Nominal diameter range	Max. working pressure (bar)	LPCB Ref. No.
Tee	0.5", 0.75", 1.0", 1.25", 1.5", 2.0"	12	438a/01
Cross	0.5", 0.75", 1.0", 1.25", 1.5", 2.0"	12	438a/02
Reducing cross	1.0"x 0.75", 1.5"x1", 2"x1"	12	438a/03
90° elbow	0.5", 0.75", 1.0", 1.25", 1.5", 2.0"	12	438a/04
45° elbow	0.5", 0.75", 1.0", 1.25", 1.5", 2.0"	12	438a/05
Straight coupling	0.5", 0.75", 1.0", 1.25", 1.5", 2.0"	12	438a/06
Cap	0.5", 0.75", 1.0", 1.25", 1.5", 2.0"	12	438a/07
Sprinkler head adaptor	0.5"x0.5", 1.0"x 0.5"	12	438a/08
Reducer bush	0.75"x0.5", 1"x0.5", 1"x0.75", 1.25"x 0.5",1.25"x 0.75", 1.25"x1.0",1.5"x 0.5", 1.5"x 0.75",1.5"x1.0",1.5"x1.25", 2"x0.75", 2"x1.25", "2"x1.5".	12	438a/09
Spigot sprinkler head adaptor	0.75"x 0.5" and 1.0"x 0.5"	12	438a/10
Male adaptor	0.5"x 0.5", 0.75"x0.75", 1"x1", 1.25"x1.25", 1.5"x1.5", 2"x2"	12	438a/11
90° elbow male head adaptor	0.5"x 0.5"	12	438a/12
90° elbow female head adaptor	0.5"x 0.5", 0.75"x0.5", 0.75"x0.75", 1.0"x 0.5", 1"x0.75", 1"x1"	12	438a/13
Sprinkler head tee	1.0"x1.0"x 0.5"	12	438a/14
Pipe	0.5", 0.75",1.0",1.25",1.5", 2.0"	12	438a/15
Reducing tee	0.75"x0.5"x0.75", 1"x0.5"x1", 1"x0.75"x1", 1"x2"x1", 1.25"x0.5"x1.25", 1.25"x0.75"x1.25", 1.25"x1"x1.25", 1.5"x0.5"x1.5", 1.5"x0.75"x1.5", 1.5"x1"x1.5", 1.5"x1.25"x1.5", 2"x0.5"x2", 2"x0.75"x2", 2"x1"x2", 2"x1.25"x2", 2"x1.5"x2"	12	438a/16
Flange	0.5", 0.75", 1", 1.25", 1.5", 2"	12	438a/17
Blind flange	0.5", 0.75", 1", 1.25", 1.5", 2"	12	438a/18
Reducing sprinkler head tee	0.75"x0.5"x0.75", 1"x0.75"x1", 1.25"x0.5"x1.25", 1.5"x0.5"x1.5", 2"x0.5"x2"	12	438a/19

Notes:
1) The system of pipes and fittings must be installed in accordance with Hershey Valve Co Limited "BlazeMaster ®" installation instructions which includes LPCB Conditions of Use agreed with Hershey Valve Company Limited.
2) The maximum normal ambient temperatures of use shall not exceed 50°C.
3) The products shall only be installed by LPCB Certificated or Registered installing companies (see part 5, section 1A & 1B above) or be firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certified to ISO 9001:2000
4) Hershey BlazeMaster ® CPVC sprinkler pipes are manufactured from BlazeMaster ® CPVC materials that are WrC (WRAS) listed.
5) BlazeMaster ® is a registered trade mark of Noveon Inc.

Spears Manufacturing Company Inc

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SPEARS CHLORINATED POLYVINYLCHLORIDE (CPVC) FIRE SPRINKLER FITTINGS

Product Name	Nominal diameter range	Max. working pressure (bar)	LPCB Ref. No.
Tee	0.75",1.0",1.25",1.5",2.0",2.5",3.0"	12	293a/01
Reducing Tee	0.75"x0.75"x1.0",1.0"x0.75"x0.75",1.0"x0.75"x1.0", 1.25"x1.0"x0.75",1.25"x1.0"x1.0", 1.25"x1.0"x1.25",1.25"x1.25"x0.75",1.25"x1.25"x1.0", 1.25"x1.25"x1.5",1.5"x1.25"x0.75", 1.5"x1.25"x1.0",1.5"x1.5"x"x0.75", 1.5"x1.5"x1.0",1.5"x1.5"x1.25", 1.5"x1.5"x2.0",2.0"x2.0"x0.75",2.0"x2.0"x1.0",2.0"x2.0"x1.5", 2.5"x2.5"x1.0",2.5"x2.5"x1.25", 2.5"x2.5"x1.5",3.0"x3.0"x2.0",3.0"x3.0"x2.5"	12	293a/02
Sprinkler Head Tee	0.75"x0.75"x0.5",1.0"x0.5"x1.0",1.0"x0.75"x0.5",1.0"x1.0"x0.5", 1.0"x1.0"x1.0",1.25"x1x.5",1.25"x1.25"x0.5", 1.5"x1.25"x0.5",1.5"x1.5"x0.5",2.0"x1.5"x0.5", 2.0"x2.0"x0.5"	12	293a/03
90° Elbow	0.75",1.0",1.25",1.5",2.0",2.5",3.0",1.0"x0.75"	12	293a/04
Sprinkler Head 90° Elbow	0.75"x0.5",1.0"x0.5",1.0"x0.75",1.25"x0.5"	12	293a/05
45° Elbow	0.75",1.0",1.25",1.5",2.0"2.5",3.0"	12	293a/06
Cross	0.75",1.0",1.25",1.5",2.0"2.5",3.0"	12	293a/07
Coupling	0.75",1.0",1.25",1.5",2.0"2.5",3.0"	12	293a/08
Cap	0.75",1.0",1.25",1.5",2.0"2.5",3.0"	12	293a/09
Flange	0.75",1.0",1.25",1.5",2.0"2.5",3.0"	12	293a/10
Blind Flange	0.75",1.0",1.25",1.5",2.0"2.5",3.0"	12	293a/11
Spigot Flange	0.75",1.0",1.25",1.5",2.0"2.5",3.0"	12	293a/12
Reducer coupling	1.0"x0.75",1.25"x0.75",1.25"x1.0",1.5"x0.75",1.5"x1.0", 1.5"x1.25",2.0"x1.0",2.0"x1.25",2.0"x1.5"	12	293a/13
Grooved Coupling Adapter	1.25",1.5",2.0",2.5",3.0"	12	293a/14
Female Sprinkler Head Adapter	0.75"x0.5",1.0"x0.5",1.0"x0.75"	12	293a/15
Reducer Bushing	1.0"x0.75",1.25"x0.75",1.25"x1.0",1.5"x0.75",1.5"x1.0", 1.5"x1.25",2.0"x0.75",2.0"x1.0",2.0"x1.25",2.0"x1.5", 2.5"x1.25",2.5"x1.5",2.5"x2.0",3.0"x2.0",3.0"x2.5"	12	293a/16
Spigot Sprinkler Head Adapter	0.75"x0.5",1.0"x0.5"	12	293a/17
Union	0.75",1.0",1.25",1.5",2.0",3.0"	12	293a/18
Spigot Female Adapter	0.75",1.0"	12	293a/19
Adjustable Sprinkler Head Adapter (slip)	0.75"x0.5",1.0"x0.5"	12	293a/20
Adjustable Sprinkler Head Adapter (spigot)	0.75"x0.5",1.0"x0.5"	12	293a/21
SR Sprinkler Head Tee	3/4"x3/4"x0.5", 1.0"x0.5"x1.0, 1.0"x1.0"x0.5", 1.0"x1.0"x1.0", 1.25"x1.0"x0.5", 1.25"x1.25"x0.5", 1.5"x1.5"x0.5", 2.0"x1.5"x0.5", 2.0"x2.0"x0.5"	12	293a/22
SR Sprinkler Head 90° Elbow	3/4"x0.5", 1.0"x0.5", 1.0"x0.75", 1.25"x0.5"	12	293a/23
SR Female Sprinkler Head Adapter	3/4"x.0.5", 1.0"x3/4"	12	293a/24

Product Name	Nominal diameter range	Max. working pressure (bar)	LPCB Ref. No.
SR Female Adapter	3/4", 1.0", 1.25"	12	293a/25
SR Spigot Female Adapter	3/4", 1.0"	12	293a/26
SR Spigot Sprinkler Head Adaptor	3/4"x0.5", 1"x.0.5"	12	293a/27
SR Adjustable Sprinkler Head Adapter (slip)	3/4"x0.5", 1"x0.5"	12	293a/28
SR Adjustable Sprinkler Head Adapter (spigot)	3/4"x0.5", 1"x0.5"	12	293a/29

Notes relating to Spears fittings and Harvel pipes

1) The system of pipe and fittings must be installed in accordance with Harvel Plastics Inc. and Spears Manufacturing Company, Installation Instructions, which includes LPCB Conditions of Use agreed with Harvel and Spears.
2) The maximum normal ambient temperature of use shall not exceed 50°C.
3) The products shall only be installed by LPCB Certificated or Registered installing companies (see Part 5, Section 1A and 1B above), or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9000.

Spears 'FlameGuard' Chlorinated Polyvinylchloride (CPVC) Fire Sprinkler Fittings

Product Name	Nominal Size (in.)	Part Number	Maximum Working Pressure (Bar)	LPCB Ref. No.
Tee (Soc x Soc x Soc)	¾	4201-007	12 BAR	293b/01
	1	4201-010	12 BAR	
	1¼	4201-012	12 BAR	
	1½	4201-015	12 BAR	
	2	4201-020	12 BAR	
	2½	4201-025	12 BAR	
	3	4201-030	12 BAR	
Reducing Tee (Soc x Soc x Soc)	¾ x ¾ x 1	4201-102	12 BAR	293b/02
	1¼x1¼x¾	4201-167	12 BAR	
	1¼x1¼x1	4201-168	12 BAR	
	1¼x1¼x1½	4201-169	12 BAR	
	1¼x1x¾	4201-157	12 BAR	
	1¼x1x1	4201-158	12 BAR	
	1¼x1x1¼	4201-159	12 BAR	
	1½x1¼x¾	4201-201	12 BAR	
	1½x1¼x1	4201-202	12 BAR	
	1½x1/½x¾	4201-210	12 BAR	
	1½x1/½x1	4201-211	12 BAR	
	1½x1/½x1¼	4201-212	12 BAR	
	1½x1/½x2	4201-213	12 BAR	
	1x¾x¾	4201-125	12 BAR	
	1x¾x1	4201-126	12 BAR	
	1x1x¾	4201-131	12 BAR	
	2½x2½x1	4201-289	12 BAR	
	2½x2½x1¼	4201-290	12 BAR	
	2½x2½x1½	4201-291	12 BAR	
	2x2x¾	4201-248	12 BAR	
	2x2x1	4201-249	12 BAR	
	2x2x1½	4201-251	12 BAR	
	3x3x2	4201-338	12 BAR	
	3x3x2½	4201-339	12 BAR	
Street Tee (Sprig x Soc x Soc)	¾	4244-007	12 BAR	293b/03
	1	4244-010	12 BAR	

Product Name	Nominal Size (in.)	Part Number	Maximum Working Pressure (Bar)	LPCB Ref. No.
	1¼	4244-012	12 BAR	
	1½	4244-015	12 BAR	
	2	4244-020	12 BAR	
Reducer Coupling (Soc x Soc)	1½x¾	4229-210	12 BAR	293b/04
Sprinkler Head Tee (Soc x Soc x Metal FIPT)	¾x¾x½	4202-101	12 BAR	
	1¼x1¼x½	4202-166	12 BAR	
	1¼x1x½	4202-156	12 BAR	
	1½x1¼x 1½	4202-199	12 BAR	
	1½x1½x½	4202-209	12 BAR	
	1x¾x½	4202-124	12 BAR	
	1x1x½	4202-130	12 BAR	
	1x1x1	4202-010	12 BAR	
	2x1½x½	4202-237	12 BAR	
	2x2x½	4202-247	12 BAR	
Sprinkler Head Tee (Soc x Soc x SR FIPT)	¾x¾x½	4202-101SR	12 BAR	293b/05
	1¼x1x½	4202-156SR	12 BAR	
	1½x1¼x½	4202-199SR	12 BAR	
	1½x1½x½	4202-209SR	12 BAR	
	1½x1½x1	4202-211SR	12 BAR	
	1¾x1¾x½	4202-166SR	12 BAR	
	1x¾x½	4202-124SR	12 BAR	
	1x1x½	4202-130SR	12 BAR	
	1x1x1	4202-010SR	12 BAR	
	2x1-½x½	4202-237SR	12 BAR	
	2x2x½	4202-247SR	12 BAR	
Sprinkler Head Tee (Soc x Metal FIPT x Soc)	1x½x1	4203-122	12 BAR	293b/06
Sprinkler Head Tee (Soc x SR FIPT x Soc)	1x½x1	4203-122SR	12 BAR	
Sprinkler Head Tee, Sidewall (SR FIPT x SR FIPT x Soc)	½x½x1	4243-075SR	12 BAR	293b/07
Cross (All Socket)	¾	4220-007	12 BAR	293b/08
	1	4220-010	12 BAR	
	1¼	4220-012	12 BAR	
	1½	4220-015	12 BAR	
	2	4220-020	12 BAR	
	2½	4220-025	12 BAR	
	3	4220-030	12 BAR	
Reducing Cross (All Socket)	1x1x¾x¾	4220-131	12 BAR	293b/09
Sprinkler Head Cross, Sidewall (Soc x SR FIPT)	1x½	4221-130SR	12 BAR	293b/10
	1x¾	4221-131SR	12 BAR	
90° Elbow (All Socket)	¾	4206-007	12 BAR	293b/11
	1	4206-010	12 BAR	
	1¼	4206-012	12 BAR	
	1½	4206-015	12 BAR	
	2	4206-020	12 BAR	
	2½	4206-025	12 BAR	
	3	4206-030	12 BAR	
Reducing 90° Elbow (All Socket)	1x¾	4206-131	12 BAR	293b/12
90° Street Elbow (Spig x Soc)	¾	4209-007	12 BAR	293b/13
	1	4209-010	12 BAR	
	2	4209-020	12 BAR	
	1-¼	4209-012	12 BAR	
	1-½	4209-015	12 BAR	
Sprinkler Head 90° Elbow (Socket x Metal FIPT)	¾x½	4207-101	12 BAR	293b/14
	¾x½	4207-101SR	12 BAR	
	1¼x½	4207-166SR	12 BAR	
	1¾x½	4207-166	12 BAR	
	1x½	4207-130	12 BAR	
	1x½	4207-130SR	12 BAR	
	1x¾	4207-131SR		
Sprinkler Head Cross, Sidewall (Soc x SR FIPT)	1x¾	4207-131	12 BAR	
45° Elbow (All Socket)	¾	4217-007	12 BAR	293b/15
	1	4217-010	12 BAR	
	1¼	4217-012	12 BAR	
	1½	4217-015	12 BAR	
	2	4217-020	12 BAR	
	2½	4217-025	12 BAR	
	3	4217-030	12 BAR	

Product Name	Nominal Size (in.)	Part Number	Maximum Working Pressure (Bar)	LPCB Ref. No.
Coupling (Soc x Soc)	¾	4229-007	12 BAR	293b/16
	1	4229-010	12 BAR	
	1¼	4229-012	12 BAR	
	1½	4229-015	12 BAR	
	2	4229-020	12 BAR	
	2½	4229-025	12 BAR	
	3	4229-030	12 BAR	
Reducer Coupling (Soc x Soc)	1¼x¾	4229-167	12 BAR	293b/17
	1¼x1	4229-168	12 BAR	
	1½x1	4229-211	12 BAR	
	1½x1¼	4229-212	12 BAR	
	1x¾	4229-131	12 BAR	
	2½x1½	4229-291	12 BAR	
	2½x2	4229-292	12 BAR	
	2x¾	4229-248	12 BAR	
	2x1	4229-249	12 BAR	
	2x1¼	4229-250	12 BAR	
	2x1½	4229-251	12 BAR	
Reducer Bushing (Spig x Soc)	1¼x¾	4237-167	12 BAR	293b/18
	1¼x1	4237-168	12 BAR	
	1½x¾	4237-210	12 BAR	
	1½x1	4237-211	12 BAR	
	1½x1¼	4237-212	12 BAR	
	1x¾	4237-131	12 BAR	
	2½x1¼	4237-290	12 BAR	
	2½x1½	4237-291	12 BAR	
	2½x2	4237-292	12 BAR	
	2x¾	4237-248	12 BAR	
	2x1	4237-249	12 BAR	
	2x1¼	4237-250	12 BAR	
	2x1½	4237-251	12 BAR	
	3x2	4237-338	12 BAR	
	3x2½	4237-339	12 BAR	
Cap (Soc)	¾	4247-007	12 BAR	293b/19
	1	4247-010	12 BAR	
	1¼	4247-012	12 BAR	
	1½	4247-015	12 BAR	
	2	4247-020	12 BAR	
	2½	4247-025	12 BAR	
	3	4247-030	12 BAR	
Grooved Coupling Adapter (Grv x Soc)	1¼	4233-012	12 BAR	293b/20
	1½	4233-015	12 BAR	
	2	4233-020	12 BAR	
	3	4233-030	12 BAR	
	2-½	4233-025	12 BAR	
Female Adapter (Soc x Metal FIPT)	¾	4235-007	12 BAR	293b/21
	1	4235-010	12 BAR	
	1¼	4235-012	12 BAR	
	1½	4235-015	12 BAR	
	2	4235-020	12 BAR	
Sprinkler Head Adapter (Soc x Metal FIPT)	¾x½	4235-101	12 BAR	293b/22
	1x½	4235-130	12 BAR	
	1x¾	4235-131	12 BAR	
Sprinkler Head Adapter Long Body (Soc x Metal FIPT)	1x½	L4235-130	12 Bar	
Sprinkler Head Adapter With Positioning Ring (Soc x Metal FIPT)	¾x½	R4235-101	12 BAR	
Female Adapter (Soc x SR FIPT)	¾	4235-007SR	12 BAR	293b/23
	1	4235-010SR	12 BAR	
	1¼	4235-012SR	12 BAR	
Sprinkler Head Adapter (Soc x SR FIPT)	¾x½	4235-101SR	12 BAR	293b/24
	1x¾	4235-131SR	12 BAR	
	1x1½	4235-130SR	12 BAR	
Spigot Sprinkler Head Adapter (Spig x Metal FIPT)	1x1½	4238-130	12 BAR	293b/25
Spigot Sprinkler Head Adapter (Spig x Metal FIPT)	3/x½	4238-101	12 BAR	
Spigot Sprinkler Head Adapter (Spig x SR FIPT)	¾x½	4238-101SR	12 BAR	293b/26
	1x½	4238-130SR	12 BAR	
Spigot Female Adapter (Spig x Metal FIPT)	¾	4278-007	12 BAR	293b/27
	1	4278-010	12 BAR	
Spigot Female Adapter (Spig x SR FIPT)	¾	4278-007SR	12 BAR	293b/28
	1	4278-010SR	12 BAR	

Product Name	Nominal Size (in.)	Part Number	Maximum Working Pressure (Bar)	LPCB Ref. No.
Adjustable Sprinkler Head Adapter (Soc x Metal FIPT)	¾x½	42001	12 BAR	293b/29
	1x½	42011	12 BAR	
Adjustable Sprinkler Head Adapter (Spig x Metal FIPT)	¾x½	42004	12 BAR	293b/30
	1x½	42014	12 BAR	
Adjustable Sprinkler Head Adapter (Soc x SR FIPT)	¾x½	42001SR	12 BAR	293b/31
	1x½	42011SR	12 BAR	
Adjustable Sprinkler Head Adapter (Spig x SR FIPT)	¾x½	42004SR	12 BAR	293b/32
	1x½	42014SR	12 BAR	
Flange (Soc)	¾	4251-007	12 BAR	293b/33
	1	4251-010	12 BAR	
	1¼	4251-012	12 BAR	
	1½	4251-015	12 BAR	
	2	4251-020	12 BAR	
	2½	4251-025	12 BAR	
	3	4254-030	12 BAR	
Flange, Van Stone Style (Spig)	¾	4256-007	12 BAR	293b/34
	1	4256-010	12 BAR	
	1¼	4256-012	12 BAR	
	1½	4256-015	12 BAR	
	2	4256-020	12 BAR	
	2½	4256-025	12 BAR	
	3	4256-030	12 BAR	
Flange, Blind	¾	4253-007	12 BAR	293b/35
	1	4253-010	12 BAR	
	1¼	4253-012	12 BAR	
	1½	4253-015	12 BAR	
	2	4253-020	12 BAR	
	2½	4253-025	12 BAR	
	3	4253-030	12 BAR	
Union (Soc x Soc)	¾	4257-007	12 BAR	293b/36
	1	4257-010	12 BAR	
	1¼	4257-012	12 BAR	
	1½	4257-015	12 BAR	
	2	4257-020	12 BAR	
Union (Soc x Metal FIPT)	¾	4259-007BR	12 BAR	293b/37
	1	4259-010BR	12 BAR	
	1¼	4259-012BR	12 BAR	
	1½	4259-015BR	12 BAR	
	2	4259-020BR	12 BAR	

Notes
1) The system of pipe and fittings must be installed in accordance with Spears Manufacturing Company installation instructions FG-3-0104, which includes LPCB conditions of use agreed with Spears Manufacturing Company.
2) The maximum normal ambient temperature of use shall not exceed 50°C.
3) In the UK these products shall only be installed by LPCB Certificated or Registered installing companies (See Part 5, Section 1A and 1B), or outside of the UK by companies who can provide evidence of personnel training in the installation of the product. It is recommended that companies engaged in the installation of this product also be LPCB Certificated to ISO 9000.
4) The base compound of the above listed fittings is 'Protherm 4526 orange 25'.

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TYCO FIRE PRODUCTS CHLORINATED POLYVINYLCHLORIDE (CPVC) BLAZEMASTER SPRINKLER FITTINGS

Product Name	Nominal diameter range	Max. working pressure (bar)	LPCB Ref. No.
Cap	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3.0"	12	420a/01
Straight coupling	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3.0"	12	420a/02
Reducer bush	1.0"x0.75", 1.25"x0.75", 1.25"x1.0", 1.5"x0.75", 1.5"x1.0", 1.5"x1.25", 2.0"x0.75", 2.0"x1.0", 2.5"x1.0", 2.0"x1.25", 2.0"x1.5", 2.5"x1.25", 2.5"x1.5", 2.5"x2.0"	12	420a/03
90° Elbow	0.75", 1.0", 1.25", 1.5", 2.0", 2.25", 2.5", 3"	12	420a/04
45° Elbow	0.75", 1.0", 1.25", 1.5", 2.0"	12	420a/05
Tee	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3"	12	420a/06
Reducing Tee	0.75"x0.75"x1.0", 1.0"x0.75"x0.75", 1.0"x0.75"x1.0", 1.0"x1.0"x 0.75", 1.25"x1.0"x0.75", 1.25"x1.0"x1.0", 1.25"x1.0"x1.25", 1.25"x1.25"x0.75", 1.25"x1.25"x1.0", 1.25"x1.25"x1.5", 1.5"x1.25"x0.75", 1.5"x1.25"x1.0", 1.5"x1.5"x0.75", 1.5"x1.5"x1.25", 1.5"x1.5"x1.0", 2.0"x2.0"x3/", 2.0"x2.0"x1.0", 2.0"x2.0"x1.25", 2.0"x2.0"x1.5", 2.5"x2.5"x1.0", 2.5"x2.5"x1.25", 2.5"x2.5"x2.0", 3.0"x3.0"x1.5", 3.0"x3.0"x2.0", 3.0"x3.0"x2.5"	12	420a/07
Cross	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3"	12	420a/08
Slip sprinkler head adapters	0.75"x0.5",1.0"x0.5", 1.0"x0.75"	12	420a/09
Reducer Coupling	1.0"x0.75"	12	420a/11
Spigot sprinkler head Adaptor	0.75"x0.5", 1.0"x0.5"	12	420a/12
Sprinkler head 90° Elbow	0.75"x0.5", 1.0"x0.5"	12	420a/19
Sprinkler head tee	0.75"x0.75"x0.5", 1.0"x1.0"x0.5", 1.0"x1.0"x1.0", 1.25"x1.25"x0.5", 1.25"x1.0"x0.5", 1.5"x1.25"x0.5", 1.5"x1.5"x0.5", 2.0"x1.5"x0.5", 2.0"x2.0"x0.5"	12	420a/20
Reducing elbow 90°	1.0"x0.75"	12	420a/23
Male adapter ISO 7/1	1.0"	12	420a/24
Male adapter NPT	0.75", 1.0"	12	
Sprinkler head tee (back to back)	1.0"x0.5" NPT (3/8"), 1.0"x0.5" NPT (5/8")	12	420a/26
Cross (back to back)	1.0"x0.5" NPT (3/8"), 1.0"x0.5" NPT (5/8")	12	420a/27
Female adapter ISO 7/1	1", 1.25", 1.5", 2.0"	12	420a/28
Female adapter NPT	0.75", 1", 1.25", 1.5", 2.0"	12	
Reducing Cross	1"x1"x0.75"x0.75"	12	420a/29
Grooved Adapter	1.25", 1.50", 2", 2.50" x 76.1mm, 3"	12	420a/30

Notes relating to Tyco Fire Products pipes and fittings:
1) The system of pipe and fittings must be installed in accordance with the Tyco Fire Products Installation instructions, which includes LPCB Conditions of Use agreed with Tyco.
2) The maximum normal ambient temperatures of use shall not exceed 50°C.

3) The products shall only be installed by LPCB Certificated or Registered Installing companies (see Part 5, Section 1A and 1B above) or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9000.
4) Tyco BlazeMaster CPVC sprinkler pipes are manufactured from Blazemaster CPVC materials that are WrC (WRAS) listed.

TYCO FIRE PRODUCTS CHLORINATED POLYVINYLCHLORIDE (CPVC) BLAZEMASTER SPRINKLER PIPE

Product Name	Nominal diameter range	Max. working pressure (bar)	LPCB Ref. No.
Pipe	0.75", 1.0", 1.25", 1.5", 2.0", 2.5", 3.0"	12	420a/21

Notes relating to Tyco Fire Products pipes and fittings:
1) The system of pipe and fittings must be installed in accordance with the Tyco Fire Products Installation instructions, which includes LPCB Conditions of Use agreed with Tyco.
2) The maximum normal ambient temperatures of use shall not exceed 50°C.
3) The products shall only be installed by LPCB Certificated or Registered Installing companies (see Part 5, Section 1A and 1B above) or by firms outside the UK who can provide evidence of personnel training in the installation of the product. It is recommended that firms engaged in the installation of this product also be LPCB Certificated to ISO 9000.
4) Tyco BlazeMaster CPVC sprinkler pipes are manufactured from Blazemaster CPVC materials that are WrC (WRAS) listed.

This section lists products certificated against applicable parts of the following standard:

- LPS 1260 - *Requirements for testing plastic pipes and fittings for sprinkler systems*.

Notes:
The compounds listed in this section have been tested and approved for the production of the plastic pipes and fittings listed in Section 21.1.

As the pipes and fittings themselves must be tested and approved to LPS 1260, only those products listed in Part 5 Section 21.1 are LPCB approved. Products manufactured from compounds in section 21.2 but not listed in Part 5 Section 21.1 are not LPCB Certificated.

Noveon Europe B.V.B.A

Nijverheidsstraat 30, B-2260, Westerlo, Oevel, Belgium
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Product Name	Part No.	LPCB Ref. No.
Pipe Compound	88745 ORG 734	535a/01
	88738 ORG 734	535a/02
Fitting Compound	88971 ORG 734	535a/03
	88065 ORG 734	535a/04

Notes:
1) This is an approval of the compounds, not the pipe and fittings. Approval of pipes and fittings using these compounds is dependent on conformance with LPS 1260.
2) Firms engaged in manufacturing fire sprinkler pipe and fitting products from these compounds shall also be LPCB Certified.
3) BlazeMaster® CPVC sprinkler pipes and fittings manufactured from BlazeMaster® CPVC pipe and fitting materials are WrC (WRAS) listed.
4) BlazeMaster ® is a registered trademark of Noveon Europe B.V.B.A.

This section lists products certificated to the following:

- LPCB Schedule of requirements

Notes:
Metron actuators listed below have been evaluated in relation to their general performance capability but not in relation to their suitability for specific applications.

LPCB strongly recommends that:

1. Care shall be exercised to ensure that the monitoring current specified by the manufacturer is not exceeded.
2. The manufacturer's installation instructions and product safety instructions shall be followed.
3. These devices shall be replaced every ten years.

Nobel Enterprises

Ardeer Site, Stevenston, Ayrshire, Scotland KA20 3LN UK
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Protractor 'Metron' actuators

Product Name	Stroke (mm)	Work outout J (minimum)	Resistance range Ohms	Allfire Amps (50ms)	Nofire Amps (5 sec)	LPCB Ref. No.
DR2001/C13	3.4	0.69	0.9 to 1.6	0.6	0.3	313a/01
DR2003/C1	3.4	1.18	0.9 to 1.6	0.6	0.3	313a/02
DR2003/C6	3.4	1.18	0.9 to 1.6	0.6	0.3	
DR2003/C35	3.4	1.18	0.9 to 1.6	0.6	0.3	
DR2004/C1	9.5	3.43	0.9 to 1.6	0.6	0.3	313a/03
DR2005/C1	9.5	3.43	0.9 to 1.6	0.6	0.3	313a/04
DR2005/C2	9.5	3.43	0.9 to 1.6	0.6	0.3	
DR2005/C3	9.5	3.43	0.9 to 1.6	0.6	0.3	
DR2005/C6	9.5	3.43	0.9 to 1.6	0.6	0.3	
DR2005/C9	9.5	3.43	0.9 to 1.6	0.6	0.3	
DR2005/C35	9.5	3.43	0.9 to 1.6	0.6	0.3	
DR2006/C1	13.5	4.9	0.9 to 1.6	0.6	0.3	313a/05
DR2006/C2	13.5	4.9	0.9 to 1.6	0.6	0.3	
DR2014/C1	9.5	4.9	0.9 to 1.6	0.6	0.3	313a/06
DR2053	3.4	0.8	7 to 12	0.16	0.05	313a/07

Maximum monitoring current for all models is 0.01A.

This section lists products certificated to the following:

- EN12259-4 - *Fixed firefighting systems. Components for sprinkler & water spray systems. Water motor alarms.*

Notes:
LPCB is a European Notified Body and all of the products in this section will need to be assessed against the new European Norm EN12259-4 before they can be CE marked. Please contact us if you want further information on the current CE status of any of the products in the Red Book.

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Approved Products		**LPCB Ref. No.**
Water Motor Alarm	Model C	034f/01

Tyco Fire & Building Products

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E-mail: info-uk@tyco-bspd.com • Website: www.tycobuilding.com

Approved Products		**LPCB Ref. No.**
Water Motor Alarm	Model WMA-1	437-4e/01

Venus Fire Protection Ltd

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Tel: +1 819 820 8000 • Fax: +1 819 820 8002
E-mail: venus@venus.ca • Website: www.venus-fire.com

Certificated Products		**LPCB Ref. No.**
Water Motor Alarm	Model E	638b/01

Part 6

SECURITY SYSTEMS

INTRODUCTION

The dramatic events of recent times have focussed the world's attention on the need for effective security equipment. Never has there been a greater need by those responsible for the procurement of security equipment to have the assurance that third party product certification provides.

The LPCB continues to work with Insurers, Government, Police, end users and security equipment specifiers to develop methods by which the quality of product performance and product reliability can be assessed. The range of products covered is extensive and includes physical barrier type products, asset marking, computer protection equipment as well as electronic detection and surveillance equipment.

We ensure manufacturers achieve compliance with national and international standards and directives. The products listed in the following sections will have been put through rigorous testing programmes designed to evaluate resistance to deliberate attack and the ability of the product to operate reliably in the service environment.

The scope of the certification of each product is carefully described on the following pages and on the certificates issued to the approved manufacturer. It is important to ensure that specifiers only select products covered by the scope detailed on the certificate since products outside that scope may not provide an equivalent level of security.

A heightened awareness of the need for robust security measures has led to an increasing demand for high quality security products. The **NEW** European Standards for electronic security that came into force in October 2005, coupled with the recommendations of influential organisations such as insurers and the Association of Chief Police Officers (ACPO), means that it is now more important than ever for manufacturers to be able to prove the operational performance of their products.

The intruder detection market is well developed and can be viewed as two separate sectors: domestic and commercial with intrusion into commercial, and to a lesser extent domestic, premises being a significant problem. In addition, the accidental activation of alarm systems, whether caused by malfunctioning equipment or user error, has been problematic for both the end-user and the police and can result in the alarm system being removed from police response. Increasingly alarm systems integrate confirmation technology which has significantly reduced the incidence of false alarms.

Specifiers and installers need to be able to source the appropriate components with confidence that the installed system will meet a specified grade of performance. An LPCB listed intruder detection component can be selected from four grades of operational performance from grade 1 to grade 4 with grade 1 being the lowest.

The purpose of this section is to list intruder detection components that have been assessed by LPCB's experts for their suitability for use with the United Kingdom's document PD 6662 *Scheme for the application of European Standards for intruder and hold-up alarm systems*. The requirements are based on the criteria described in the suite of European Standards and Technical Specifications - TS 50131 but in addition include the requirements of DD243 (confirmation technology) in support of the ACPO security systems policy. Where clarification of the standard is required, the British Security Industry Association (BSIA) guidance documents providing interpretation of the requirement will be followed.

By obtaining approval to the relevant LPS, conformance to the requirements of the various and European standards, technical specifications, published documents, draft documents and policies can be confirmed.

Control and Indicating Equipment

LPS 1603:Issue 1 *Requirements for LPCB Approval and Listing of Intruder Alarm Control and Indicating Equipment* is the standard used for the certification of security system control and indicating equipment. The purpose of this LPS is to list requirements of the performance and suitability for use with the United Kingdom's document PD 6662 *Scheme for the application of European Standards for intruder and hold-up alarm systems*. The requirements are based on the criteria described in the European Technical Specification TS 50131-3 and where appropriate to the criteria of DD 243 in support of the ACPO security systems policy.

Intruder Alarm Movement Detectors

LPS 1602:Issue 1 *Requirements for LPCB Approval and Listing of Intruder Alarm Movement Detectors* is the standard used for the certification of intruder alarm movement detectors. This Loss Prevention Standard specifies the requirements for LPCB approval of the following types of intruder alarm movement detectors;

- Passive infrared
- Microwave
- Combined passive infrared and microwave
- Combined passive infrared and ultrasonic

The purpose of LPS is to list requirements of the performance of intruder alarm movement detectors and their suitability for use with the United Kingdom's document PD 6662 'Scheme for the application of European Standards for intruder and hold-up alarm systems'. The requirements are based on the criteria described in the European Technical Specifications of TS 50131-2-2, TS 50131-2-3, TS 50131-2-4 and TS 50131-2-5 respectively and to the criteria of DD 243 in support of the ACPO security systems policy.

LPCB approval to this LPS is applicable only to intruder alarm movement detectors intended for mounting inside the premises i.e. not externally located.

LPS 1277 *Requirements for LPCB Approval and Listing of Alarm Transmission Systems Equipment* specifies the requirements for alarm transmission equipment intended for use with fire alarm systems and/or intruder alarm systems. Requirements and tests are included in the Loss Prevention Standard that enables the assessment of the performance of those components of the alarm transmission system normally located in the protected premises when used in conjunction with the appropriate transmission networks.

This Section of the Redbook lists alarm transmission equipment suitable for use with intruder alarm systems.

Reference is made to published industry standards for security equipment such as EN 50131-1 together the specific alarm transmission equipment standards of EN 50136 with due recognisance given to PD 6662 for alarm transmission equipment intended for installation within the United Kingdom.

Compliance with relevant safety standards and applicable mandatory directives is a perquisite of LPCB approval and listing.

Particular emphasis is placed on the verification of manufacturers' claims by measuring alarm transmission times over the link between the equipment under test and the corresponding receiving centre. The response to the reporting of fault conditions is measured in a similar way.

The results of these measurements are expressed in terms of alarm transmission system (ATS) performance criteria, using the parameters D, M, T, S and I.

Where,

D = Transmission time classification
M = Transmission time maximum values
T = Reporting time classification
S = Substitution security
I = Information security

Availability is considered a key parameter under LPCB approval and is therefore included within the requirements of LPS 1277 and the resultant performance is expressed using the parameter 'A' for Availability.

The measured values associated with each performance criteria determine the classification of the alarm transmission system, ATS 1 through to ATS 6 as determined by EN 50131-1.

These products are manufactured and installed for the secure storage of cash and valuables. Each grade of product is appropriate to the level of risk it protects, from domestic through to commercial banking.

Safes and strongrooms are graded according to their resistance to manual intervention attack tests. These are undertaken by experienced laboratory test engineers using tools carefully selected to achieve access to the contents of the safe using the minimum time and resistance units possible. The locks that have been approved for use on each of the certified safes and strongrooms are listed in the 'compatible locks' section of each manufacturer's entry in the Red Book. Specifiers and end users are advised that the performance of the safes to the relevant standards requires them to be fitted with the locks listed.

Domestic safes and those typically fitted in hotel bedrooms should generally be graded in accordance with EN 14450 *Secure Storage units - Requirements, classification and methods of test for resistance to burglary - Secure safe cabinets*.

Commercial safes and strongrooms are either graded in accordance with LPS 1183: *Specification for safe storage units. Part 1: Safes and Strongrooms* or EN 1143-1 *Secure storage units. Requirements, classification and methods of test for resistance to burglary. Safes, strongroom doors and strongrooms*. The main difference between LPS 1183: Issue 4 and EN 1143-1 is the locking requirements.

LPS 1183 and EN 1143-1 cover freestanding safes, built-in safes - including wall and underfloor safes, strongrooms and strongroom doors, and ATM safes. Deposit safes are covered in EN 1143-2. This section focuses on freestanding safes while ATM safes, deposit safes, strongrooms and strongroom doors are listed separately. Copies of LPS 1183 can be downloaded free of charge from our website www.RedBookLive.com

It is important to ensure that safes are installed in accordance with the manufacturer's instructions and that all exposed fixings, the substrate into which the device is fitted and the locking mechanisms are regularly checked to ensure that they are in good condition and that they have not been tampered with.

Cash and Jewellery Ratings
Table 1 gives an indication of cash and jewellery ratings generally attributed to safes and strongrooms according to their resistance grade. These ratings should only be used as a guide since each insurer defines their own ratings depending on the performance of the safes and the situation in which the safes and strongrooms are to be used. Specifiers are therefore strongly advised to discuss the issue of cash and jewellery ratings with their insurer prior to selecting a safe or strongroom.

Table 1: Typical Cash and Jewellery Ratings for Safes and Strongrooms

Standard	Resistance Grade	Typical Cash Rating (£K)	Typical Jewellery Rating (£K)
EN 14450	S1	2	20
	S2	4	40
LPS 1183	0	6	60
and	I	10	100
EN 1143-1	II	17.5	175
	III	35	350
	IV	60	600
	V	100	1,000
	VI	150	1,500
	VII	-	-
	VIII	-	-
	IX	-	-
	X	-	-
	XI	-	-
	XII	-	-
	XIII	-	-

Explosion (EX) Designation
This designation indicates a product offers resistance to detonation of a PETN (Pentaerythritol tetranitrate) explosive charge followed by post detonation tool attacks aimed at achieving entry to the safe or strongroom. Although criminal access to explosives has to a great degree been prevented within the UK, such access to explosives is possible in many other countries. Where the use of explosive charges is perceived to be a threat it is recommended products with this designation are selected.

Core Drill (CD) Designation
This designation is only applicable to safes achieving grades IV and above and strongrooms and strongroom doors achieving grades V and above. This designation reflects the ability of a product to pass the diamond drill test specified within EN 1143-1 which is designed to demonstrate the product's superior resistance to methods of forced entry that solely involve the use of diamond core drills. It is therefore recommended that products with this designation are selected if the risk assessments.

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E-mail: clive.mayer@churchillsafes.co.uk • Website: www.churchillsafes.co.uk

Certificate No: 152a to LPS 1183: Issue 4

Product Name	Size reference	Security grade	LPCB Ref. No.
Euro Sapphire	ES2, ES3	I*	152a/02
Euro Ruby	ER12, ER13	II*	152a/03
Euro Emerald	EE22, EE23	III**	152a/04
Euro Olympic Bronze	EO2, EO3	0*	152a/05
Euro Olympic Silver	EO12, EO13	I*	152a/06
Euro Olympic Gold	EO22, EO23	II*	152a/07

Compatible Locks:

Lock	Type	Safe (LPCB Ref. No. 152a/...)					
		2	3	4	5	6	7
Ilco Unican 673000	Mechanical Combination	✓	✓		✓	✓	✓
Ilco Unican 684000	Mechanical Combination			✓			
LaGard Combogard 33E	Electronic Combination	✓	✓	✓	✓	✓	✓
Mauer Variator B 70076	Mechanical Key			✓			
Mauer President A 71111	Mechanical Key	✓	✓		✓	✓	✓
S&G 6730	Mechanical Combination	✓	✓		✓	✓	✓
S&G 6642	Mechanical Combination	✓	✓	✓	✓	✓	✓

Notes:
* These safes can be surface mounted in addition to under floor.
** The manufacturer recommends that this safe is installed under floor only.

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Certificate No: 304a to LPS 1183: Issue 4

Product Name	Size reference	Security grade	LPCB Ref. No.
Europa 0	1 to 7	0	304a/01
Europa I	1 to 7	I	304a/02
Europa II	2 to 7	II	304a/03
Europa III	2 to 7	III	304a/04
Europa II (Mk.2)	2 to 7	II	304a/05
Europa 0 (Mk.2)	1 to 7	0	304a/06
Europa I (Mk.2)	1 to 7	I	304a/07

Compatible Locks

Model	Type	Europa Safe (LPCB Ref. No. 304a/...)						
		01	02	03	04	05	06	07
LaGard Combogard 33E	Electronic Combination	✓	✓	✓	✓	✓	✓	✓
LaGard 1985	Mechanical Combination				✓			
LaGard 3330	Mechanical Combination	✓	✓	✓		✓	✓	✓
Mauer 70079	Mechanical Key				✓			
Mauer 71111	Mechanical Key	✓	✓	✓		✓	✓	✓
S&G 6730	Mechanical Combination	✓	✓	✓		✓	✓	✓
S&G 6731	Mechanical Combination				✓			

Note:
LPS 1183: Part 1: Issue 4 is equivalent to BS EN1143-1: 1997, with the exception of the requirement for locks to meet ENV1300

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Certificate No: 639a to LPS 1183:Issue 4

N-Series Safes

Product Name	Size Reference	Security Grade	LPCB Ref. No.
N-Series	N1, N2 and N3	III	639a/01

Compatible Locks

Manufacturer	Model
S&G6731	Mechanical Combination
S&G6880	Mechanical Key

Note:
LPS 1183: Issue 4 is equivalent to BS EN1143-1:1997 with the exception of the requirement for the locks to meet EN1300.

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Certificate No: 414a to LPS 1183: Issue 4

Europa safes

Product Name	Alternative trade names	Size reference	Security grade	LPCB Ref. No.
Europa	Sovereign 1, Guardian Elite	0 to 7	I	414a/01
	Sovereign 2	1 to 7	II	414a/02
	Sovereign 3	2 to 7	III	414a/03
	Sovereign 4	3 to 7	IV	414a/04
	Sovereign 5	3 to 7	V	414a/05
	Sovereign 0	0 to 7	0	414a/06
Europa Elite		0 to 5	I	414a/07
		0 to 7	II	414a/08

Compatible Locks

lock	Type	LPCB Ref. No. 414a/….							
		01	02	03	04	05	06	07	08
Chubb 6K207	Mechanical key lock	✓	✓	✓	✓	✓	✓	✓	✓
Chubb 7L48	Mechanical combination lock	✓	✓	★	×	×	✓	✓	✓
Chubb 7L49	Mechanical combination lock	✓	✓	✓	✓	✓	✓	✓	✓
Ilco Unican 673000	Mechanical combination lock	✓	✓	★	×	×	✓	✓	✓
Ilco Unican 684000	Mechanical combination lock	✓	✓	✓	✓	✓	✓	✓	✓
LaGard Combogard 33E	Electronic combination lock	✓	✓	✓	✓	✓	✓	✓	✓
Mauer Variator B 70076	Mechanical key lock	✓	✓	✓	✓	✓	✓	✓	✓
Mauer Variator B 70077	Mechanical key lock	✓	✓	✓	✓	✓	✓	✓	✓
Mauer Praetor B 70079	Mechanical key lock	✓	✓	✓	✓	✓	✓	✓	✓
Mauer Variator A 70091	Mechanical key lock	✓	✓	★	×	×	✓	✓	✓
Mauer Variator A 70092	Mechanical key lock	✓	✓	★	×	×	✓	✓	✓
Mauer President A 71111	Mechanical key lock	✓	✓	★	×	×	✓	✓	✓
S&G Comptronic 6124	Electronic combination lock	✓	✓	✓	✓	✓	✓	✓	✓
S&G Comptronic 6125	Electronic combination lock	✓	✓	✓	✓	✓	✓	✓	✓
S&G 6630	Mechanical combination lock	✓	✓	✓	✓	✓	✓	✓	✓
S&G 6631	Mechanical combination lock	✓	✓	✓	✓	✓	✓	✓	✓
S&G 6730	Mechanical combination lock	✓	✓	★	×	×	✓	✓	✓
S&G 6731	Mechanical combination lock	✓	✓	✓	✓	✓	✓	✓	✓
S&G 6741	Mechanical combination lock	✓	✓	★	×	×	✓	✓	✓
S&G 8550	Mechanical combination lock	✓	✓	✓	✓	✓	✓	✓	✓
Secu E2000	Electronic combination lock	✓	✓	★	×	×	✓	✓	✓
Secu E4000	Electronic combination lock	✓	✓	✓	✓	✓	✓	✓	✓

Notes:
1) LPS 1183 : Part 1 : Issue 4 is equivalent to BS EN 1143-1 : 1997,with the exception of the minimum locking requirements.
2) Locks marked with a '*' must not be fitted to the primary lock position on grade III safes.
3) Locks marked with a 'x' must not be f itted to the primary or secondary lock positions on safes of grades IV and above.

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Certificate No: 181b to LPS 1183: Issue 4

Eurocitizen & European Range

Product Name	Sizes - internal dimensions (cm)	Security grade	Fire resistance to BS 476: Part 20: 1987 (min)	LPCB Ref. No.
Eurocitizen/protect	34 40 32, 51 40 32, 70 40 32, 90 40 32 34 50 40, 51 50 40 70 50 40, 160 50 40 120 50 40, 160 50 40	0	60	181b/10
Eurocitizen/protect (LW)	34 40 32, 51 40 32 70 40 32, 90 40 32 34 50 40, 51 50 40 70 50 40, 160 50 40 120 50 40, 160 50 40	0	60	181b/11
	34 40 32, 51 40 32 70 40 32, 90 40 32 34 50 40, 51 50 40 70 50 40, 160 50 40 120 50 40, 160 50 40	I	60	181b/12

Product Name	Sizes - internal dimensions (cm)	Security grade	Fire resistance to BS 476: Part 20: 1987 (min)	LPCB Ref. No.
Eurocitizen/protect	34 40 32, 51 40 32 70 40 32, 90 40 32 34 50 40, 51 50 40 70 50 40, 160 50 40 120 50 40, 160 50 40	I	60	181b/13

Compatible Locks:

Lock	Type	Safe (LPCB Ref. No. 181/...)								
		a/02	a/03	a/04	b/05	a/06	b/10	b/11	b/12	b/13
Bauer Paxos D Compact	Electronic Combination	✓	✓	✓	✓	✓				
Kromer 2374	Mechanical Key					✓				
LaGard Combogard 33E	Electronic Combination	✓	✓	✓	✓					
LaGard Combogard 66E	Electronic Combination	✓	✓	✓	✓					
LaGard 1947 Mechanical	Combination	✓	✓	✓	✓	✓				
LaGard 1985 Mechanical	Combination		✓	✓	✓					
LaGard 3330 Mechanical	Combination	✓	✓				✓	✓	✓	✓
Mauer 70021	Mechanical Key		✓	✓						
RKL-10	Mechanical Key	✓	✓	✓	✓		✓	✓	✓	✓
Secu E2000	Electronic Combination	✓					✓	✓	✓	✓
Secu E4000	Electronic Combination	✓	✓	✓	✓		✓	✓	✓	✓
Secu E6000	Electronic Combination		✓	✓	✓	✓				
S&G 6730	Mechanical Combination	✓								
S&G 6731	Mechanical Combination		✓	✓						
S&G 8550	Mechanical Combination	✓								

Certificate No: 181a to LPS 1183: Issue 3

The European Range

Product Name	Sizes - internal dimensions (cm)	Security grade	Fire resistance to BS 476: Part 20: 1987 (min)	LPCB Ref. No.
The European	50 40 35, 70 40 35 90 40 35, 50 50 40 70 50 40, 90 50 40 120 50 40, 160 50 40 50 50 50, 70 50 50 90 50 50, 120 50 50 160 50 50, 140 60 52 165 72 52	II	60	181a/02
	50 50 40, 90 50 40 120 50 40, 160 50 40 50 50 50, 90 50 50 120 50 50, 160 50 50 140 60 52, 165 72 52	III	60	181a/03
	50 50 40, 90 50 40 120 50 40, 160 50 40 50 50 50, 90 50 50 120 50 50, 160 50 50 140 60 52, 165 72 52 170 66 43, 170 97 43	IV	60	181a/04
	90 50 40, 170 97 43 160 50 40, 170 66 43 170 97 43	V	60	181a/05
	90 50 40, 120 50 40 160 50 40, 90 50 50 120 50 50, 160 50 50	VI	60	181a/06

Note:
LPS 1183 : Part 1: Issue 4 is equivalent to BS EN1143-1: 1997, with the exception of the requirement for locks to meet ENV 1300.

Compatible Locks:

Lock	Type	Safe (LPCB Ref. No. 181/...)								
		a/02	a/03	a/04	b/05	a/06	b/10	b/11	b/12	b/13
Bauer Paxos D Compact	Electronic Combination	✓	✓	✓	✓	✓				
Kromer 2374	Mechanical Key					✓				
LaGard Combogard 33E	Electronic Combination	✓	✓	✓	✓					
LaGard Combogard 66E	Electronic Combination	✓	✓	✓	✓					
LaGard 1947 Mechanical	Combination	✓	✓	✓	✓	✓				
LaGard 1985 Mechanical	Combination		✓	✓	✓					
LaGard 3330 Mechanical	Combination	✓	✓				✓	✓	✓	✓
Mauer 70021	Mechanical Key		✓	✓						
RKL-10	Mechanical Key	✓	✓	✓	✓		✓	✓	✓	✓
Secu E2000	Electronic Combination	✓					✓	✓	✓	✓
Secu E4000	Electronic Combination	✓	✓	✓	✓		✓	✓	✓	✓
Secu E6000	Electronic Combination		✓	✓	✓	✓				
S&G 6730	Mechanical Combination	✓								
S&G 6731	Mechanical Combination		✓	✓						
S&G 8550	Mechanical Combination	✓								

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Certificate No: 115a to LPS 1183: Issue 3
Certificate No: 115b to LPS 1183: Issue 4

Product Name	Size references	Test Standard	Security grade	Fire resistance to BS 476: Part 20: 1987	LPCB Ref. No.
Community	1414 (39) ED (58) 1814 (50) ED (74) 2316 (103) ED (138) 2916 (130) ED (174) 3520 (230) ED (297) 5020 (328) ED (424) 6020 (393) ED (509) Mini-Vault (702) ED (910)	LPS 1183: Issue 3	I	60	115a/01
	1814 (50) ED (74) 2316 (103) ED (138) 2916 (130) ED (174) 3520 (230) ED (297) 5020 (328) ED (424) 6020 (393) ED (509) Mini-vault (702) ED (910)	LPS 1183: Issue 3	II	60	115a/02
	1814 (50) ED (74) 2316 (103) ED (138) 2916 (130) ED (174) 3520 (230) ED (297) 5020 (328) ED (424) 6020 (393) ED (509) Mini-vault (702) ED (910)	LPS 1183: Issue 3	III	60	115a/03
	60 50 40 (120) ED (165) 90 50 40 (180) ED (247) 120 50 40 (240) ED (330) 150 50 40 (300) ED (412)	LPS 1183: Issue 3	IV		115a/04
	60 50 40 (120) ED (165) 90 50 40 (180) ED (247) 120 50 40 (240) ED (330) 150 50 40 (300) ED (412)	LPS 1183: Issue 4	V		115b/05

Product Name	Size references	Test Standard	Security grade	Fire resistance to BS 476: Part 20: 1987	LPCB Ref. No.
	1414 (39) ED (58) 1814 (50) ED (74) 2316 (103) ED (138) 2916 (130) ED (174) 3520 (230) ED (297) 5020 (328) ED (424)	LPS 1183: Issue 4	0	60	115b/10
Community Mk2	1414 (39) ED (58) 1814 (50) ED (74) 2316 (103) ED (138) 2916 (130) ED (174) 3520 (230) ED (297) 5020 (328) ED (424)	LPS 1183: Issue 4	0	60	115b/11

Compatible Locks:

Lock	Type	Safe (LPCB Ref. No. 115 .../...)						
		b/10	b/11	a/01	a/02	a/03	a/04	b/05
LaGard 1947	Mechanical Combination					✓	✓	✓
LaGard 1985	Mechanical Combination					✓	✓	✓
LaGard 3330	Mechanical Combination	✓	✓	✓	✓			
LaGard Combogard 33E	Electronic Combination					✓	✓	✓
LaGard Safeguard 3000/2441	Electronic Combination	✓	✓	✓	✓			
LaGard Safeguard 3035/2441	Electronic Combination					✓	✓	✓
L&F 3007	Mechanical Key	✓	✓	✓	✓			
Mauer 70076	Mechanical Key					✓	✓	✓
Mauer 70077	Mechanical Key					✓	✓	✓
Mauer 70079	Mechanical Key					✓	✓	✓
Mauer 70091	Mechanical Key	✓	✓	✓	✓		✓	✓
Mauer 70092	Mechanical Key	✓	✓	✓	✓			
Mauer 71111	Mechanical Key	✓	✓	✓	✓			
S&G 6730	Mechanical Combination	✓	✓	✓	✓			
S&G 6731	Mechanical Combination					✓	✓	✓
SMP S520D7-C	Mechanical Key	✓	✓	✓	✓			

Note:
1) ED denotes available with up to 150mm extra depth.
2) Figures in brackets denote the volumes in litres. The first figure is the standard volume, the second figure is the volume of safe with maximum 150mm extra depth.
3) LPS 1183 : Part 1: Issue 4 is equivalent to BS EN1143-1: 1997, with the exception of the requirement for locks to meet ENV 1300.

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Certificate No: 304b to BS EN 14450:2005

Harlech Lite

Product Name	Size Reference	Security Level	LPCB Ref. No.
Harlech Lite (Level 1)	00, 0, 1, 2, 3, 4, 5 and 6	S1	304b/01
Harlech Lite (Level 2)	00, 0, 1, 2, 3, 4, 5 and 6	S2	304b/02

Compatible Locks

Model	Type	Security Cabinet (LPCB Ref. No. 304b/…) 01	02
LaGard 1985[1]	Mechanical Combination	✓	✓
LaGard 3740[1]	Electronic Combination	✓	✓
LaGard Combogard 33E[1]	Electronic Combination	✓	✓
Mauer President A 71111[1]	Mechanical Key	✓	✓

Notes:
1) No evidence was available to confirm these locks meet the minimum lock requirements specified in Table 1 of BS EN 14450: 2005 at the time of issuing approval. None the less, the cabinets meet all other requirements of BS EN 14450: 2005 and all requirements of prEN 14450: June 2004 when fitted with these locks.

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Certificate No: 115c to BS EN 14450: 2005

Product Name	Size Reference	Security Level	LPCB Ref. No.
Concept 2	1,2,3,4,5,6 and 7	S2	115c/01

Compatible Locks

Model	Type
Lowe and Fletcher 3007	Mechanical key
LaGard 3330[1]	Mechanical combination
LaGard Combogard 33E[1]	Electronic combination

Notes:

1) No evidence was available to confirm these locks meet the minimum lock requirements specified in Table 1 of BS EN 14450:2005 at the time of issuing approval. None the less, the cabinets meet all other requirements of BS EN 14450:2005 and all requirements of prEN 14450:June 2004 when fitted with these locks.

In 2004 it was reported that 66% of ATM incidents involved either attacks on the ATM in-situ or removal of the ATM. Of these 37% resulted in losses to the ATM operator. This represented a sharp rise in losses through ATM crime compared with previous years.

By selecting ATMs that incorporate a safe graded to LPS 1183 or EN 1143-1, ATM losses may be significantly reduced because criminals would soon realise the increased time and effort required to overcome the mounting system (which is required to resist up to a 100kN force and manual attack) and also to gain entry to the contents of the safe itself.

ATM safes listed in this section have been thoroughly attack tested in accordance with either LPS 1183 or EN 1143-1, as indicated in the details accompanying the individual product listing. LPS 1183 is more onerous than the European Standard (EN 1143-1), in terms of partial access. This replicates the effort required to create a hand hole through the safe wall in order to access the contents. The mounting test defined in EN 1143-1 is used in place of that specified in LPS 1183.

As with free-standing safes and strongrooms, the locks fitted to the ATM safe and construction of the safe are critical. Specifiers and users should therefore discuss any proposals with their insurance company and the safe manufacturer prior to undertaking such work.

Please note that the fixing system employed forms part of the over all classification assessment. As such, the use of alternative fixings or anchor systems, while generally well intentioned, may undermine the security afforded by the ATM safe and invalidate the approval. It is also important to check locking mechanisms regularly to ensure they have not been tampered with.

The same rigorous certification procedures and conditions are applied to the ATM safes listed in this section as are applied to free standing safes, strongrooms and deposit safes.

Safes that incorporate a deposit facility are covered by EN 1143-2 *Requirements, classification and methods of test for resistance to burglary - Part 2: Deposit systems*. This describes tests over and above those specified in EN 1143-1, and includes 'forcing', 'fishing', 'trapping' and 'deposit retrieval'.

Deposit safes take a number of forms and these affect the classification attributed to them.

Deposit safes are normally located within a building and are primarily designed to enable employees to deposit money or other items without having to open the main door of the safe. Deposit safes receive a classification of "D-#" where # is the grade of resistance achieved during testing.

Deposit safes range from standard deposit safes with manual operation through to the distributed deposit systems employed by supermarkets.

Night safes, on the other hand, are often accessible from the street and are primarily used by financial institutions for providing a secure depositing system for their customers. Night safes receive a classification of "N-#" where # is the grade of resistance achieved during testing.

Strongrooms are graded in accordance with the requirements of LPS 1183 and EN 1143-1, as described in the introduction to Section 2.

Strongrooms take two forms:

- Cast in-situ. The strongroom structure is cast on site where there is insufficient access to manoeuvre pre-fabricated panels into place.
- Pre-fabricated. The strongroom is formed on site from pre-fabricated panels, designed to bolt together securely to form numerous configurations.

Strongrooms are not only designed to secure larger volumes of cash and jewellery but are increasingly used to store items such as artwork and antiquities, pharmaceuticals, military equipment and highly sensitive documentation. Strongrooms are also increasingly being used to protect large scale IT server hubs due to the high value of the server equipment and business continuity risks associated with the potential loss of such equipment or data.

It is important to ensure that all exposed fixings, jointing plates, the substrate into which the device is fitted and the locking mechanisms are regularly checked to ensure that they are in good condition and that they have not been tampered with.

It is also important to ensure only those design options listed, such as special cable access or ventilation panels, are incorporated within the strongroom construction as the use of alternative options may undermine the level of security provided by the strongroom.

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Certificate No: 181d to LPS 1183: Issue 4

Metrowall Strongrooms

Product Name	Product type	Compatible locks	Security grade	LPCB Ref. No.
Metrowall I	Modular strongroom	Chubb 6K207	I	181d/01
Metrowall II	Modular strongroom	Chubb 6K207	II	181d/02
Metrowall III	Modular strongroom	Chubb 6K207	III	181d/03
Metrowall IV	Modular strongroom	Chubb 6K207	IV	181d/04

Compatible Locks[6]

Model	Type	Strongroom (LPCB Ref. No. 181d/...)			
		01	02	03	04
Bauer Paxos D	Electronic combination	P	P	P	P
Baxess Paxos T	Electronic combination	P	P	P	P
Chubb 6K207	Mechanical key lock	P	P	P	P
LaGard 1947	Mechanical combination	P	P	P	P
LaGard 1985	Mechanical combination	P	P	P	P
LaGard Combogard 33E	Electronic combination	P	P	P	P
Leicher Safelock K	Electronic combination	P	P	P	P
Leicher Safelock M	Electronic combination	P	P	P	P
Mauer Variator B 70076	Mechanical key lock	P	P	P	P
Mauer Variator B 70077	Mechanical key lock	P	P	P	P
Mauer Praetor B 70079	Mechanical key lock	P	P	P	P
Rosengrens RKL-10	Mechanical key lock	P	P	P	P
S&G 6730	Mechanical combination	P	P	S	N
S&G 6731	Mechanical combination	P	P	P	P
S&G 6880	Mechanical combination	P	P	P	P
S&G 8550	Mechanical combination	P	P	P	P

Metrowall strongrooms are assembled using the following modular components:

Component	Models	Dimensions (mm)	
Door	I, II, III and IV	Height (free opening)	1800 to 2500
		Width (free opening)	750 to 1200
Door capping panel	I, II, III and IV	Height	255 to 930
		Width	900 and 1350
Optional capping panel (incorporating cable access facility)	I, II, III and IV	Height	255 to 930
		Width	900 and 1350
Wall, ceiling and floor(1) panels	I, II, III and IV	Length	2075 to 3875
		Width	225 to 900
Optional wall panel (incorporating cable access facility)(2)	I, II, III and IV	Length	2075 to 3875
		Width	675

Notes relating to the construction of Metrowall strongrooms:

1) Metrowall strongrooms can be constructed with or without floor panels.
   The resistance to forced entry from beneath the strongroom has not been assessed on Metrowall Strongrooms that do not incorporate floor panels. However, Metrowall strongrooms that incorporate floor panels do provide the required level of resistance to attacks aimed at penetrating the strongroom from beneath.
2) The cable entry facility must be located towards the top of this panel when the strongroom is assembled.
3) At least one wall panel shall be placed each side of the door.
4) One door capping panel shall be located directly above the door on the assembled strongroom.
5) Shelving, lighting or other fittings placed on the inside or outside of the strongroom shall not be mounted to the strongroom by methods that result in the panels or joining plates being drilled or otherwise penetrated in any way. Doing so may adversely affect the level of security offered by the strongroom.
6) P = The lock may be fitted to either the primary or secondary lock position.
   S = The lock may only be fitted to the secondary lock position.
   N = The lock is not suitable for use on this strongroom.

Commercial property protection
The first line of security protection for a building is the outer façade including entrances, windows and the building fabric itself. Appropriate physical security will protect a building from both opportunist and premeditated theft.

Security doors, shutters, grilles and facades are approved to LPS 1175 *Specification for testing and classifying the burglary resistance of building components, strongpoints and security enclosures.* In addition to these products, the standard also caters for the assessment and certification of any other product or system designed to prevent unauthorised access by mechanical means. These include:

- Cladding Systems
- Fences and walls
- Fixed Grilles
- Folding Doorsets
- Garage Doors
- Roofing Systems
- Temporary Buildings
- Sheds and Tool Stores
- Sky Lights
- Strongpoints and Enclosures
- Vehicles
- Windows

LPS 1175 is based on manual attack testing and defines six levels of resistance. These are measured in terms of attack tools and time available to the attacker, and enables specifiers to select products according to the risk. Details regarding the grading system and attack tools can be found in the standard itself, which can be downloaded from the BRE Certification web site www.RedBookLive.com

In addition to certifying windows, doors and shutters to LPS1175, LPCB also offers certification of these products to the following standards:

PAS 23-1:1999	General performance requirements for door assemblies - Part 1: Single leaf, external door assemblies to dwellings
PAS 24-1:1999	Enhanced security performance requirements for door assemblies - Part 1: Single leaf, external door assemblies to dwellings
BS 7950:1997	Specification for enhanced security performance of casement and tilt/turn windows for domestic applications
ENV 1627:1999	Windows, door shutters - Burglar resistance - requirements and classification

PAS23, 24 and BS7950 are aimed at domestic applications. The levels of security offered by these products generally falls between those described in LPS 1175 for Security Ratings 1 and 2. Please note that PAS 23 and 24 and BS 7950 do not allow breakage of the glazing in order to facilitate entry and as such cannot be directly compared with the resistance of products to LPS 1175 which includes glazing in the attack tests.

ENV 1627 is aimed at both the domestic and commercial market.

While products certified to ENV 1627 will appear within this section, doorsets that have been certified to PAS 23 and PAS 24 are listed in Section 12 and windows that have been certified to BS 7950 are listed in Section 13.

Hotel doorsets
In addition to these standards, LPCB has also developed a standard for Hotel Doorsets. LPS 1268 *Specification for the testing and classification of hotel bedroom doorsets* covers all aspects of the performance of the doorset from security performance through to fire resistance, acoustic and general durability. Copies of the standard are available free of charge and can be downloaded from www.RedBookLive.com

Product Selection
When selecting a security door, shutter, grille or other façade element, it is important to note aspects such as the size, locking systems, modes and directions of opening, and the type, size and location of any glazing incorporated within the product or system. All can affect the level of security provided by the product. These aspects of each certified product have therefore been described to enable selection of the most appropriate

product for the desired application. Where options, such as glazed in-fills within door leaves, are not covered in the listing, those options fall outside the scope of that product's certification.

It is important to ensure that the products are installed in accordance with the manufacturer's instructions and that all exposed fixings, the substrate into which the device is fitted and the locking mechanisms are regularly checked to ensure that they are in good condition and that they have not been tampered with.

Unless otherwise stated, the security ratings attributed to the products listed require all lock bolts to be fully engaged and any deadlocking mechanism provided must be engaged.

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Certificate No: 021 to LPS 1175: Issue 5

Hinged Doorsets

Product Name	Type	Frame Dimensions Height (m)	Frame Dimensions Width (m)	Compatible Locking System Active Leaf	Compatible Locking System Passive Leaf	Locked Condition	Security Rating	LPCB Ref. No.
Secureshield 4	Double leaf, outward opening hinged security doorset	2.090	1.775	3	4, 5 or 6	Minimum	3	021c/01
	Double leaf, outward opening hinged security doorset	2.090	1.775	1, 2 or 3	4, 5 or 6	Optimum	4	
	Single leaf, outward opening hinged security doorset	2.090	1.275	3	N/A	Minimum	3	
	Single leaf, outward opening hinged security doorset	2.090	1.275	1, 2 or 3	N/A	Optimum	4	

Compatible Locking Systems

Compatible Locking Systems	Locking System	Type	Locked Condition	Compatible operating devices	
				External Face	Internal Face
1	Assa Mico 942-3 MSD[1]	Three point panic exit device fitted with MSD deadlocking device	Optimum[2]	None	Key and panic bar
2	Assa Mico 942-3P MSD[1]	Three point emergency exit device operated by a push pad and fitted with the MSD deadlocking device	Optimum[2]	None	Key and push pad
3	Assa Mico 942-3L MSD[1]	Three point emergency exit device operated by a lever handle and fitted with the MSD deadlocking device	Optimum[2] Minimum	None	Key and lever handle Lever handle
4	Assa Mico 942	Two point panic exit device		None	Panic bar
5	Assa Mico 942P	Two point emergency exit device operated by a push pad		None	Push pad
6	Assa Mico 942L	Two point emergency exit device operated by a lever handle		None	Lever handle

Notes:
1) The MSD (Micro Switched Deadlock) system is operated by key from inside. This must be deadlocked in order to achieve the level of security relating to the optimum locked condition.
2) Although outside the scope of LPS1175: Issue 5, special consideration should be paid to the deadlocking of the Assa Mico panic and emergency three point locking system. This is because it is generally not acceptable to separately deadlock a doorset that is fitted with a panic or emergency exit device unless the deadlock is automatically operated by the action of the panic or emergency device, since doing so can inhibit means of escape. For further information, reference should be made to the appropriate standards for emergency exit and panic exit devices, i.e. BS EN 179 and BS EN 1125 respectively.

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Certificate No: 312c to LPS 1175

Product Name	Type Min. Height (m)	Min. Height (m)	Min. Width (m)	Max. Height (m)	Max. Width (m)	Security Rating	LPCB Ref. No.
Fortress 2	Single leaf outward opening security louvred door	1.5	0.5	2.3	1.0	2	312c/01

Compatible Locking Devices:

Lock	Type	Approved product (LPCB Ref. No. 312c/01
Siver 921	Three-point locking system	✓

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Certificate No: 498a to LPS 1175: Issue 5

Security Doorsets

Product Name	Type	Max. height (m)	Min. height (m)	Max. width (m)	Min. width (m)	Security rating	LPCB Ref. No.
R3	Single leaf, outward opening hinged security doorset	2.4	1.85	1.115	0.679	3	498a/01
R4	Single leaf, outward opening hinged security doorset	2.4	2.095	1.115	0.679	4	498a/02
R5	Single leaf, outward opening hinged security doorset	2.5	0.8	1.5	0.6	5	498a/03
R6	Single leaf, outward opening hinged security doorset	2.5	0.8	1.5	0.6	6	498a/04
Citadel R4	Single leaf, outward opening hinged security doorset	2.4	1.85	1.2	0.679	4	498a/05

Compatible Locking Devices:

Lock	Type	LPCB Ref. No. 498a/….				
		01	02	03	04	05
TESA TLB31	Multi-point locking unit fitted with the armoured escutcheon and TESA Euro-profile cylinder	✓	✓			✓
TESA TLP31	Multi-point locking unit fitted with the armoured escutcheon and TESA Euro-profile cylinder	✓	✓			✓
Chubb 6K207	Mechanical key lock			✓	✓	
Kaba Baxes Paxos D	Electronic combination lock			✓	✓	
Kaba Baxes Paxos T	Mechanical key lock			✓	✓	
Leicher Safelock K	Electronic combination lock			✓	✓	
Leicher Safelock M	Electronic combination lock			✓	✓	
Mauer 70021	Mechanical key lock			✓	✓	
S&G 6880	Mechanical key lock			✓	✓	
Secu E4000	Electronic combination lock			✓	✓	
Secu E6000	Electronic combination lock			✓	✓	

Note:
1) In order to provide the certified level of resistance to forced entry, the key must be rotated through 720 degrees before removing it from the cylinder. The key should not be withdrawn after the first revolution.

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Certificate No: 694a to LPS1175: Issue 5

Hinged Security Doorset

Product Name	Type	Clear Opening Dimensions Min Height (mm)	Clear Opening Dimensions Min Width (mm)	Clear Opening Dimensions Max Height (mm)	Clear Opening Dimensions Max Width (mm)	Security Rating	LPCB Ref. No.
DS3	Single leaf, outward opening hinged security doorset	2000	800	2500	1200	3	694a/01

Compatible Locking Devices

LPCB Ref. No.	Product Name	Compatible Locking Devices			
		Locking System Type	Compatible Operating Devices External Face	Compatible Operating Devices Internal Face	Compatible Cylinders
694a/01	DS3	Assa 8765 Sash lock	Key plus Assa 6650 sprung handle[1]	Key plus Assa 6650 sprung handle[1]	Assa 7602 double cylinder (key:key)

Note:
1) The Assa 6650 sprung handle must be fitted to both sides of the doorset.

Fendor Hansen

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Certificate No: 712b to LPS1175: Issue 5

Product Name	Type	Clear Opening Dimensions (m) Maximum Height	Clear Opening Dimensions (m) Maximum Width	Clear Opening Dimensions (m) Minimum Height	Clear Opening Dimensions (m) Minimum Width	Security Rating	LPCB Ref. No.
SecureLine	Double leaf inward opening hinged security doorsets	2.24	2.8	2	1.5	2	712b/01
	Double leaf outward opening hinged security doorsets	2.6	2.8	2.0	1.5	2	
	Single leaf inward opening hinged security doorsets	2.6	1.4	2.0	0.85	2	
	Single leaf outward opening hinged security doorsets	2.6	1.4	2.0	0.85	2	

Compatible Locking Devices and Glazing

LPCB Ref. No.	Product Name	Type	Lock	Cylinder	Glazing[2]
712b/01	SecureLine	Single leaf outward opening hinged security doorsets	Adams Rite MS2000 maximum security deadlock model 2200-210 with barbolt	Assa Sofi 4822 Europrofile double cylinder (key:key)	16 mm thick specialist laminated glazing unit
		Single leaf inward opening hinged security doorsets	Adams Rite MS2000 maximum security deadlock model 2200-210 with barbolt	Assa Sofi 4822 Europrofile double cylinder (key:key)	16 mm thick specialist laminated glazing unit
		Double leaf outward opening hinged security doorsets	Adams Rite MS2000 maximum security deadlock model 2200-250 with hookbolt and top/bottom rods	Assa Sofi 4822 Europrofile double cylinder (key:key)	16 mm thick specialist laminated glazing unit
		Double leaf inward opening hinged security doorsets	Adams Rite MS2000 maximum security deadlock model 2200-250 with hookbolt and top/bottom rods	Assa Sofi 4822 Europrofile double cylinder (key:key)	16 mm thick specialist laminated glazing unit

Notes:
1) The SecureLine doorsets should be mounted within the reveal, directly into the surrounding structure in accordance with Fendor Hansen installation instructions SR2+/03.
2) Alternative glazing may not provide equivalent resistance to attack. Therefore, please consult Fendor Hansen before replacing or changing the glazing.

IR Martin Roberts, IR Security & Safety Limited

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Certificate No: 322a to LPS 1175: Issue 5

Security Doorsets

Product Name	Type	Direction of opening	Clear opening: min. height (m)	Clear opening: min. width (m)	Clear opening: max. height (m)	Clear opening: max. width (m)	Security rating	LPCB Ref. No.
Martin Roberts SD5003 Range	Single leaf, hinged security doorset	Outwards	0.951	0.503	3.049	1.332	3	322a/01
Martin Roberts SD5001 (1)	Single leaf, hinged security doorsets	Inwards	0.951	0.503	2.250	1.332	1	322a/02
	Single leaf, hinged security doorsets	Outwards	0.951	0.503	3.049	1.332	1	

Compatible Locking Systems

LPCB Ref. No.	Trade Name	Type	Direction of Opening	Compatible Locking Options
322a/01	Martin Roberts SD5003 Range	Single leaf, hinged security doorset	Outward	1, 2, 4, 6, 7, 8, 9, 10, 11, 12 and 13
322a/02	Martin Roberts SD5001	Single leaf, hinged security doorset	Outward Inward	5 3

Option	Locking System	Type	Compatible External and Internal Operating Devices	
			External	Internal
1	Assa 765	Sash Lock	Key via an Assa 6501 single cylinder or an Assa 6502 double cylinder	Key plus lever handle Key plus thumb-turn
2	Assa 500/9	Mortice Locking Latch	Key via an Assa 6501 single cylinder	Assa Mico 944 panic latch or Briton 379 panic operator or Lever handle
3	Assa 1520	Escape Sash Lock	Key via an Assa 4801 single cylinder or Key via an Assa 4802 double cylinder	Assa 6650C solid brass handle plus either an Assa 6256 thumb-turn or Key via an Assa 4802 double
4	Assa 8761	Emergency Nightlatch	Key via an Assa 6501 single cylinder	Assa Mico 944 panic latch or Briton 379 panic operator or Lever handle
5	Assa 8761	Emergency Nightlatch	Key via an Assa 4801 single cylinder	Assa 640 solid brass handle
6	Assa 9788	Mortice Deadlock	Key via an Assa 6501 single cylinder or an Assa 6502 double cylinder	Key or thumb-turn
7[2]	Assa 8761 and Assa 9788	Emergency Nightlatch and Mortice Deadlock	Two separate keys via Assa 6501 or Assa 6502 cylinders	Combination of either: Assa Mico 922 panic latch, Briton 379 panic operator or Lever handle, and either: key or thumb-turn
8	Assa 9788 (Two fitted)	Mortice Deadlocks	Key via an Assa 6501 single or Assa 6502 double cylinder	Two keys or Two thumb-turns One key and one thumb-turn
9	Security Engineering plc SI1216	Sash Lock	Key via a Buga 4600 single cylinder or a bug 4610 double cylinder	Key plus lever handle or Key plus thumb-turn
10	Security Engineering plc SI1233	Emergency Nightlatch	Key via a Buga 4600 single cylinder or a bug 4610 double cylinder	Assa Mico 944 panic latch or Briton 379 panic operator or Lever handle
11	Security Engineering plc SI1241	Mortice Deadlock	Key via a Buga 4600 single cylinder or a bug 4610 double cylinder	Key or thumb-turn
12[2]	SI 1233 and SI1241	Emergency Nightlatch and Mortice Deadlock	Two separate keys via Buga 4600 or Buga 4610	Combination of either: Assa Mico panic latch, Briton 379 panic operator or Lever handle, and either: key or thumb-turn
13	SI 1241 (Two fitted)	Mortice Deadlocks	Key via a Buga 4600 single or Buga 4610 double cylinder	Two keys or Two thumb-turns or One key and one thumb-turn

Notes:
1) This product also meets the requirements of PAS23-1:1999 and PAS24-1:1999. For further information, please refer to entries in sections on PAS23-1 and PAS24-1 relating to LPCB certificates 322b and 322c respectively.
2) Although outside the scope of LPS1175: Issue 5, special consideration should be paid to the use of the Assa 9788 Mortice Deadlock in combination with the Assa 8761 Emergency Nightlatch or the SI1241 Mortice Deadlock in combination with the SI1233 Emergency Nightlatch. This is because it is generally not acceptable to separately deadlock a doorset that is fitted with a panic or emergency exit device unless the deadlock is automatically operated by the action of the panic or emergency device. For further information, please refer to the appropriate standards for emergency and panic exit devices, i.e. BS EN 179 and BS EN 1125 respectively.

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Certificate No: 442a to LPS 1175: Issue 5

LD Series 4

Product Name	Type	Min height (m)	Min width (m)	Max height (m)	Max width (m)	Security rating	LPCB Ref. No.
LD Series 4	Single leaf, outward opening hinged security doorset	1.8	0.75	2.25	1.15	4	442a/01

Compatible Locking Devices:

LPCB Ref. No.	Trade Name	Type	Lock	Cylinder
442a/01	LD Series 4	Single leaf outward opening hinged security doorset	Surelock McGill C3 3-way multiple bolting unit	Abloy 5841 Europrofile single cylinder with internal thumturn

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Certificate No: 661a to LPS 1175: Issue 5

Security Doorsets

Product Name	Type	Clear Opening Dimensions (m) Maximum Height	Clear Opening Dimensions (m) Maximum Width	Clear Opening Dimensions (m) Minimum Height	Clear Opening Dimensions (m) Minimum Width	Security Rating	LPCB Ref. No.
Trenchard	Single leaf, outward opening hinged security doorset	2.4	1.2	1.8	0.76	3	661a/01
Fenwick	Single leaf, outward opening hinged security doorset	2,4	1.2	1.8	0.76	4	661a/02

Compatible Locking Systems

LPCB Ref. No.	Trade Name	Manufacturer	Compatible Locking Systems Model	Type	Compatible Cylinders
661a/01	Trenchard	Surelock McGill	EX210(B1) -L1 mounted locking system fitted with push bar and LEO external operating device	Three point surface DOM 419ix10G Kaba KV207.0000C5-SC Union 26X11B Yale PK1133 Pro-Key	Bramah C17SI
661a/02	Fenwick	Surelock McGill	EX210(B1) mounted locking system fitted with push bar	Three point surface	N/A

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Certificate No: 516a to LPS 1175: Issue 5

Security Doorsets

Product Name	Type	Clear opening: max. height (m)	Clear opening: max. width (m)	Clear opening: min. height (m)	Clear opening: min. width (m)	Security rating	LPCB Ref. No.
Sandhurst	Single leaf, outward and inward[1] opening hinged security doorsets	2.5	1.0	1.9	0.7	3	516a/01
Hendon	Single leaf, outward and inward opening hinged	2.5	1.0	1.9	0.7	2	516a/02
Wilton	Single leaf, outward opening hinged security doorset	2.5	1.0	1.9	0.7	4	516a/03
Halton	Single leaf, outward opening hinged security doorset	2.5	1.0	1.468	0.7	4	516a/04
Sandhurst	Double leaf, outward opening hinged security doorset	2.5	2.0	1.9	1.4	3	516a/05
Wilton	Double leaf, outward opening hinged security doorset	2.5	2.0	1.9	1.4	4	516a/06
Halton	Double leaf, outward opening hinged security doorset	2.5	2.0	1.9	1.4	4	516a/07

Compatible Locking Systems

LPCB Ref. No.	Trade Name	Opening Direction	Nominal Leaf Thickness (mm)	Compatible Locking Systems	
				Active Leaf	Passive Leaf
516a/01	Sandhurst	Outward	46	AA, AB, AC, AD1, AE, AF1, AG, AH, AI, AJ, AK1, AL, AM1, AO, AP, AQ1 and AR1	N/A
			54	AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AO, AP, AQ and AR	N/A
		Inward	46	AA, AB, AC, AD1, AE, AF1, AI, AJ, AK1, AL, AM1, AO, AP, AQ1 and AR1	N/A
			54	AA, AB, AC, AD, AE, AF, AI, AJ, AK, AL, AM, AO, AP, AQ and AR	N/A
516a/02	Hendon	Outward	46	AA	N/A
		Inward	46	AA	N/A
516a/03	Wilton	Outward	55	AJ1, AK2, AL, AM2, AN, AP1, AQ2, AR2 and AS	N/A
516a/04	Halton	Outward	55	AJ1, AK2, AL, AM2, AN, AP1, AQ2, AR2 and AS	N/A
516a/05	Sandhurst	Outward	46	AD1, AE, AF1, AK1, AL, AM1, AQ1 and AR1	AD1, AE, AF1, AK1, AL, AM1, AQ1, AR1 or AT
			54	AD, AE, AF, AK, AL, AM, AQ and AR	AD, AE, AF, AK, AL, AM, AQ, AR or AT
516a/06	Wilton	Outward	55	AK2, AL , AM2, AN, AQ2, AR2 and AS	AT or two-point bolting version of locking system on the active leaf
516a/07	Halton	Outward	55	AK2, AL , AM2, AN, AQ2, AR2 and AS	AT or two-point bolting version of locking system on the active leaf

Compatible Locks

Compatible Locking System	Manufacturer	Model	Type	Compatible Cylinders (New)
AA	Surelock McGill	Trimlock (D117)	Three point mortice locking system	4, 5[1], 7, 8[1], 14, 15[1], 19, 20[1], 24, 25[1], 27, 28[1], 35, 36[1], 39, 40[1], 43, 44[1], 47 and 50[1]
AB	Surelock McGill	EX110-L1	Three point surface mounted emergency exit system fitted with lever handle or push pad and LEO module	22, 29, 33, 46 and 51
AC	Surelock McGill	EX210-L1	Three point surface mounted panic exit system fitted with push bar and LEO module	22, 29, 33, 46 and 51
AC1	Surelock McGill	EX210-L2	Three point surface mounted panic exit system fitted with push bar and “SR4” LEO module	22, 29, 33, 46 and 51
AD	Surelock McGill	DL200-P	Three point surface mounted locking system with automatic cylinder deadlock operated by key (outside) and turn-knob (inside)	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48

AD1	Surelock McGill	DL200-K15P	Three point surface mounted locking system with automatic cylinder deadlock operated by key (outside) and turn-knob inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AD2	Surelock McGill	DL200-K15P5	Three point surface mounted locking system with automatic cylinder deadlock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AE	Surelock McGill	DL100	Three point surface mounted locking system with lever-key operated deadlock	N/A
AF	Surelock McGill	DL106-P	Three point surface mounted locking system with cylinder deadlock operated by key (outside) and turn-knob (inside)	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AF1	Surelock McGill	DL106-K15P	Three point surface mounted locking system with cylinder deadlock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AF2	Surelock McGill	DL106-K15P5	Three point surface mounted locking systemwith cylinder deadlock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AG	Surelock McGill	Stirling DL800 with K2 and Q4 options	Single point surface mounted locking device with cylinder deadlock operated by key (outside) and turn-knob (inside)	2, 3, 6, 10, 12, 13, 17, 18, 21, 23, 26, 30, 31, 34, 38, 41, 42, 45, 47 and 48
AH	Surelock McGill	Stirling EX800 with K2 and Q4 options	Single point surface mounted emergency exit device fitted with external key access	2, 3, 6, 10, 12, 13, 17, 18, 21, 23, 26, 30, 31, 34, 38, 41, 42, 45, 47 and 48

AI	Surelock McGill	A1-L1	Three point surface mounted locking system fitted with lever handle or push pad and LEO module	22, 29, 33, 46 and 51
AJ	Surelock McGill	B1-L1	Three point surface mounted panic exit system fitted with push bar and LEO module	22, 29, 33, 46 and 51
AJ1	Surelock McGill	B1-L2	Three point surface mounted panic exit system fitted with push bar and “SR4” LEO module	1, 9, 11, 16, 22, 29, 32, 37, 46 and 51
AK	Surelock McGill	C1-P	Three point surface mounted locking system with automatic cylinder deadlock operated by key (outside) and turn-knob (inside)	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AK1	Surelock McGill	C1-K15P	Three point surface mounted locking system with automatic cylinder deadlock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AK2	Surelock McGill	C1-K15P5	Three point surface mounted locking system with automatic cylinder deadlock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AL	Surelock McGill	D1	Three point surface mounted locking system with lever-key operated deadlock	N/A
AM	Surelock McGill	D6-P	Three point surface mounted locking system with cylinder deadlock operated by key (outside) and turn-knob (inside)	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AM1	Surelock McGill	D6-K15P	Three point surface mounted locking system with cylinder deadlock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AM2	Surelock McGill	D6-K15P5	Three point surface mounted locking system with cylinder dead lock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AN	Surelock McGill	25C1-P5R4X[2]	25mm throw three point locking system with 50v solenoid deadlock (power to release) and external cylinder operation	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48

AO	Surelock McGill	Slimline 315R-L1 or 315L-L1	Three point surface mounted emergency exit system fitted with lever handle or push pad and LEO module	22, 29, 33, 46 and 51
AP	Surelock McGill	Slimline 314R-L1 or 314L-L1	Three point surface mounted panic exit system fitted with push bar and LEO module	22, 29, 33, 46 and 51
AP1	Surelock McGill	Slimline 314R-L2 or 314L-L2	Three point surface mounted panic exit system fitted with push bar and “SR4” LEO module	1, 9, 11, 16, 22, 29, 32, 37, 46 and 51
AQ	Surelock McGill	Slimline 313-KP	Three point surface mounted locking system with automatic cylinder deadlock operated by key (outside) and turn-knob (inside)	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AQ1	Surelock McGill	Slimline 313-KK15P	Three point surface mounted locking system with automatic cylinder deadlock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AQ2	Surelock McGill	Slimline 313-KK15P5	Three point surface mounted locking system with automatic cylinder deadlock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AR	Surelock McGill	Slimline 313-A0P	Three point surface mounted locking system with cylinder deadlock operated by key (outside)and turn-knob (inside)	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AR1	Surelock McGill	Slimline 313-A0K15P	Three point surface mounted locking system with cylinder deadlock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AR2	Surelock McGill	Slimline 313-A0K15P5	Three point surface mounted locking system with cylinder deadlock operated by key (outside) and turn-knob (inside) with integrated turn-knob protection shroud	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AS	Surelock McGill	Slimline 325R-K2P5R4[2] or 325L-K2P5R4[2]	25mm throw three point locking system with 50v solenoid deadlock (power to release) and external cylinder operation	2, 10, 12, 17, 21, 30, 31, 41, 42 and 48
AT	Surelock McGill	S3TB-W	Barrel bolt (2 off)	N/A

Compatible Cylinders

Compatible Cylinder	Manufacturer	Model	Type
1	Abloy	Disklock Pro CY404 DP	Screw-in single cylinder
2	Abloy	Disklock Pro CY405 DP	Rim cylinder
3	Abloy	Disklock Pro CY303 DP	Single Europrofile cylinder
4	Abloy	Disklock Pro CY304 DP	Double Europrofile cylinder (key:key)
5	Abloy	Disklock Pro CY305 DP	Double Europrofile cylinder (key:thumbturn)[1]
6	Assa	4823	Single Europrofile cylinder
7	Assa	4822	Double Europrofile cylinder (key:key)
8	Assa	4824	Double Europrofile cylinder (key:thumbturn)[1]
9	Assa	4851	Screw-in single cylinder
10	Assa	4857	Rim cylinder
11	Assa	C5851	Screw-in single cylinder
12	Assa	C5857	Rim cylinder
13	Assa	Ruko Flexcore - F523	Single Europrofile cylinder
14	Assa	Ruko Flexcore - F522	Double Europrofile cylinder (key:key)
15	Assa	Ruko Flexcore - F524	Double Europrofile cylinder (key:thumbturn)[1]
16	Assa	F551	Screw-in single cylinder
17	Assa	Ruko Flexcore - F557	Rim cylinder
18	Assa	Twin Combi - C5823	Single Europrofile cylinder
19	Assa	Twin Combi - C5822	Double Europrofile cylinder (key:key)
20	Assa	Twin Combi - C5821	Double Europrofile cylinder (key:thumbturn)[1]
21	Bramah	C17	Rim cylinder
22	Bramah	C17SI	Screw-in single cylinder
23	Chubb	TXE3010	Single Europrofile cylinder
24	Chubb	TXED3030	Double Europrofile cylinder (key:key)
25	Chubb	TXET3030	Double Europrofile cylinder (key:thumbturn)[1]

26	Dom	333 H RS5	Single Europrofile cylinder
27	Dom	333 RS5	Double Europrofile cylinder (key:key)
28	Dom	333 K RS5	Double Europrofile cylinder (key:thumbturn)[1]
29	Dom	419ix10KG	Screw-in single cylinder
30	Dom	555ix10G	Rim cylinder
31	Kaba	KV06.100	Rim cylinder
32	Kaba	K207.203 C5-SC	Screw-in single cylinder
33	Kaba	K2070000C5-SC	Armoured screw-in single cylinder
34	Kaba	QS 152.100.00	Single Europrofile cylinder
35	Kaba	QS 150.100.00	Double Europrofile cylinder (key:key)
36	Kaba	QS 151.100.00	Double Europrofile cylinder (key:thumbturn)[1]
37	Medeco	BX664	Screw-in single cylinder
38	Medeco	BX665	Single Europrofile cylinder
39	Medeco	BX666	Double Europrofile cylinder (key:key)
40	Medeco	BX667	Double Europrofile cylinder (key:thumbturn)[1]
41	Medeco	BX668	Rim cylinder
42	Union	1x1	Rim cylinder
43	Union	2x18AA	Double Europrofile cylinder (key:key)
44	Union	2x19AA	Double Europrofile cylinder (key:thumbturn)[1]
45	Union	2x20A	Single Europrofile cylinder
46	Union	26x11B	Screw-in single cylinder
47	Yale	10026	Single Europrofile cylinder
48	Yale	1109.SCP	Rim cylinder
49	Yale	22626	Double Europrofile cylinder (key:key)
50	Yale	32626	Double Europrofile cylinder key:thumbturn)[1]
51	Yale	PK1133 Pro-key	Screw-in single cylinder

Notes:
1) The “thumbturn” end of the lock cylinder should be located on the non-attack side of the doorset when the doorset is installed. These cylinders are unsuitable for use with the Trimlock when fitted to the “46 mm thick” version of the Sandhurst doorset.
2) The resistance of these access control locks to “non-mechanical” has not been assessed as it is outside the scope of LPS1175. Likewise, the assessment has not covered possible effects of any susceptibilities relating to the functionality and performance of any access control equipment that may be used to operate the 25C1 system. This is because the scope of access control devices and system configurations that may be used with the 25C1 system is “infinite”. It is therefore recommended that specifiers and installers satisfy themselves that the components used are either resistant to mechanical and other forms of tampering/abuse, or that they are suitably protected from such tampering/abuse and are resistant to any environmental conditions/interference that may cause the locking system to disengage.

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Certificate No: 234a to LPS 1175:Issue 3
Certificate No: 234c to LPS 1175:Issue 5

ExcluDoor Range

Product Name	Type	Clear opening: max. height (m)	Clear opening: max. width (m)	Clear opening: min. height (m)	Clear opening: min. width (m)	Security Rating	LPCB Ref. No.
ExcluDoor 3	Single leaf, outward opening hinged security doorset	2.25	1.1	-	-	3	234a/02
ExcluDoor 4 (1)(2)	Single leaf, outward opening hinged security doorset with two single point locks	2.25	1.05	1.8	0.75	4	234a/03
ExcluDoor 3	Double leaf, outward opening hinged security doorset	2.4	2.4	1.8	1.4	3	234c/01
ExcluDoor 4	Double leaf, outward opening hinged security doorset	2.4	2.4	1.8	1.4	4	234c/02
	Single leaf, outward opening hinged security doorset with multi-point locking systems	2.4	1.24	1.8	0.75	4	234c/03

Approved Locking Configurations

LPCB Ref. No.	Trade Name	Compatible Locking Systems	
		Active Leaf	Passive Leaf
234a/02	ExcluDoor 3	1 or 3	N/A
234c/01	ExcluDoor 3	13 or 14	11
234c/03	ExcluDoor 4	8, 9, 10, 17, 18, 19, 20, or 21	N/A
234a/03	ExcluDoor 4[1,2]	4 or 5	N/A
234c/02	ExcluDoor 4	2, 4, 5, 7, 8, 9, 10, 11 or 12	15 or 16
		13 or 14	11
		6	7
		19, 20, or 21	N/A

Compatible Locking Systems

Compatible Locking System	Locking System	Type	Compatible Operating Devices		Compatible Cylinders
			External Face	Internal Face	
1	Assa 765	Sash lock	Key	Key[3]	E, F or G
2	Assa 765	Sash lock	Key	Key[3] or Thumbturn[6] or Blind rose	E, F or G
3	Assa 2788	Dead lock	Key	Key[3]	E, F or G
4	Assa 765[4]	Sash lock	Key	Thumbturn	D
	Assa 2788[5]	Deadlock	Key	Blind rose	D
5	Assa 765[4]	Sash lock	Key	Thumbturn	D
	Assa 765[5]	Sash lock	Key	Thumbturn	D
6	Assa Mico S044	Panic latch	None	Push pad	N/A
7	Assa Mico 942-10	2-way panic exit device	None	Push pad	N/A
8	Assa Mico 942-3p	3-way panic exit device	None	Push pad	N/A
9	Surelock McGill EX210 (B1)	3-way panic exit device	None	Panic bar	N/A
10	Surelock McGill EX210 (B1)	3-way panic exit device	Sunray Modified LEO L1P fitted with rim cylinder	Panic bar	A, N, P or Q
11	Surelock McGill EX212 (B2)	2-way panic exit device	None	Panic bar	N/A
12	Surelock McGill EX212 (B2)	2-way panic exit device	Sunray Modified LEO L1P fitted with rim cylinder	Panic bar	A, N, P or Q
13	Surelock McGill EX213 (B3)	3-bolt panic exit device	None	Panic bar	N/A
14	Surelock McGill EX213 (B3)	3-bolt panic exit device	Surelock McGill LEO L1P with rim cylinder	Panic bar	N
15	Sunray “D/40083” internal drop bolt	Two concealed leading edge drop bolts	N/A	N/A	N/A

16	Sunray "D/40015" surface mounted drop bolt	Two surface mounted high security barrel bolts	N/A	N/A	N/A
17	Surelock McGill A1	3-way locking device	None	Handle/ Panic Bar	N/A
18	Surelock McGill A1	3-way locking device	Surelock McGill LEO L1P with rim cylinder	Handle/ Panic Bar	N
19	Surelock McGill D3[7]	3-way locking device	Key via cylinder	Handle	A, B, C, H, I, J, K, L, M and O
20	Surelock McGill D6[7]	3-way locking device	Key via cylinder	Handle	A, B, C, H, I, J, K, L, M and O
21	Surelock McGill C1[7]	3-way locking device	Key via cylinder	Handle	A, B, C, H, I, J, K, L, M and O

Compatible Cylinders

Cylinder Reference	Manufacturer	Model	Type
A	Abloy	Disklock Pro CY405 DP	Rim cylinder
B	Assa	4857	Rim cylinder
C	Assa	C5857	Rim cylinder
D	Assa	601	Oval profile cylinder
E	Assa	602	Oval profile cylinder
F	Assa	Twin Combi C5602	Oval profile cylinder
G	Assa	Twin Combi 6502	Oval profile cylinder
H	Assa	Ruko Flexcore - F557	Rim cylinder
I	Bramah	C17	Rim cylinder
J	Dom	555ix10G	Rim cylinder
K	Kaba	KV06.100	Rim cylinder
L	Medeco	BX668	Rim cylinder
M	Union	1x1	Rim cylinder
N	Union	26x11B	Rim cylinder
O	Yale	1109.SCP	Rim cylinder
P	Assa	Twin-Combi C5851	Rim cylinder
Q	Winkhaus	VS629	Rim cylinder

Notes:
1) The ExcluDoor 4 single leaf doorset (certificate number 234a/03) is also certified for 30 minutes integrity against the requirements of LPS 1056:Issue 5. See LPCB Certificate No. 234b or Part 2, Section 2 of the Red Book for details.
2) In order to achieve the required security rating, both locks must be activated.
3) The security rating will not be achieved if the key is left in the lock on the inside of the door or if the door is placed in the emergency exit mode.
4) Lock fitted to the upper lock position.
5) Lock fitted to the lower lock position.
6) The D/40047/L thumbturn protection shroud shall be fitted when the hardware is fitted to the ExcluDoor 4 double doorset.
7) Device must be deadlocked if the doorset is to be provided resistance to attack commensurate with Security Rating 4.

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Certificate No: 450a to LPS 1175: Issue 5

Product Name	Type	Min. Height (m)	Max. Height (m)	Min. Width (m)	Max. Width (m)	Security Rating	LPCB Ref. No.
UltraSecure DS1/DV4	Single leaf hinged outward opening security doorset	0.9	2.9	0.5	1.3	4	450a/03
UltraSecure DS2/DV4	Double leaf hinged outward opening security doorset	0.9	2.9	1.2	2.6	4	450a/08

Accessories:

Accessory	Outward opening security doorset (LPCB Ref. No. 450a/……)	
	3	**8**
Arched profile	✓	✓
K1 staple[4]	✓	✓
Louver option 1	✓	✓
Louver option 2	✓	✓
Narrow frame	✓	✓
Shallow threshold	✓	✓

Compatible Padlocks:

Padlock Designation	Cylinder	Outward opening security doorset (LPCB Ref. No. 450a/……)	
		3	8
Abloy PL240/25	Abloy High profile	✓	✓
Abloy PL240/25EX	Abloy Exec	✓	✓
Abloy PL240/25DP	Abloy Disklock Pro	✓	✓
Abloy PL240/25PT	Abloy Protec	✓	✓
Abloy PL242	Abloy High Profile	✓	✓
Abloy PL242EX	Abloy Exec	✓	✓
Abloy PL242DP	Abloy Disklock Pro	✓	✓
Abloy PL242PT	Abloy Protec	✓	✓
Abloy PL250/25	Abloy High Profile	✓	✓
Abloy PL250/25EX	Abloy Exec	✓	✓
Abloy PL250/25DP	Abloy Disklock Pro	✓	✓
Abloy PL250/25PT	Abloy Protec	✓	✓
Abloy PL340	Abloy High Profile	✓	✓
Abloy PL340EX	Abloy Exec	✓	✓
Abloy PL340DP	Abloy Disklock Pro	✓	✓
Abloy PL340PT	Abloy Protec	✓	✓
Abloy PL342	Abloy High Profile	✓	✓
Abloy PL342EX	Abloy Exec	✓	✓
Abloy PL342DP	Abloy Disklock Pro	✓	✓
Abloy PL342PT	Abloy Protec	✓	✓
Abloy PL350/25	Abloy High Profile	✓	✓
Abloy PL350/25EX	Abloy Exec	✓	✓
Abloy PL350/25DP	Abloy Disklock Pro	✓	✓
Abloy PL350/25PT	Abloy Protec	✓	✓
Chubb 1K23c	Chubb 6-pincylinder	✓	✓
Kaba KP15.0000C5-RB	Kaba 20 (Armoured)[3]	✓	✓
Kaba K20SS65L	Kaba 20 (Armoured)[3]	✓	✓
Kaba K20SS65CL	Kaba 20 (Armoured)[3]	✓	✓
Kaba Thorlock[4]	Kaba 20	✓	✓
Rotalok 60/12/SE	Kaba 20 (Armoured)[3]	✓	✓
Rotalok 60/12/SE	Kaba 20 (Standard)[3]	✓	✓
Rotalok 60/12/ST	Abloy Disklock Pro[3]	✓	✓
Rotalok 60/12/ST	Abloy Exec[3]	✓	✓
Rotalok 60/12/ST	Abloy Protec[3]	✓	✓
Rotalok 60/12/ST-T027	Assa Twin-Combi[3]	✓	✓
Rotalok 60/12/ST	Kaba 20 (Armoured)[3]	✓	✓
Rotalok 60/12/ST	Kaba 20 (Standard)[3]	✓	✓

Notes:
1) Certification does not cover the use of padlocks other than those listed above. Utilisation of unlisted padlocks and/or accessories may affect the level of security offered by the door set.
2) The 'user friendliness' of employing the padlocks listed above has not been assessed as this is beyond the scope of LPS 1175: Issue 5.
3) The torque resistant version of the Kaba 20 cylinder must be fitted to these padlocks in place of the standard Kaba 20 cylinders.
4) K1 staple is used in conjunction with the Kaba Thorlock fitted with a Kaba 20 cylinder.

Certificate No: 450d to LPS 1175: Issue 5

Product Name	Type	Clear Opening Dimension (m) Height Min	Clear Opening Dimension (m) Height Max	Clear Opening Dimension (m) Width Min	Clear Opening Dimension (m) Width Max	Security Rating	LPCB Ref. No.
Ultra Secure DS1/DV3	Single leaf hinged outward opening security doorset	0.9	2.9	0.5	1.3	3	450d/01
Untra Secure DS1/LS3	Single leaf hinged outward opening security doorset	0.9	2.3	0.5	1.1	3	450d/02
Ultra Secure DS2/DV3	Double leaf hinged outward opening security doorset	0.9	2.9	1.2	2.6	3	450d/03

Compatible locking devices

Compatible locks	Type	Cylinder	UltraSecure Doorset (LPCB Ref. No. 450d/…) 1	2	3
Abloy PL240/25	Padlock	Abloy High profile	✓		✓
Abloy PL240/25EX	Padlock	Abloy Exec	✓		✓
Abloy PL240/25DP	Padlock	Abloy Disklock Pro	✓		✓
Abloy PL240/25PT	Padlock	Abloy Protec	✓		✓
Abloy PL242	Padlock	Abloy High profile	✓		✓
Abloy PL242EX	Padlock	Abloy Exec	✓		✓
Abloy PL242DP	Padlock	Abloy Disklock Pro	✓		✓
Abloy PL242PT	Padlock	Abloy Protec	✓		✓
Abloy PL250/25	Padlock	Abloy High profile	✓		✓
Abloy PL250/25EX	Padlock	Abloy Exec	✓		✓
Abloy PL250/25DP	Padlock	Abloy Disklock Pro	✓		✓
Abloy PL250/25PT	Padlock	Abloy Protec	✓		✓
Abloy PL340	Padlock	Abloy High profile	✓		✓
Abloy PL340EX	Padlock	Abloy Exec	✓		✓
Abloy PL340DP	Padlock	Abloy Disklock Pro	✓		✓
Abloy PL340PT	Padlock	Abloy Protec	✓		✓
Abloy PL342	Padlock	Abloy High Profilt	✓		✓
Abloy PL342EX	Padlock	Abloy Exec	✓		✓
Abloy PL342DP	Padlock	Abloy Disklock Pro	✓		✓
Abloy PL342PT	Padlock	Abloy Protec	✓		✓
Abloy PL350/25	Padlock	Abloy High Profile	✓		✓
Abloy PL350/25EX	Padlock	Abloy Exec	✓		✓
Abloy PL350/25DP	Padlock	Abloy Disklock Pro	✓		✓
Abloy PL350/25PT	Padlock	Abloy Protec	✓		✓

Chubb 1K23c	Padlock	Chubb 6-pin cylinder	✓		✓
Kaba KP15.0000C5-RB	Padlock	Kaba 20 (Armoured)[3]	✓		✓
Kaba K20SS65L	Padlock	Kaba 20 (Armoured)[3]	✓		✓
Kaba K20SS65CL	Padlock	Kaba 20 (Armoured)[3]	✓		✓
Kaba Thorlock	Padlock	Kaba 20 (Armoured)[3]	✓		✓
Kaba Thorlock	Padlock	Kaba 20 (Standard)[3]	✓		✓
Rotalok 60/12/SE	Padlock	Kaba 20 (Armoured)[3]	✓		✓
Rotalok 60/12/SE	Padlock	Kaba 20 (Standard)[3]	✓		✓
Rotalok 60/12/ST	Padlock	Abloy Disklock Pro	✓		✓
Rotalok 60/12/ST	Padlock	Abloy Exec	✓		✓
Rotalok 60/12/ST	Padlock	Abloy Protec	✓		✓
Rotalok 60/12/ST-T027	Padlock	Assa Twin-Combi	✓		✓
Rotalok 60/12/ST	Padlock	Kaba 20 (Armoured)[3]	✓		✓
Rotalok 60/12/ST	Padlock	Kaba 20 (Standard)[3]	✓		✓
Surelock McGill DL800	Single point surface mounted locking device with cylinder deadlock operated by key (outside) and turn knob (inside) with integrated S-10319 cylinder guard	ASSA Flexicore F523		✓	
Surelock McGill DL800	Single point surface mounted locking device with cylinder deadlock operated by key (outside) and turn knob (inside) with integrated S-10319 cylinder guard	ASSA 4823		✓	
Surelock McGill DL800	Single point surface mounted locking device with cylinder deadlock operated by key (outside) and turn knob (inside) with integrated S-10319 cylinder guard	ASSA Twin Combi F5823		✓	

Surelock McGill DL800	Single point surface mounted locking device with cylinder deadlock operated by key (outside) and turn knob (inside) with integrated S-10319 cylinder guard	Abloy Disklok Pro CY303	✓
Surelock McGill DL800	Single point surface mounted locking device with cylinder deadlock operated by key (outside) and turn knob (inside) with integrated S-10319 cylinder guard	Kaba QS152.100.00	✓
Surelock McGill DL800	Single point surface mounted locking device with cylinder deadlock operated by key (outside) and turn knob (inside) with integrated S-10319 cylinder guard	Union 2X20A	✓

Notes:
1) Certification does not cover the use of locks other than those listed above. Utilisation of unlisted locks may affect the level of security offered by the door set.
2) The 'user friendliness' of employing the padlocks listed above has not been assessed as this is beyond the scope of LPS 1175: Issue 5.
3) The torque resistant version of the Kaba 20 cylinder must be fitted to these padlocks in place of the standard Kaba 20 cylinders.
4) Certification only covers the galvanised mild steel versions.

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Certificate No: 026-2b to LPS 1175: issue 5

Product Name	Type	Number of door panels	Clear opening: min. height (m)	Clear opening: min. width (m)	Clear opening: max. height (m)	Clear opening: max width (m)	Security rating	LPCB Ref. No.
Superfold 4000	Sliding folding panel security door set[1]	4	3.00	1.70	6.00	4.65	4	026-2b/01
	Sliding folding panel security door set[1]	6	3.00	2.60	6.00	7.00	4	
	Sliding folding panel security door set[1]	8	3.00	3.55	6.00	8.00	4	
Superfold 5000	Sliding folding panel security door set	6	3.00	2.60	6.00	7.00	5	026-2b/02
	Sliding folding panel security door set	8	3.00	3.55	6.00	8.00	5	
	Sliding folding panel security door set[1]	4	3.00	1.70	6.00	4.65	5	

Compatible Locking Devices:

LPCB Ref. No.	Trade Name	Locking Device
026-2b/01	Superfold 4000	Chubb 7009 padbar and Chubb 1K11 padlock[2]
026-2b/02	Superfold 5000	Chubb 7009 padbar and Chubb 1K11 padlock[2]

Notes:
1) Single stack back configuration only.
2) The locking device is mounted on the "non-attack" face of the doorset. Therefore, although not currently covered by the scope of the approval, other padlocks may be suitable for use on the doorsets.

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Certificate No: 712a to LPS1175: Issue 5.1

Product Name	Style	Nominal Clear Opening Dimensions (m) Maximum Height	Nominal Clear Opening Dimensions (m) Maximum Width	Nominal Clear Opening Dimensions (m) Minimum Height	Nominal Clear Opening Dimensions (m) Minimum Width	Security Rating	LPCB Ref. No.
SecureLine SR2	Fixed light window	2	2	0.96	0.86	2	712a/01
	Top hung opening light window	2	2	1	0.9		
SecureLine SR3	Fixed light window	2	2	0.96	0.86	3	712a/02
	Top hung opening light window	2	2	1	0.9		
SecureLine SR4	Fixed light window	2	2	0.96	0.86	4	712a/03

Compatible Locking Devices and Glazing

LPCB Ref. No.	Product Name	Style	Locking	Glazing[2] Attack Face	Non-Attack Face
712a/01	SecureLine SR2	Fixed light window	N/A	8 mm thick specialist laminated glazing unit	32.8 mm thick specialist laminated double glazed unit
		Top hung opening light window	Two Wilka dead locks with key operated cylinders	8 mm thick specialist laminated glazing unit	32.8 mm thick specialist laminated double glazed unit
712a/02	SecureLine SR3	Fixed light window	N/A	10 mm thick specialist laminated glazing unit	32.8 mm thick specialist laminated double glazed unit
		Top hung opening light window	Two Wilka dead locks with key operated cylinders	10 mm thick specialist laminated glazing unit	32.8 mm thick specialist laminated double glazed unit
712a/03	SecureLine SR4	Fixed light window	N/A	28 mm thick specialist laminated glazing unit	32.8 mm thick specialist laminated double glazed unit

Notes:
1) The SecureLine window systems should be mounted within the reveal, directly into the surrounding structure in accordance with installation instructions SL-02 (fixed light version) or SL-007 (top hung opening light version).
2) Alternative glazing may not provide equivalent resistance to attack. Therefore, please consult Fendor Hansen before replacing or changing the glazing.

Selectaglaze Limited

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Certificate No: 683a to LPS 1175: Issue 5

Secondary glazing system

Product Name	Type	Style	Nominal Clear Opening Dimensions[2] (m) Maximum Height	Nominal Clear Opening Dimensions[2] (m) Maximum Width	Nominal Clear Opening Dimensions[2] (m) Minimum Height	Nominal Clear Opening Dimensions[2] (m) Minimum Width	Security Rating	LPCB Ref. No.
Series 50 "Level 1"	Secondary glazing system	Single[1] fixed light	3.2[3]	3.2[3]	0.4	0.4	1	683a/01
	Secondary glazing system	Single[1] light inward opening side hung casement	3.2	1.5	0.574	0.43	1	
	Secondary glazing system	Single[1] light inward opening top hung casement	1.5	3.2	0.43	0.574	1	
Series 50 "Level 2"	Secondary glazing system	Single[1] fixed light	3.2[3]	3.2[3]	0.4	0.4	2	683a/02
	Secondary glazing system	Single[1] light inward opening side hung casement	3.2	1.5	0.574	0.43	2	
	Secondary glazing system	Single[1] light inward opening top hung casement	1.5	3.2	0.43	0.574	2	
Series 55 "Level 1"	Secondary glazing system	2H multiple fixed light demountable unit	3.2	4.0	0.4	0.8	1	683a/03
	Secondary glazing system	2V multiple fixed light demountable unit	4.0	3.2	0.8	0.4	1	
	Secondary glazing system	3H multiple fixed light demountable unit	3.2	5.0	0.4	1.2	1	
	Secondary glazing system	3V multiple fixed light demountable	5.0	3.2	1.2	0.4	1	
	Secondary glazing system	4H multiple fixed light demountable unit	3.2	6.0	0.4	1.6	1	

Product Name	Type	Style	Nominal Clear Opening Dimensions[2] (m) Maximum Height	Nominal Clear Opening Dimensions[2] (m) Maximum Width	Nominal Clear Opening Dimensions[2] (m) Minimum Height	Nominal Clear Opening Dimensions[2] (m) Minimum Width	Security Rating	LPCB Ref. No.
	Secondary glazing system	5H multiple fixed light demountable unit	3.2	6.0	0.4	2.0	1	
	Secondary glazing system	Single demountable fixed-light unit	3.2	3.2	0.4	0.4	1	
Series 55 "Level 2"	Secondary glazing system	2H multi-light demountable unit	3.2	4.0	0.4	0.8	2	683a/04
	Secondary glazing system	2V multi-light demountable unit	4.0	3.2	0.8	0.4	2	
	Secondary glazing system	3H multi-light demountable unit	3.2	5.0	0.4	1.2	2	
	Secondary glazing system	3V multi-light demountable unit	5.0	3.2	1.2	0.4	2	
	Secondary glazing system	4H multi-light demountable unit	3.2	6.0	0.4	1.6	2	
	Secondary glazing system	5H multi-light demountable unit	3.2	6.0	0.4	2.0	2	
	Secondary glazing system	Single demountable fixed light unit	3.2	3.2	0.4	0.4	2	
Series 85 "Level 1"	Secondary glazing system	Single light horizontally sliding casement	2.6	3.0	1.2	1.0	1	683a/05

Locking Configurations and Glazing

LPCB Ref. No.	Trade Name	Style	Locking Systems	Glazing[4]
683a/01	Series 50 "Level 1"	Single fixed light	-	11.5 Vanceva Secure HSM2 specialist laminated security glass
		Single light inward opening top hung casement	Selectaglaze proprietary espagnolette locking system with Softline LM lockable handle	11.5 Vanceva Secure HSM2 specialist laminated security glass
		Single light inward opening side hung casement	Selectaglaze proprietary espagnolette locking system with Softline LM lockable handle	11.5 Vanceva Secure HSM2 specialist laminated security glass
683a/02	Series 50 "Level 2"	Single fixed light	-	12.4 Glass/Virgin Polycarbonate/Glass specialist
		Single light inward opening top hung casement	Selectaglaze proprietary espagnolette locking system with Softline LM lockable handle	12.4 Glass/Virgin Polycarbonate/Glass specialist laminated security glass
		Single light inward opening side hung casement	Selectaglaze proprietary espagnolette locking system with Softline LM lockable handle	12.4 Glass/Virgin Polycarbonate/Glass specialist laminated security glass
683a/03	Series 55 "Level 1"	All	-	11.5 Vanceva Secure HSM2 specialist laminated security glass
683a/04	Series 55 "Level 2"	All	-	12.4 Glass/Virgin Polycarbonate/Glass specialist
683a/05	Series 85 "Level 1"	Single light horizontally sliding casement	Selectaglaze proprietary espagnolette locking system	11.5 Vanceva Secure HSM2 specialist laminated security glass or 10 mm TEGO specialist laminated security glass or 12.4 glass/virgin polycarbonate/glass specialist laminated security glass

Notes:
1) The Series 50 and Series 55 units can be joined together to form multi-light flat-coupled and bay systems using the Selectaglaze standard coupling, direct coupling and timber coupling methods, as appropriate. The security provided is equivalent to that
2) The Series 50 secondary glazing system may be mounted in the reveal (standard, tapered or splayed) or face fixed to the inside of the surrounding structure. The Series 55 secondary glazing system may be mounted in the reveal (standard, tapered or splay
3) Maximum sizes of casement units and coupled systems are subject to a specific assessment of physical restrictions and operational conditions.
4) Alternative glazing may not provide equivalent resistance to attack. Therefore, please consult Selectaglaze bef ore replacing or changing the glazing.

Bradbury Security

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E-mail: sales@bradburyuk.com • Website: www.bradburyuk.com

Certificate No: 312a to LPS 1175: Issue 5

C21 & CX Plus

Product Name	Type	Min. height (m)	Min. width (m)	Max. height (m)	Max. width (m)	Security rating	LPCB Ref. No.
Crossguard C21	Double gate, collapsible security grille			3	5	1	312a/01
	Single gate, collapsible security grille			3	2.5	1	
CX Plus	Double gate, collapsible security grille	0.6	0.4	3	5	1	312a/03
	Single gate, collapsible security grille	0.6	0.4	3	5	1	

Compatible Locking Devices:

Lock	Type	Approved Grille (LPCB Ref. No. 312a/…)	
		01	03
Bradbury CX50.1	Two-point locking unit	✓	
Bradbury CX5000	Two-point slam lock		✓

Direct Security Grilles Limited

15 Broadmead Business Park, Stewartby, Bedfordshire MK43 9NX UK
Tel: +44 (0)1234 766604 • Fax: +44 (0)1234 764660
E-mail: info@dsgl.co.uk • Website: www.dsgl.co.uk

Certificate No: 732a to LPS 1175: Issue 5.1

Product Name	Type	Width (mm) Min.	Width (mm) Max.	Height (mm) Min.	Height (mm) Max.	Security Rating Security Rating	LPCB Ref. No.
Retract 5	Fixed security grille	200	6000	750	3000	1	732a/01
	Single gate, collapsible security grille	290	3000	750	3000	1	732a/02
	Double gate, collapsible security grille	800	6000	750	3000	1	732a/03

Compatible Locking Devices:

Lock	Type	Compatible Cylinders	LPCB Ref. No 732a/…		
			1	2	3
5222025	Hook lock	EVVA “C-EHZ50” 5-pin europrofile half cylinder	N/A	✓	✓
		EVVA “C-EDZ2” 5-pin europrofile double cylinder	N/A	✓	✓

Note:
The Retract 5 grilles are approved for reveal mounting directly onto steelwork, concrete, brick, concrete blockwork, lightweight blockwork and structural timber.

Security Window Shutters Limited

Claughton, Lancaster LA2 9LA UK
Tel: +44 (0)1524 772400 • Fax: +44 (0)1524 772411
E-mail: info@swsuk.co.uk • Website: www.swsuk.co.uk

Certificate No: 390a to LPS 1175: Issue 3

SecureoGuard grilles

Product Name	Type	Min. height (m)	Min. width (m)	Max. height (m)	Max. width (m)	Security rating	LPCB Ref. No.
SeceuroGuard 1001	Double gate, collapsible security grille	1	1	3	6	1	390a/01
	Single gate, collapsible security grille	1	0.5	3	3	1	
SeceuroGuard 1001 "Fixed"	Single gate, collapsible security grille	1	0.5	3	3	1	
SeceuroGuard 1001 "Floating"	Single gate, collapsible security grille	1	0.5	3	3	1	
S-latice SeceuroGuard 1001s	Double gate, collapsible security grille	1	1	3	6	1	390a/03
	Single gate, collapsible security grille	1	0.5	3	3	1	
S-latice SeceuroGuard 1001s "Fixed"	Single gate, collapsible security grille	1	0.5	3	3	1	
S-latice SeceuroGuard 1001s "Floating"	Single gate, collapsible security grille	1	0.5	3	3	1	

Compatible Locking Devices

LPCB Ref.No.	Trade Name	Type	Lock
390a/01	SeceuroGuard 1001	Standard single gate collapsible security grille	Yale 5 pin cylinder lock
	SeceuroGuard 1001 "Fixed"	Fixed single gate collapsible security grille	N/A
	SeceuroGuard 1001 "Floating"	Single gate collapsible security grille	Yale 5 pin cylinder lock
	SeceuroGuard 1001	Double gate collapsible security grille	Yale 5 pin cylinder lock
390a/03	S-lattice SeceuroGuard 1001s	Single gate collapsible security grille	Yale 5 pin cylinder lock
	S-lattice SeceuroGuard 1001s "Fixed"	Single gate collapsible security grille	N/A
	S-lattice SeceuroGuard 1001s "Floating"	Single gate collapsible security grille	Yale 5 pin cylinder lock
	S-lattice SeceuroGuard 1001s	Double gate collapsible security grille	Yale 5 pin cylinder lock

Approved Accessories

Accessory	Associated Products (LPCB Ref. No. 390a/..)		
	1	2	3
Folding bottom track	✓[1]	✓[1]	

Note:
1) The folding bottom track is approved as an option on the standard single gate and double gate SeceuroGuard 1001 and S-Lattice SeceuroGuard 1001s models only.

Trellicor (Pty) Limited

20 Aberdare Drive, Phoenix Industrial Park, Durban, Republic of South Africa
Tel: +27 31 500 4301 • Fax: +27 31 507 2129/3973

Certificate No: 474a to LPS 1175: Issue 5

Product Name	Model	Type	Min. height (m)	Min. width (m)	Max. height (m)	Max. width (m)	Security rating	LPCB Ref. No.
Trellidor Plus (1)	Double	Double gate, collapsible security grille	0.935	1.0	3.0	10.0	1	474a/01
	Fixture	Single gate, fixed security grille	0.935	0.6	3.0	5.0	1	
	Flexi	Single gate, collapsible security grille	0.935	1.0	3.0	5.0	1	
	Standard	Single gate, collapsible security grille	0.935	0.6	3.0	5.0	1	
Trellidor Trojan (2)	Double	Double gate, collapsible security grille	1.805	2.0	3.6	10.0	2	474a/02
	Fixture	Single gate, fixed security grille	1.805	1.0	3.6	5.0	2	
	Flexi	Single gate, collapsible security grille	1.805	1.0	3.6	5.0	2	
	Standard	Single gate, collapsible security grille	1.805	1.0	3.6	5.0	2	

Compatible Locking Devices:

LPCB Ref.No.	Trade Name	Model	Lock	Cylinder
474a/01	Trellidor Plus	Standard	Trellilok (Mark IV)	Viro Double Europrofile
		Flexi	Trellilok (Mark IV)	Viro Double-Europrofile
		Fixture	N/A	N/A
		Double	Trellilok (Mark IV)	Viro Double-Europrofile
474a/02	Trellidor Trojan	Standard	Trellilok (Mark IV)	Viro Double-Europrofile
		Flexi	Trellilok (Mark IV)	Viro Double-Europrofile
		Fixture	N/A	N/A
		Double	Trellilok (Mark IV)	Viro Double Europrofile

Notes:
1) The Trellidor Plus is approved for reveal mounting into brickwork walls.
2) The Trellidor Trojan is approved for reveal mounting into brickwork walls and structural steelwork.

WBH Industries Limited, trading as Safeguard Security

Unit 5, 229 Torrington Avenue, Coventry CV4 9HN UK
Tel: +44 (0)2476 470 600 • Fax: +44 (0)2476 471 600
E-mail: info@safeguardsecurity.co.uk • Website: www.safeguardsecurity.co.uk

Certificate No: 418a to LPS 1175: Issue 5

Product Name	Type	Min. height (m)	Min. width (m)	Max. height (m)	Max. width (m)	Security rating	LPCB Ref. No.
LPC1System	Double gate, collapsible security grille	0.594	0.405	3.0	6.0	1	418a/01
	Single gate, collapsible security grille	0.594	0.233	3.0	3.0	1	

Compatible Locking Devices:

LPCB Ref.No.	Trade Name	Type	Lock	Cylinder
418a/01	LPC1 System	Single and double gate collapsible security grilles	Adams Rite MS 1900 hook lock	Sofi 5-pin single euro-profile

Note:
1) The security rating attributed to this product is applicable when the grille is either reveal or face fixed to the building façade

Ascot Doors Limited

Britannia Way Industrial Park, Union Road, Bolton BL2 2HE UK
Tel: +44 (0)8705 556644 • Fax: +44 (0)1204 545800
E-mail: sales@ascotdoors.co.uk • Website: www.ascotdoors.co.uk

Certificate No: 131b to LPS 1175: Issue 3

Product Name	Type	Min. Height (m)	Min. Width (m)	Max. Height (m)	Max Width (m)	Security rating	LPCB Ref. No.
A320	Rolling shutter	2	2.5	3	9	4	131b

Compatible Locking Devices:

LPCB Ref. No.	Trade Name	Type	Lock
131b/01	A320	Rolling Shutter	H75H Euro Guide Bullet Pin Lock

Note:
1) A centre ground lock must be provided on shutters of greater than 5 metres width.

RSL (Bristol) Ltd

Cornishway South, Galmington, Taunton TA1 5NQ UK
Tel: +44 (0)1823 352308 • Fax: +44 (0)1823 352803
E-mail: info@rslbristol.co.uk • Website: www.rslbristol.co.uk

Certificate No: 674a to LPS 1175: Issue 5.1

Product Name	Model	Type	Lath	Clear Opening Dimensions (m) Minimum Size Height	Clear Opening Dimensions (m) Minimum Size Width	Clear Opening Dimensions (m) Maximum Size Height	Clear Opening Dimensions (m) Maximum Size Width	Security Rating	LPCB Ref. No.
RSL roller shutter lintel system	A1	Built-in rolling shutter	Large	450	450	750	2400	2	674a/01
	A1	Built-in rolling shutter	Standard	450	450	1000	2400	2	
	A2	Built-in rolling shutter	Large	450	450	1650	3000	2	
	A2	Built-in rolling shutter	Standard	450	450	1650	3000	2	
	B1	Built-in rolling shutter	Large	450	450	2500	3000	2	
	B1	Built-in rolling shutter	Standard	450	450	2500	3000	2	
	B2	Built-in rolling shutter	Large	450	450	3000	3600	2	
	B2	Built-in rolling shutter	Standard	450	450	3000	3600	2	

Product Name	Model	Type	Lath	Clear Opening Dimensions (m) Minimum Size Height	Clear Opening Dimensions (m) Minimum Size Width	Clear Opening Dimensions (m) Maximum Size Height	Clear Opening Dimensions (m) Maximum Size Width	Security Rating	LPCB Ref. No.
	C1	Built-in rolling shutter	Large	450	450	2500	4000	2	
	C1	Built-in rolling shutter	Standard	450	450	2500	4000	2	
	C2	Built-in rolling shutter	Large	450	450	3000	4000	2	
	C2	Built-in rolling shutters	Standard	450	450	3000	4000	2	

Note:
1) The approval applies to the shutters when installed strictly in accordance with the instructions provided with the product.

Security Window Shutters Limited

Claughton, Lancaster LA2 9LA UK
Tel: +44 (0)1524 772400 • Fax: +44 (0)1524 772411
E-mail: info@swsuk.co.uk • Website: www.swsuk.co.uk

SeceuroShield

Product Name	Type	Min. Height (m)	Min. Width (m)	Max. Height (m)	Max. Width (m)	Security Rating	LPCB Ref. No.
SeceuroShield 3801	Roller shutter	0.9	0.9	4	3	1	390a/02

Compatible Locking Devices:

LPCB Ref. No.	Trade Name	Type	Lock
390a/02	SeceuroShield 3801	Roller Shutter	Imbac Cylinder Lock Ref. 6C3.3227 Hopkins Pin Lock Ref. H75

Shellcast Systems Limited

Unit 2, Frederick Road, Hoo Farm Industrial Estate, Kidderminster DY11 7RA UK
Tel: +44 (0)1562 750 700 • Fax: +44(0)1562 750 800
E-mail: technical@shellcast-shutters.co.uk • Website: www.shellcast-shutters.co.uk

Certificate No: 707a to LPS 1175: Issue 5.1

Product Name	Model	Type	Clear Opening Dimensions Minimum Size (m) Height	Clear Opening Dimensions Minimum Size (m) Width	Clear Opening Dimensions Maximum Size (m) Height	Clear Opening Dimensions Maximum Size (m) Width	Security Rating	LPCB Ref. No.
Linframe	CD38.1	Built-in rolling shutter	0	0.4	6	5	1	707a/01
	CD38.2	Built-in rolling shutter	0	0.4	6	5	2	707a/02

Product Name	Model	Type	Clear Opening Dimensions Minimum Size (m) Height	Clear Opening Dimensions Minimum Size (m) Width	Clear Opening Dimensions Maximum Size (m) Height	Clear Opening Dimensions Maximum Size (m) Width	Security Rating	LPCB Ref. No.
	CD38.3	Built-in rolling shutter	0	0.4	6	5	3(2)	707a/03
	CD38/P.1	Built-in rolling shutter	0	0.4	6	3	1	707a/04
	CD38/S.1	Built-in rolling shutter	0	0.4	6	3	1	707a/05
	CD60.1	Built-in rolling shutter	0	0.4	6	5	1	707a/06
	CD60.2	Bulit-in rolling shutter	0	0.4	6	5	2	707a/07

Notes:
1) The approval applies to the shutters when installed strictly in accordance with the instructions provided with the product
2) To achieve this grade the lockable override cover plate must be fitted and locked, and the key removed to a secure location.

Rolflex Doors Limited

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E-mail: sales@rolflex.co.uk • Website: www.rolflex.co.uk

Certificate No: 511a to LPS 1175: Issue 5

Crime Shield

Product Name	Type	Min. height (m)	Min. width (m)	Max. height (m)	Max. width (m)	Security rating	LPCB Ref. No.
Crime Shield	Fixed security screen	0.4	0.4	3.5	1.285	1	511a/01

Trellicor (Pty) Limited

20 Aberdare Drive, Phoenix Industrial Park, Durban, Republic of South Africa
Tel: +27 31 500 4301 • Fax: +27 31 507 2129/3973

Certificate No: 474a to LPS 1175: Issue 5

Product Name	Model	Type	Min. Height (m)	Min. Width (m)	Max. Height (m)	Max. Width (m)	Security Rating	LPCB Ref. No.
Griffinguard (3)	Double	Fixed security screen	0.4	1.4	2.6	2.5	1	474a/03
	Standard	Fixed security screen	0.4	0.4	1.3	2.5	1	

Note:
1) The Griffinguard is approved for either externally face fixing or reveal mounting into brickwork, lightweight blockwork, concrete blockwork, structural steelwork or timber.

Many important facilities, especially those of utility companies, are unmanned and remote from the main business. At the request of the utility companies, access covers protecting items such as valves, switchgear and meters are now security rated to provide protection against malicious attack.

LPCB approves access covers to LPS1175 *Specification for testing and classifying the burglary resistance of building components, strongpoints and security enclosures*. The certification procedures and conditions that apply to access covers are the same as those that apply to security doors and shutters,

It is important that specifiers only select access covers that are covered by the scope detailed on the certificate since products that fall outside that scope may not provide an equivalent level of security.

It is also important to ensure that the products are installed in accordance with the manufacturer's instructions and that all exposed fixings, the substrate into which the device is fitted and the locking mechanisms are regularly checked to ensure that they are in good condition and that they have not been tampered with.

Products that have been certified by LPCB should be marked with a label indicating the grade of security offered, LPCB certification mark and certificate number.

Aquavent (UK) Limited

Unit A, Roundhouse Close, Eastern Industry, Peterborough PE1 5TA UK
Tel: +44 (0)1733 342600 • Fax: +44 (0)1733 346672
E-mail: sales@midastech.co.uk

Certificate No: 522a to LPS 1175: Issue 5

Product Name	Type	Internal opening min. length (mm)	Internal opening max. length (mm)	Internal opening min. width (mm)	Internal opening max. width (mm)	Security rating	LPCB Ref. No.
Aquavent 2004	Single leaf horizontal access cover	200	2000	200	1200	4	421a/01
Aquavent 2004/TC	Single leaf (twin lid[1]) horizontal access cover	200	2000	200	2000	4	421a/02
Aquavent 2004/DC	Double leaf horizontal access cover	1200	4000	1200	2000	4	421a/03

Note: Manufacturer's Certificate No. 421a.

Accessories:

Accessory	Aquavent 2004 Access Cover (LPCB Ref. No. 421a/...)		
	01	02	03
Safety grill/ladder	✓		
Deep pan base frame	✓		✓
Alarm bracket and switch plate	✓	✓	✓

Compatibility Padlocks:

Padlock Designation	Cylinder	Aquavent 2004 Access Cover (LPCB Ref. No. 421a/...)		
		01	02	03
Abloy PL240/25	Abloy High Profile	✓	✓	✓
Abloy PL240/25EX	Abloy Exec	✓	✓	✓
Abloy PL240/25DP	Abloy Disklock Pro	✓	✓	✓
Abloy PL240/25PT	Abloy Protec	✓	✓	✓
Abloy PL242	Abloy High Profile	✓	✓	✓
Abloy PL242EX	Abloy Exec	✓	✓	✓
Abloy PL242DP	Abloy Disklock Pro	✓	✓	✓
Abloy PL242PT	Abloy Protec	✓	✓	✓
Abloy PL250/25	Abloy High Profile	✓	✓	✓
Abloy PL250/25EX	Abloy Exec	✓	✓	✓
Abloy PL250/25DP	Abloy Disklock Pro	✓	✓	✓
Abloy PL250/25PT	Abloy Protec	✓	✓	✓
Abloy PL340/25	Abloy High Profile	✓	✓	✓
Abloy PL340/25EX	Abloy Exec	✓	✓	✓
Abloy PL340/25DP	Abloy Disklock Pro	✓	✓	✓
Abloy PL340/25PT	Abloy Protec	✓	✓	✓
Abloy PL342	Abloy High Profile	✓	✓	✓
Abloy PL342EX	Abloy Exec	✓	✓	✓
Abloy PL342DP	Abloy Disklock Pro	✓	✓	✓
Abloy PL342PT	Abloy Protec	✓	✓	✓
Abloy PL350/25	Abloy High Profile	✓	✓	✓
Abloy PL350/25EX	Abloy Exec	✓	✓	✓
Abloy PL350/25DP	Abloy Disklock Pro	✓	✓	✓
Abloy PL350/25PT	Abloy Protec	✓	✓	✓
Chubb 1K12c	Chubb 6-pin	✓	✓	✓
Chubb 1K13c	Chubb 6-pin	✓	✓	✓
Chubb 1K22c	Chubb 6-pin	✓	✓	✓
Chubb 1K23c	Chubb 6-pin	✓	✓	✓
ERA 'Fortress' 977-91	ERA 6-pin	✓	✓	✓
Rotalok 60/12/ST-T027	N/A	✓	✓	✓
Rotalok 60/12/SE-T025	N/A	✓	✓	✓

Notes:
1) This model incorporates a secondary inner lid.
2) Certification does not cover the use of padlocks or accessories other than those listed above. Utilisation of unlisted padlocks and/or accessories may affect the level of security offered by the access cover.
3) The 'user friendliness' of employing the padlocks listed above has not been assessed as this is beyond the scope of LPS 1175: Issue 5.

David Ritchie (Implements) Limited (trading as Ritchie)

Carseview Road, Whitehills, Forfar, Scotland DD8 3BT UK
Tel: +44 (0) 1307 462271 • Fax: +44 (0) 1307 464081

Certificate No: 534a to LPS 1175: Issue 5

Product Name	Type	Internal opening min. length (mm)	Internal opening max. length (mm)	Internal opening min. width (mm)	Internal opening max. width (mm)	Security rating	LPCB Ref. No.
HiSAC3 V4	Single leaf horizontal access cover	200	1200	200	1200	4	534a/01
HiSAC3 SV4	Single leaf horizontal access cover	200	1200	200	1200	4	534a/02
MV4/X1	Twin Leaf horizontal access cover (end-hinged)	600	1500	1200	2400	4	534a/03

Product Name	Type	Internal opening min. length (mm)	Internal opening max. length (mm)	Internal opening min. width (mm)	Internal opening max. width (mm)	Security rating	LPCB Ref. No.
MV4/X2	Twin Leaf horizontal access cover (in-line hinged)	600	1200	1200	2400	4	534a/04

Accessories:

Accessory	Description	Access Cover (LPCB Ref. No. 534a/…)			
		01	02	03	04
L1	Collapsible ladder/security grid	✓	✓	✓	✓
S1	Upstand shroud/skirt	✓	✓		
-	Internal handles on inner lid	✓	✓	✓	✓
	Peaked outer lid	✓	✓		

Compatible Padlocks:

Padlock Designation	Cylinder	Access Cover (LPCB Ref. No. 534a/…)			
		01	02	03	04
Abloy PL240	Abloy Disklock Pro	✓	✓	✓	✓
	Abloy High Profile	✓	✓	✓	✓
	Abloy Exec	✓	✓	✓	✓
	Abloy Protec	✓	✓	✓	✓
Abloy PL340	Abloy Disklock Pro	✓	✓	✓	✓
	Abloy High Profile	✓	✓	✓	✓
	Abloy Exec	✓	✓	✓	✓
	Abloy Protec	✓	✓	✓	✓
Abloy PL242	Abloy Disklock Pro	✓	✓	✓	✓
	Abloy High Profile	✓	✓	✓	✓
	Abloy Exec	✓	✓	✓	✓
	Abloy Protec	✓	✓	✓	✓
Abloy PL342	Abloy Disklock Pro	✓	✓	✓	✓
	Abloy High Profile	✓	✓	✓	✓
	Abloy Exec	✓	✓	✓	✓
	Abloy Protec	✓	✓	✓	✓
Abloy PL250	Abloy Disklock Pro	✓	✓	✓	✓
	Abloy High Profile	✓	✓	✓	✓
	Abloy Exec	✓	✓	✓	✓
	Abloy Protec	✓	✓	✓	✓
Abloy PL350	Abloy Disklock Pro	✓	✓	✓	✓
	Abloy High Profile	✓	✓	✓	✓
	Abloy Exec	✓	✓	✓	✓
	Abloy Protec	✓	✓	✓	✓
Chubb 1K12c	Chubb 6-pin	✓	✓	✓	✓
Chubb 1K22c	Chubb 6-pin	✓	✓	✓	✓
Chubb 1K23c	Chubb 6-pin	✓	✓	✓	✓
Kaba KP15.0000C5-RB	20 “Armoured” Kaba 204	✓	✓	✓	✓
Rotalok 60/12/FE	Abloy Exec	✓	✓	✓	✓
Rotalok 60/12/FE	Abloy Protec	✓	✓	✓	✓
Rotalok 60/12/SE	Abloy Exec	✓	✓	✓	✓
Rotalok 60/12/SE	Abloy Protec	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Exec	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Protec	✓	✓	✓	✓

Notes:
1) The approval encompasses both the “C1” 4.5 mm chequer plate and “P1” 5 mm standard outer cover options.
2) Certification does not cover the use of padlocks or accessories other than those listed above. Utilisation of unlisted padlocks and/or accessories may affect the level of security offered by the access cover.
3) The 'user friendliness' of employing the padlocks listed above has not been assessed as this is beyond the scope of LPS1175:Issue 5.

4) The torque resistant version of the Kaba 20 "armoured" cylinder must be fitted to the padlock in place of the Standard Kaba 20 cylinder.

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Certificate No: 421a to LPS 1175: Issue 5

Product Name	Type	Internal opening min. length (mm)	Internal opening max. length (mm)	Internal opening min. width (mm)	Internal opening max. width (mm)	Security rating	LPCB Ref. No.
Aquavent 2004	Single leaf horizontal access cover	200	1200	200	1200	4	421a/01
Aquavent 2004/TC	Single leaf (twin lid[1]) horizontal access cover	200	2000	200	2000	4	421a/02
Aquavent 2004/DC	Double leaf horizontal access cover	1200	4000	1200	2000	4	421a/03

Accessories:

Accessory	Aquavent 2004 Access Cover (LPCB Ref. No. 421a/…)		
	01	02	03
Safety grill/ladder	✓		
Deep pan base frame	✓		✓
Alarm bracket and switch plate	✓	✓	✓

Compatibility Padlocks

Padlock Designation	Cylinder	Aquavent 2004 Access Cover (LPCB Ref. No. 421a/…)			
		01	02	03	04
Abloy PL240/25	Abloy High Profile	✓	✓	✓	✓
Abloy PL240/25EX	Abloy Exec	✓	✓	✓	✓
Abloy PL240/25DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL242	Abloy High Profile	✓	✓	✓	✓
Abloy PL242EX	Abloy Exec	✓	✓	✓	✓
Abloy PL242DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL250/25	Abloy High Profile	✓	✓	✓	✓
Abloy PL250/25EX	Abloy Exec	✓	✓	✓	✓
Abloy PL250/25DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL340/25	Abloy High Profile	✓	✓	✓	✓
Abloy PL340/25EX	Abloy Exec	✓	✓	✓	✓
Abloy PL340/25DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL342	Abloy High Profile	✓	✓	✓	✓
Abloy PL342EX	Abloy Exec	✓	✓	✓	✓
Abloy PL342DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL350/25	Abloy High Profile	✓	✓	✓	✓
Abloy PL350/25EX	Abloy Exec	✓	✓	✓	✓
Abloy PL350/25DP	Abloy Disklock Pro	✓	✓	✓	✓
Chubb 1K12c	Chubb 6-pin	✓	✓	✓	✓
Chubb 1K13c	Chubb 6-pin	✓	✓	✓	✓
Chubb 1K22c	Chubb 6-pin	✓	✓	✓	✓
Chubb 1K23c	Chubb 6-pin	✓	✓	✓	✓
ERA 'Fortress' 977-91	ERA 6-pin	✓	✓	✓	✓
Rotalok 60/12/ST-T027	N/A	✓	✓	✓	✓
Rotalok 60/12/SE-T025	N/A	✓	✓	✓	✓

Notes:
1) This model incorporates a secondary inner lid.
2) Certification does not cover the use of padlocks or accessories other than those listed above. Utilisation of unlisted padlocks and/or accessories may affect the level of security offered by the access cover.
3) The 'user friendliness' of employing the padlocks listed above has not been assessed as this is beyond the scope of LPS 1175: Issue 5.

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Certificate No: 645a to LPS 1175: Issue 5

Access covers

Product Name	Type	Internal opening dimensions length (mm) Min	Internal opening dimensions length (mm) Max	Internal opening dimensions width (mm) Min	Internal opening dimensions width (mm) Max	Security Rating	LPCB Ref. No.
PAM Sentry Access Cover	Single Leaf Horizontal Access Cover	300	1000	300	1200	4	645a/01
PAM Sentry Valve Cover	Single Leaf Horizontal Access Cover	200	300	200	300	4	645a/02
PAM Sentry Ventilator Cover	Single Leaf Horizontal Access Cover	200	500	200	500	4	645a/03
PAM Sentry In-Line Hinged Cover	Twin Leaf Horizontal Access Cover	600	1000	1200	2200	4	645a/04

Product Name	Type	Internal opening dimensions length (mm) Min	Internal opening dimensions length (mm) Max	Internal opening dimensions width (mm) Min	Internal opening dimensions width (mm) Max	Security Rating	LPCB Ref. No.
PAM Sentry End Hinged Cover	Twin Leaf Horizontal Access Cover	600	1000	1200	2200	4	645a/05

Accessories:

Accessory	Sentry Access Cover (LPCB Ref. No. 645a/…)				
	01	02	03	04	05
Safety grid[1]	✓			✓	✓
Safety grid/Exit support[1]	✓			✓	✓
Alarm Bracket	✓	✓	✓	✓	✓
Junction box bracket	✓	✓	✓	✓	✓
External seal version		✓			
External vent and seal version	✓		✓		

Compatible Padlocks

Padlock Designation	Cylinder	LPCB Ref. No 645a/…				
		1	2	3	4	5
Abloy PL250/25	Abloy High profile	✓	✓	✓	✓	✓
Abloy PL250/25EX	Abloy Exec	✓	✓	✓	✓	✓
Abloy PL250/25DP	Abloy Disklock Pro	✓	✓	✓	✓	✓
Abloy PL250/25PT	Abloy Protec	✓	✓	✓	✓	✓
Abloy PL350/25	Abloy High Profile	✓	✓	✓	✓	✓
Abloy PL350/25EX	Abloy Exec	✓	✓	✓	✓	✓
Abloy PL350/25DP	Abloy Disklock Pro	✓	✓	✓	✓	✓
Abloy PL350/25PT	Abloy Protec	✓	✓	✓	✓	✓
Chubb 1K23c	Chubb 6-pin	✓	✓	✓	✓	✓
Kaba KP15.0000C5-RB20	Kaba 20 (Armoured)[2]	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Exec	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Disklock Pro	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Protec	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Assa Twin-Combi	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Kaba 20 (Armoured)[2]	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Kaba 20 (Armoured)[2]	✓	✓	✓	✓	✓

Notes:
1) The Safety grid/Exit support is only available on access covers with an internal clear opening length of at least 400mm.
2) The torque resistant version of the Kaba 20 cylinder must be fitted to these padlock inplace of the standard Kaba 20 cylinders.

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Certificate No: 450a to LPS 1175: Issue 4

Product Name	Type	Internal opening min. length (mm)	Internal opening max. length (mm)	Internal opening min. width (mm)	Internal opening max. width (mm)	Security rating	LPCB Ref. No.
Ultra Secure DV	Single leaf horizontal access cover	150	1100	150	1100	4	450a/01

Product Name	Type	Internal opening min. length (mm)	Internal opening max. length (mm)	Internal opening min. width (mm)	Internal opening max. width (mm)	Security rating	LPCB Ref. No.
Ultra Secure DV (small lock)	Single leaf horizontal access cover	150	1100	150	1100	4	450a/02
Ultra Secure DV4 (end hinged)	Twin leaf horizontal access cover	1100	2200	1100	1800	4	450a/04
Ultra Secure DV4 (in-line hinged)	Twin leaf horizontal access cover	1100	2400	600	1100	4	450a/05
	Triple leaf horizontal access cover	1800	3600	600	1100	4	450a/06
Ultra Secure DV4 (special)	Triple leaf horizontal access cover	1800	3600	1100	1800	4	450a/07

Accessories:

Accessory	Ultra Secure DV Access Cover (LPCB Ref. No. 450a/...)						
	01	02	03	04	05	06	07
F3 skirting frame	✓	✓	✓	✓	✓	✓	✓
K2 Hasp and staple		✓	✓	✓	✓	✓	✓
Viper alarm bracket	✓	✓	✓	✓	✓	✓	✓
Ladder/safety grid	✓	✓	✓	✓	✓	✓	✓
400 x 50 mm inner frame ventilation holes	✓	✓					

Compatible padlocks:

Padlock Designation	Cylinder	Ultra Secure DV Access Cover (LPCB Ref. No. 450a/...)						
		01	02	03	04	05	06	07
Abloy PL240/25	Abloy High Profile		✓	✓	✓	✓	✓	✓
Abloy PL240/25EX	Abloy Exec		✓	✓	✓	✓	✓	✓
Abloy PL240/25DP	Abloy Disklock Pro		✓	✓	✓	✓	✓	✓
Abloy PL240/25PT	Abloy Protec		✓	✓	✓	✓	✓	✓
Abloy PL250/25	Abloy High Profile	✓		✓	✓	✓	✓	✓
Abloy PL250/25EX	Abloy Exec	✓		✓	✓	✓	✓	✓
Abloy PL250/25DP	Abloy Disklock Pro	✓		✓	✓	✓	✓	✓
Abloy PL250/25PT	Abloy Protec	✓		✓	✓	✓	✓	✓
Abloy PL340/25	Abloy High Profile		✓	✓	✓	✓	✓	✓
Abloy PL340/25EX	Abloy Exec		✓	✓	✓	✓	✓	✓
Abloy PL340/25DP	Abloy Disklock Pro		✓	✓	✓	✓	✓	✓
Abloy PL340/25PT	Abloy Protec		✓	✓	✓	✓	✓	✓
Abloy PL350/25	Abloy High Profile	✓		✓	✓	✓	✓	✓
Abloy PL350/25EX	Abloy Exec	✓		✓	✓	✓	✓	✓
Abloy PL350/25DP	Abloy Disklock Pro	✓		✓	✓	✓	✓	✓
Abloy PL350/25PT	Abloy Protec	✓		✓	✓	✓	✓	✓
Chubb 1K22c	Chubb 6-pin	✓		✓	✓	✓	✓	✓
Chubb 1K23c	Chubb 6-pin	✓		✓	✓	✓	✓	✓
Kaba K20SS65L	Kaba 20 (Armoured)[4]	✓	✓	✓	✓	✓	✓	✓
Kaba KP15.0000C5-RB	Kaba 20 (Armoured)[4]	✓	✓	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Disklock Pro	✓	✓	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Exec	✓	✓	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Protec	✓	✓	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Assa Twin-Combi	✓	✓	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Kaba 20 (Armoured)[4]	✓	✓	✓	✓	✓	✓	✓
Rotalok 60/12/ST	Kaba 20 (Standard)[4]	✓	✓	✓	✓	✓	✓	✓

Notes:
1) The Abloy PL240/25 and PL340/25 padlocks should only be used on Ultra Secure DV access covers that have been fitted with the K2 hasp and staple.

2) The Abloy PL250/25, PL350/25 and Chubb 1K23c padlocks should not be used on Ultra Secure DV access covers that have been fitted with the K2 hasp and staple.
3) If the Abloy PL250/25 and PL350/25 padlocks are to be fitted to access covers on upstands greater than 250 mm tall, the horizontal distance between the locking face of the access cover and the outside edge of the upstand must be at least 200 mm.
4) The torque resistant version of the Kaba 20 cylinder must be fitted to these padlocks in place of the standard Kaba 20 cylinders.
5) Certification does not cover the use of padlocks or accessories other than those listed above. Utilisation of unlisted padlocks and/or accessories may affect the level of security offered by the access cover.
6) The 'user friendliness' of employing the padlocks listed above has not been assessed as this is beyond the scope of LPS 1175:Issue 5.

At the request of the Association of British Insurers, the LPCB developed LPS 1214 *Specification for testing and classifying physical protection devices for personal computers and similar equipment* for the performance of security equipment designed to prevent removal of computer and other office equipment:

The standard defines two categories of protection. Both categories of device prevent theft of the complete computer for three minutes allowing a response by Police or security guards, while Category II products also prevent removal of the computer chips for the same period.

Suitable applications for products certified to LPS 1214 are described below:

Category I: Prevent unauthorised removal of personal computers (PCs), file servers, printers, facsimile machines and other high value equipment for example where access is important for use and the component value low.

Category II: Prevent unauthorised removal of or access to personal computers (PCs), file servers, printers, facsimile machines and other high value equipment for example where the PC is both important and highly valued and/or the component value is high.

In order that they will provide the required protection, the approved equipment must be installed in accordance with the manufacturer's instructions and be in the locked condition with keys removed and held in a secure location.

It is recommended that users regularly check that all exposed fixings and locking mechanisms are in good condition and that they have not been tampered with.

Specifiers requiring category II devices should ensure that they select a device suitable for their particular equipment and that there is suitable ventilation of the computer in accordance with any instructions and warranty conditions supplied with the computer.

Although doorsets, shutters, grilles and other security products approved to LPS 1175 Security Rating 2 provide an equivalent resistance to forced entry into a building or room as that provided by an LPS 1214 device to an individual item of equipment, we do not recommend specifiers substitute one type of protection for the other, particularly in open access areas. Unless each item of equipment is protected by an LPS 1214 approved device, it will take a criminal little or no time to remove that equipment.

It is also recommended that all equipment is marked with an asset management marking system approved to LPS 1225 and registered on a secure asset database certified to LPS 1224. Marking devices and secured database services are listed in Part 6, Sections 9 and 10.

Products that have been certified by LPCB should be marked with a label indicating the grade of security offered, LPCB certification mark and certificate number.

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Certificate No: 312b to LPS 1214: Issue 2

Product Name	Type	Model	Height (mm)	Width (mm)	Depth (mm)	Security category	LPCB Ref. No.
Ventis Server Safe	Server enclosure with single door in front and rear	-	2127	725	1100	II	312b/03

Product Name	Type	Model	Height (mm)	Width (mm)	Depth (mm)	Security category	LPCB Ref. No.
Sun Safe System Vault	Server enclosure with single door in front and rear	UKT-SUNSAFE-1	2160	725	1500	II	
	Server enclosure with single door in front and rear	UKT-SUNSAFE-2	2160	725	1265	II	
	Server enclosure with single door in front and rear	UKT-SUNSAFE-3	2160	725	1100	II	
	Server enclosure with single door in front and rear	UKT-SUNSAFE-6	1000	725	1000	II	
	Server enclosure with single door in front and rear	UKT-SUNSAFE-7	1000	725	900	II	
	Server enclosure with single door in front and rear	Made to measure: min. size	1000	600	600	II	
	Server enclosure with single door in front and rear	Made to measure: max. size	2500	1000	2000	II	
	Server enclosure with double door in front and rear	UKT-SUNSAFE-4	2160	1000	1500	II	
	Server enclosure with double door in front and rear	UKT-SUNSAFE-5	2160	1000	1853	II	
	Server enclosure with double door in front and rear	UKT-SUNSAFE-8	2160	1000	1265	II	
	Server enclosure with double door in front and rear	Made to measure: min. size	1000	700	600	II	
	Server enclosure with double door in front and rear	Made to measure: max. size	2500	2000	2000	II	

Compatible Locks:

Lock	Type	Cylinder
Dom Nemef DDLK	Mortice Lock	Mul-T-Lock Interactive single Euro-profile cylinder or Santos 725 single Euro-profile cylinder

Notes:
1) The above approval applies to these products when assembled and installed strictly in accordance with the instructions provided with the product.
2) In order to offer the required level of security, all locks must be engaged and the keys removed.

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Certificate No: 276a to LPS 1214: Issue 2

Product Name	Type	Max. computer height (mm)	Max. computer width (mm)	Max. computer depth (mm)	Min. computer height (mm)	Min. computer width (mm)	Min. computer depth (mm)	Security category	LPCB Ref. No.
T-T450/1	Adjustable tower computer security cage	380	190	-	330	165	440	I	276a/01

Product Name	Type	Max. computer height (mm)	Max. computer width (mm)	Max. computer depth (mm)	Min. computer height (mm)	Min. computer width (mm)	Min. computer depth (mm)	Security category	LPCB Ref. No.
T-T450/2	Adjustable tower computer security cage	430	190	-	380	165	440	I	276a/02
T-T460/2	Adjustable tower computer security cage	180	515	700	100	300	355	I	276a/03
T-T418(4)	Front opening bespoke range of security entrapments for tower computers	700	400	700	250	180	300	I	276a/04
T-T419	Front opening bespoke range of security entrapments for tower computers	300	800	700	110	200	350	I	276a/05
T-T540 Nightsafe (3)	Modular laptop security enclosures	500	250	500	330	95	330	II	276a/06

Notes:
1) The approval applies to these products when installed strictly in accordance with the instructions provided with the product.
2) The substrate and fixings for wall and floor mounting may affect the performance of the product and are therefore outside the scope of the approval.
3) The Nightsafe units are modular units available with between three and nine compartments each designed to take computers within the size range specified above.
4) The T-T418 may also be sold under the alternative model reference T-T SE 0250.

Certificate No: 276b to LPS 1214: Issue 2

Product Name	Cage dimensions Depth (mm)	Cage dimensions Width (mm)	Cage dimensions Height (mm)	Pole length Min. (mm)	Pole length Max. (mm)	Security Category	LPCB Ref. No.
T-T140/3 Projector cage	386	319	115	500	1500	I	276b/01
T-T140/4 Projector cage	386	319	140	500	1500	I	276b/02

Suitable for use with the projectors within the following size range:

Product Name	Minimum			Maximum		
	Depth (mm)	Width (mm)	Height (mm)	Depth (mm)	Width (mm)	Height (mm)
T-T140/3 Projector cage	150	150	50	225	340	95
T-T140/4 Projector cage	150	150	50	225	340	115

Compatible locks:

Lock Designation	T-T140 (LPCB Ref. No. 276b/...)	
	1	2
Lowe and Fletcher 10 pin radial tumbler lock	✓	✓
Manseng Enterprise Co.,Ltd, 7 pin radial push button lock	✓	✓

Note:
1) The approval only applies to the projector cages when used in conjunction with the T-T105 pole and T-T105-CU ceiling unit, and installed strictly in accordance with the following instructions:
   T-T140 iss5.pub
   CC_INST T-T 105-CU iss3.pub
   CC_INST T-T 105- Pole iss1.pub

Office furniture and other equipment designed to prevent unauthorised access to confidential and valuable documents are tested and certified to LPS 1228 *Specification for testing and classifying the burglary resistance of office furniture*. The standard was developed for the Cabinet Office as a means of specifying and testing the resistance offered by office furniture and document cabinets to unauthorised access.

The standard specifies four levels of protection based on the availability of tools and time to the attacker. This enables specifiers to select the equipment that best suits their needs, such as a filing cabinet, cupboard or document safe, whilst knowing that the equipment will provide the required level of protection against unauthorised access, whether in a domestic, commercial or Government environment.

The burglary resistance of the complete product is tested, including any in-situ hardware such as locks and hinges. However, no allowance is made for various stages of locking. The locks assessed as part of the evaluation of the product are listed under the 'compatible locks' section of each company's entry.

It is important that specifiers only select products covered by the scope detailed on the certificate as the performance of products that fall outside the scope of the assessment may not be adequate. It is also important to ensure that the products are installed in accordance with the manufacturer's instructions and that all exposed fixings, the substrate into which the device is fitted and the locking mechanisms are regularly checked to ensure that they are in good condition and that they have not been tampered with. This will ensure that criminals cannot simply remove the security device to a remote location in order to gain access to the protected documentation or equipment.

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Certificate No: 414b to LPS 1228: Issue 1

Product Name	Size reference	height (mm)	External width (mm)	depth (mm)	height (mm)	Internal width (mm)	depth (mm)	Security classification	LPCB Ref. No.
Viper Elite	1	400	500	475	270	370	320	A	414b/01
	2	600	500	475	470	370	320		
	3	750	500	475	620	370	320		
	4	750	630	575	620	500	420		
	5	980	630	575	850	500	420		
	1	400	500	475	270	370	320	B	414b/02
	2	600	500	475	470	370	320		
	3	750	500	475	620	370	320		
	4	750	630	575	620	500	420		
	5	980	630	575	850	500	420		
Cobra Elite(1)	1	400	500	475	270	370	320	C	414b/03
	2	600	500	475	470	370	320		
	3	750	500	475	620	370	320		
	4	750	630	575	620	500	420		
	5	980	630	575	850	500	420		
	1	400	500	475	270	370	320	D	414b/04
	2	600	500	475	470	370	320		
	3	750	500	475	620	370	320		
	4	750	630	575	620	500	420		
	5	980	630	575	850	500	420		
Fichet-Bauche Saphir	1	400	500	475	270	370	320	C	414c/01
	2	600	500	475	470	370	320	C	
	3	750	500	475	620	370	320	C	
	4	750	630	575	620	500	420	C	
	5	980	630	575	850	500	420	C	
	1	400	500	475	270	370	320	D	414c/02
	2	600	500	475	470	370	320	D	
	3	750	500	475	620	370	320	D	
	4	750	630	575	620	500	420	D	
	5	980	630	575	850	500	420	D	

Compatible Locking Devices:

LPCB Ref.No.	Trade Name	Locks
414b/01	Viper Elite	Chubb 6K207/001/13/W Chubb 6K207/001/21/W Chubb 7L48 Ilco Unican 673000 Mauer President A 71111 Mauer Variator A 70091 Mauer Variator A 70092 Ross 600-AL S&G 6741
414b/02	Viper Elite	Chubb 6K207/001/13/W Chubb 6K207/001/21/W Chubb 7L48 Ilco Unican 673000 Mauer President A 71111 Mauer Variator A 70091 Mauer Variator A 70092 Ross 600-AL S&G 6741
414b/03	Cobra Elite	Chubb 6K207/001/13/W Chubb 6K207/001/21/W Chubb 7L48 Ilco Unican 673000 Mauer President A 71111 Mauer Variator A 70091 Mauer Variator A 70092 Ross 600-AL S&G 6741
414b/04	Cobra Elite	Chubb 6K207/001/13/W Chubb 6K207/001/21/W Chubb 7L48 Ilco Unican 673000 Mauer President A 71111 Mauer Variator A 70091 Mauer Variator A 70092 Ross 600-AL S&G 6741
414c/01	Fichet-Bauche Saphir	Chubb 6K207/001/13/W Chubb 6K207/001/21/W Chubb 7L48 Ilco Unican 673000 Mauer President A 71111 Mauer Variator A 70091 Mauer Variator A 70092 Ross 600-AL S&G 6741
414c/02	Fichet-Bauche Saphir	Chubb 6K207/001/13/W Chubb 6K207/001/21/W Chubb 7L48 Ilco Unican 673000 Mauer President A 71111 Mauer Variator A 70091 Mauer Variator A 70092 Ross 600-AL S&G 6741

Note:
1) Cobra Elite models may also be sold under the alternative model reference Senator.

The essential requirements of LPS 1224 *Requirements for Secure Database Registers* were developed as a result of needs identified by the Police, Insurers and Home Office. LPS 1224 ensures that Police and other legitimate enquirers can confirm ownership of property 24 hours a day while ensuring full details of property ownership are held securely and in accordance with the Data Protection Act. This section lists companies that run databases that have been assessed and approved to LPS 1224 and that operate in accordance with ISO 9000.

Therefore, under the requirements of LPS 1224, the database operator must:

(i) have an established track record in the field of asset registration of at least one year.
(ii) operate the database in accordance with a documented set of procedures in accordance with the requirements defined in LPS 1224.
(iii) offer a telephone check line service manned by trained operatives. In accordance with Government policy, the service shall be available 24 hour a day access and shall be free of direct charge to the enquirer, e.g. it shall not chargeable to the enquirer as a premium rate telephone service.

Datatag ID Limited

Sopwith Drive, Brooklands, Weybridge, Surrey KT13 0UZ UK
Tel: +44 (0)1932 358100 • Fax: +44 (0)1932 358139
E-mail: info@datatag.co.uk • Website: www.datatag.com

Certificate No: 665a to LPS 1224: Issue 2

Datatag Secure Database

Product Name	Telephone Number	Web Address	LPCB Ref. No.
Datatag ID Secure Database	01932 358100		665a/01

Kodit Database Limited

Sandlow Green Farm, Mill Lane, Holmes Chapel, Cheshire CW4 8AS UK
Tel: +44 (0)1477 537 744 • Fax: +44 (0)1477 549 304
E-mail: info@kodit.com • Website: www.kodit.com

Certificate No: 379a to LPS 1224: Issue 2

Product Name	Approved marking device linked to the database	24 hour telephone hotline numbers	Web address	LPCB Ref. No.
Kodit Database	Kodit Selectamark	0800 3897280 0800 1695373 0800 400633		379a/01

Retainagroup Limited

134/136 Buckingham Palace Road, London SW1W 9SA UK
Tel: +44 (0)20 7823 6868 (24 hour) • Fax: +44 (0)20 7823 6864
Website: www.retainagroup.com

Certificate No: 493a to LPS 1224: Issue 2

Product Name	Telephone number	Web address	LPCB Ref. No.
International Security Register	07000 111333		493a/01

The following marking devices listed have been tested to LPS 1225 *Specification for testing and classifying asset marking systems*.

LPS 1225 specifies requirements for the composition and performance of an asset marking system such that, when used according to the manufacturer's instructions, the asset marking device may:

i) Enable the marked asset to be traced to the legal owner via a secure database register linked to the marking system employed.

ii) Act as a theft deterrent in the first instance by virtue of known existence.

It is assumed that the part of the asset to which the asset marking device is applied is at least equal in resistance to removal from the asset as the asset marking device employed.

The two-part classification indicates the resistance of the product to eradication of ownership traceability and resistance to complete removal of marking without leaving evidence of previous existence. This gives the end-user the option of selecting a product to suit the required application. Complete removal of the marking and restoration of the asset gives maximum resale value to the stolen asset, however the standard does not take into account replication or replacement of components as part of asset restoration.

The overall classification designation achieved is given by two numerals separated by a plus sign. The first numeral represents the resistance rating to erasure of traceability and the second numeral to complete removal/asset restoration.

The two classifications are both on a scale of one to eight. Classification '1' performance relates to that which should be expected as a minimum for marking devices used in the retail trade and other public areas equipped with CCTV and security staff. Classification '8', on the other hand, is aimed at marking devices applied to assets that have a high value and this will be the subject of a more determined level of effort by the criminal in order to prevent traceability or completely remove the mark.

Long term durability of the system and associated components are beyond the scope of this standard, as are the performance requirements of any covert marking technology incorporated in the system.

Although this standard specifies that the product instructions shall include hazard data, confirmation of the authenticity of such data is not addressed.

All approved marking devices are marked with a unique asset identification code. The LPCB certification mark and reference numbers relating to the marking device and database, and the telephone number of the database will also be marked on the marking device, or where this is not viable, on separate warning labels which are supplied with the marking device.

In addition to LPS 1225, LPCB is currently working with manufacturers and specifiers to finalise standards classifying the performance of Microdot and RFID marking systems. Please contact LPCB for further details.

Kodit Database Limited

Sandlow Green Farm, Mill Lane, Holmes Chapel, Cheshire CW4 8AS UK
Tel: +44 (0)1477 537 744 • Fax: +44 (0)1477 549 304
E-mail: info@kodit.com • Website: www.kodit.com

Certificate No: 379b to LPS 1225: Issue 3

Product Name	Type of marking device	Substrate	Resistance rating classification	Database ref. no.	LPCB Ref. No.
Securitag	Barcoded label	Enamel finished steel	1 + 5	379a	379b/01
	Barcoded label	Plain finished plastic	1 + 4	379a	

Product Name	Type of marking device	Substrate	Resistance rating classification	Database ref. no.	LPCB Ref. No.
	Barcoded label	Plain finished timber	1 + 4	379a	
	Barcoded label	Plain metal surfaces	1 + 4	379a	
	Barcoded label	Veneered chipboard	1 + 5	379a	
	Embossed label	Enamel finished steel	1 + 5	379a	
	Embossed label	Plain finished plastic	1 + 4	379a	
	Embossed label	Plain finished timber	1 + 4	379a	
	Embossed label	Plain metal surface	1 + 4	379a	
	Embossed label	Veneered chipboard	1 + 5	379a	

Effective marking of materials, in particular plastics, is dependent upon the specific material type, material constituents and surface finish. If you are in any doubt over the likely performance of these marking devices in your situation please contact the manufacturer.

Retainagroup Limited

134/136 Buckingham Palace Road, London SW1W 9SA UK
Tel: +44 (0)20 7823 6868 (24 hour) • Fax: +44 (0)20 7823 6864
Website: www.retainagroup.com

Certificate No: 493b to LPS 1225: Issue 3

Product Name	Substrate	Resistance rating classification	Database ref. no.	LPCB Ref. No.
Marking and Registration System for Vehicles	Laminated glass	2 + 8	493a/01	493b/01
	Toughened glass	2 + 8	493a/01	
The Retainagroup Marking and Registration System for Vehicles	Float glass	2 + 8	493a/01	
The Retainagroup Marking and Registration System for Office and Household Equipment	ABS Plastic	1 + 2	493a/01	493b/02

Effective marking of materials, in particular plastics, is dependent upon the specific material type, material constituents and surface finish. If you are in any doubt over the likely performance of these marking devices in your situation please contact the manufacturer.

Selectamark Security Systems plc

1 Locks Court, 429 Crofton Road, Locksbottom, Kent BR6 8NL UK
Tel: +44 (0)1689 860757 • Fax: +44 (0)1689 860693
E-mail: sales@selectamark.co.uk • Website: www.selectamark.co.uk

Certificate No: 497a to LPS 1225: Issue 3

Asset Marking Systems

Product Name	Type of marking device	Substrate	Resistance rating classification	Database ref. no.	LPCB Ref. No.
Selectamark (7mm)	Glass etching compound	Float glass	1 + 8	379a	497a/01
Selectamark (5mm)	'Blue' etching compound	ABS plastic	1 + 2	379a	497a/02
	'Blue' etching compound	Enamel finished steel	1 + 1	379a	
	'Blue' etching compound	Polycarbonate	2 + 5	379a	
	'Blue' etching compound	Polymethyl Methacrylate ("Perspex")	1 + 3	379a	
	'Blue' etching compound	PVC	1 + 2	379a	
Selectamark (7mm)	'Blue' etching compound	ABS plastic	1 + 2	379a	
	'Blue' etching compound	Enamel finished steel	1 + 1	379a	
	'Blue' etching compound	Leather	1 + 2	379a	

Product Name	Type of marking device	Substrate	Resistance rating classification	Database ref. no.	LPCB Ref. No.
	'Blue' etching compound	Planed hardwood timber	1 + 1	379a	
	'Blue' etching compound	Planed softwood timber	1 + 1	379a	
	'Blue' etching compound	Plywood	1 + 1	379a	
	'Blue' etching compound	Polycarbonate	2 + 5	379a	
	'Blue' etching compound	Polymethyl Methacrylate ("Perspex")	1 + 3	379a	
	'Blue' etching compound	PVC	1 + 2	379a	
	'UV-Orange' etching compound	ABS plastic	1 + 2	379a	497a/03
	'UV-Orange' etching compound	Enamel finished steel	1 + 1	379a	
	'UV-Orange' etching compound	Leather	1 + 2	379a	
	'UV-Orange' etching compound	Planed hardwood timber	1 + 1	379a	
	'UV-Orange' etching compound	Planed softwood timber	1 + 1	379a	
	'UV-Orange' etching compound	Plywood	1 + 1	379a	
	'UV-Orange' etching compound	Polycarbonate	2 + 5	379a	
	'UV-Orange' etching compound	Polymethyl Methacrylate ("Perspex")	1 + 3	379a	
	'UV-Orange' etching compound	PVC	1 + 2	379a	
Supermark (5mm)	Label and 'Blue' etching compound	ABS plastic	1 + 3	379a	497a/04
	Label and 'Blue' etching compound	Enamel finish steel	1 + 2	379a	
	Label and 'Blue' etching compound	Planed hardwood timber	1 + 2	379a	
	Label and 'Blue' etching compound	Planed softwood timber	1 + 2	379a	
	Label and 'Blue' etching compound	Plywood	1 + 2	379a	
	Label and 'Blue' etching compound	Polycarbonate	1 + 4	379a	
	Label and 'Blue' etching compound	Polymethyl Methacrylate ("Perspex")	1 + 4	379a	
	Label and 'Blue' etching compound	Polypropylene	1 + 2	379a	
	Label and 'Blue' etching compound	PVC	1 + 3	379a	
	Label and 'UV-Orange' etching compound	ABS plastic	1 + 3	379a	497a/05
	Label and 'UV-Orange' etching compound	Enamel finished steel	1 + 2	379a	
	Label and 'UV-Orange' etching compound	Planed hardwood timber	1 + 2	379a	
	Label and 'UV-Orange' etching compound	Planned softwood timber	1 + 2	379a	
	Label and 'UV-Orange' etching compound	Plywood	1 + 2	379a	
	Label and 'UV-Orange' etching compound	Polycarbonate	1 + 4	379a	
	Label and 'UV-Orange' etching compound	Polymethyl Methacrylate ("Perspex")	1 + 4	379a	
	Label and 'UV-Orange' etching compound	Polypropylene	1 + 2	379a	
	Label and 'UV-Orange' etching compound	PVC	1 + 3	379a	
	Label and 'Ice Blue' etching compound	ABS plastic	1 + 3	379a	497a/06
	Label and 'Ice Blue' etching compound	Enamel finished steel	1 + 2	379a	
	Label and 'Ice Blue' etching compound	Polycarbonate	1 + 4	379a	
	Label and 'Ice Blue' etching compound	Polymethyl Methacrylate ("Perspex")	1 + 4	379a	
	Label and 'Ice Blue' etching compound	Polypropylene	1 + 2	379a	
	Label and 'Ice Blue' etching compound	PVC	1 + 3	379a	
Selectamark (5mm)	'Ice Blue' etching compound	ABS plastic	1 + 2	379a	497a/07
	'Ice Blue' etching compound	Enamel finished steel	1 + 1	379a	
	'Ice Blue' etching compound	Polycarbonate	2 + 5	379a	
	'Ice Blue' etching compound	Polymethyl Methacrylate ("Perspex")	1 + 3	379a	

Product Name	Type of marking device	Substrate	Resistance rating classification	Database ref. no.	LPCB Ref. No.
Selectamark (7mm)	'Ice Blue' etching compound	PVC	1 + 2	379a	
	'Ice Blue' etching compound	ABS plastic	1 + 2	379a	
	'Ice Blue' etching compound	Enamel finished steel	1 + 2	379a	
	'Ice Blue' etching compound	Polycarbonate	2 + 5	379a	
	'Ice Blue' etching compound	Polymethyl Methacrylate ("Perspex")	1 + 3	379a	
	'Ice Blue' etching compound	PVC	1 + 2	379a	

Effective marking of materials, in particular plastics, is dependent upon the specific material type, material constituents surface colour and finish. If you are in any doubt over the likely performance of these marking devices in your situation please contact the manufacturer.

These enclosures are designed for the secure storage of tools and equipment.

Security enclosures that have been assessed to LPS 1175 *Specification for testing and Classifying the Burglary Resistance of Building Components, Strongpoints and Security Enclosures* are listed in this section.

Each security rating is appropriate to the level of risk to forced entry or removal, and covers everything from the secure storage of tools in the domestic environment, to protection of remote equipment on railway and telecommunications infrastructures. Some examples of applications include: secure site tool and plant storage units, portable office buildings and shipping containers.

The use of appropriately rated and installed physical security enclosures will protect tools and equipment from the unwanted attentions of the opportunist or professional criminal.

LPS 1175 is based on manual attack testing and defines six levels of resistance to entry. These are measured in terms of attack tools and time available to the attacker, and enables specifiers to select products according to the risks that they and their property face.

It is also important to ensure that the products are installed in accordance with the manufacturers instructions and that all exposed fixings, the substrate into which the device is fitted, and the locking mechanisms are regularly checked to ensure that they are in good condition and that they have not been tampered with.

Details regarding the grading system can be found in the standard itself, copies of which are available free of charge and can be downloaded from the LPCB web site www.RedBookLive.com

It is recommended that assets such as cash or jewellery should preferably be stored in safe storage units or strongrooms. These are listed in Sections 2, 3 and 4. Those looking to prevent unauthorised access to confidential and valuable documents should consider using secure office cabinets approved to LPS 1228 (Specification for testing and classifying the burglary resistance of office furniture - lightweight containers), listed in Section 8, while those looking to prevent unauthorised removal of computer equipment consider using the physical protection devices listed in Section 7.

Asgard Secure Steel Storage (a trading division of Flexiform Business Furniture Limited)

1392 Leeds Road, Bradford BD3 7AE UK
Tel: +44 (0)1274 706206 • Fax: +44 (0)1274 706247

Certificate No: 596a to LPS 1175:Issue 5

Product Name	Nominal Enclosure Height (m)	Nominal Enclosure Width (m)	Nominal Enclosure Depth (m)	Security Rating	LPCB Ref. No.
Asgard Classic Secure Unit(1)	1.9[2]	1.9	0.8	1	596a/01
Asgard Compact Secure Unit(1)	1.9[2]	1.1	0.8	1	596a/02
Asgard Universal(1)	0.7	0.6	0.5	1	596a/03
Asgard Annexe(1)	1.5[2]	1.8	0.9	1	596a/04
Asgard Centurion	2.0[2]	1.6	2.2	1	596a/05

Compatible Locks:

Lock	Type	Secure unit (LPCB Ref. No. 596a/...)				
		01	02	03	04	05
Winlock HS2000	Garage door locking system fitted with Euro Profile 1850/05/30 Single cylinder	✓	✓	✓	✓	✓

Accessories:

	Secure unit (LPCB Ref. No. 596a/...)				
Accessory	01	02	03	04	05
Tool Rail	✓	✓			
Adjustable Shelf			✓		
Ramp					✓

Notes:
1) In order to prevent complete removal of the secure units, they must be affixed to concrete foundations in accordance with the self assembly instructions supplied with the units.
2) On products with sloping or peaked roof design, the height given is the maximum.

CSI Security Limited

Ronald Close, Kempston, Bedford MK42 7SH UK
Tel: +44 (0)1234 840840 • Fax: +44 (0)1234 840841

Certificate No: 498b to LPS 1175:Issue 5

Product Name	Product Type	System Design Manual	Security Rating	LPCB Ref. No.
Citywall R4	Modular strong room & security partitioning system	44322-200 (Issue B)	4	498b/01

LPCB Ref. No.	Compatible Doorsets (LPCB Ref. No. 498a/…)				
	01	02	03	04	05
498b/01		✓	✓		✓

System Components:

Component		Dimensions (mm)
Wall panels	Length	900 to 3050
	Width	200 to 1500
	Thickness	50 or 100
Roof panels	Length	1000 to 3050
	Width	600 to 1500
	Thickness	50 or 58

David Ritchie (Implements) Limited (trading as Ritchie)

Carseview Road, Whitehills, Forfar, Scotland DD8 3BT UK
Tel: +44 (0) 1307 462271 • Fax: +44 (0) 1307 464081

Certificate No: 534b to LPS1175: Issue 5

Product Name	Nominal cabinet Height (mm)	Nominal cabinet Width (mm)	Nominal cabinet Depth (mm)	Security Rating	LPCB Ref. No.
HiSAC1 V4 High Security Cabinet/Enclosure	1408	850	820	4	534b/01

Compatible padlocks

Padlock	Cylinder Model
Abloy PL250	Abloy Disklock Pro
Abloy PL250	Abloy High Profile
Abloy PL250	Abloy Exec
Abloy PL350	Abloy Disklock Pro
Abloy PL350	Abloy High Profile
Abloy PL350	Abloy Exec
Chubb 1K12c	Chubb 6-pin
Chubb 1K22c	Chubb 6-pin
Chubb 1K23c	Chubb 6-pin
Kaba KP15.0000C5-RB20	Armoured Kaba 20[1]
Rotalok 60/12/FE	Abloy Exec
Rotalok 60/12/FE	Abloy Protec
Rotalok 60/12/SE	Abloy Exec
Rotalok 60/12/SE	Abloy Protec
Rotalok 60/12/ST	Abloy Exec
Rotalok 60/12/ST	Abloy Protec

Notes:
1) The torque resistant version of the Kaba 20 cylinder must be fitted in place of the standard Kaba 20.
2) Certification does not cover the use of padlocks other than those listed above. Utilisation of unlisted padlocks may affect the level of security offered by the enclosure.
3) The 'user friendliness' of employing the padlocks listed above has not been assessed as this is beyond the scope of LPS1175: Issue 5.

Technocover Limited (incorporating TechnoRail)

Henfaes Lane, Welshpool, Powys SY21 7BE UK
Tel: +44 (0)1938 555511 • Fax: +44 (0)1938 555527
E-mail: techadvice@technocover.co.uk • Website: www.technocover.co.uk

Certificate No: 450b to LPS 1175: Issue 5

Location Apparatus

Product Name	Nominal Enclosure Height (mm)	Nominal Enclosure Width (mm)	Nominal Enclosure Depth (mm)	Security Rating	LPCB Ref. No.
Half Location Apparatus Case (LAC/H)	1850	575	485	3	450b/01
Full Location Apparatus Case (LAC/F)	1850	1010	485	3	450b/02
Half Location Apparatus Case (LAC/H)	1850	575	485	4	450b/03
Full Location Apparatus Case (LAC/F)	1850	1010	485	4	450b/04

Compatible Padlocks

Padlock Designation	Cylinder	LPCB Ref. No 450b/…			
		01	02	03	04
Abloy PL240/25	Abloy High profile	✓	✓	✓	✓
Abloy PL240/25EX	Abloy Exec	✓	✓	✓	✓
Abloy PL240/25DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL240/25PT	Abloy Protec	✓	✓	✓	✓
Abloy PL242	Abloy High Profile	✓	✓	✓	✓
Abloy PL242EX	Abloy Exec	✓	✓	✓	✓
Abloy PL242DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL242PT	Abloy Protec	✓	✓	✓	✓
Abloy PL250/25	Abloy High Profile	✓	✓	✓	✓
Abloy PL250/25EX	Abloy Exec	✓	✓	✓	✓
Abloy PL250/25DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL250/25PT	Abloy Protec	✓	✓	✓	✓
Abloy PL340	Abloy High Profile	✓	✓	✓	✓
Abloy PL340EX	Abloy Exec	✓	✓	✓	✓
Abloy PL340DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL340PT	Abloy Protec	✓	✓	✓	✓
Abloy PL342	Abloy High Profile	✓	✓	✓	✓
Abloy PL342EX	Abloy Exec	✓	✓	✓	✓
Abloy PL342DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL342PT	Abloy Protec	✓	✓	✓	✓

Compatible Padlocks continued

Padlock Designation	Cylinder	LPCB Ref. No 450b/…			
		01	02	03	04
Abloy PL350/25	Abloy High Profile	✓	✓	✓	✓
Abloy PL350/25EX	Abloy Exec	✓	✓	✓	✓
Abloy PL350/25DP	Abloy Disklock Pro	✓	✓	✓	✓
Abloy PL350/25PT	Abloy Protec	✓	✓	✓	✓
Chubb 1K23c	Chubb 6-pin	✓	✓	✓	✓
Kaba KP15.0000C5-RB	Kaba 20 (Armoured)[3]	✓	✓	✓	✓
Kaba K20SS65L	Kaba 20 (Armoured)[3]	✓	✓	✓	✓
Kaba K20SS65CL	Kaba 20 (Armoured)[3]	✓	✓	✓	✓
Rotalok 60/12/SE	Kaba 20 (Armoured)[3]	✓	✓	✓	✓
Rotalok 60/12/SE	Kaba 20 (Standard)[3]	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Disklock Pro	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Exec	✓	✓	✓	✓
Rotalok 60/12/ST	Abloy Protec	✓	✓	✓	✓
Rotalok 60/12/ST-T027	Assa Twin-Combi	✓	✓	✓	✓
Rotalok 60/12/ST	Kaba 20 (Armoured)[3]	✓	✓	✓	✓
Rotalok 60/12/ST	Kaba 20 (Standard)[3]	✓	✓	✓	✓

Notes:
1) Certification does not cover the use of padlocks other than those listed above. Utilisation of unlisted padlocks may affect the level of security offered by the enclosure.
2) The 'user friendliness' of employing the padlocks listed above has not been assessed as this is beyond the scope of LPS1175: Issue 5.
3) The torque resistant version of the Kaba 20 cylinder must be fitted to these padlocks in place of the standard Kaba 20 cylinders.

Certificate No: 450c to LPS 1175: Issue 5

Walk-In Modular Secure Cabinet/Building System

Product Name	Product Type	Dimensions (mm) Minimum Height	Dimensions (mm) Minimum Width	Dimensions (mm) Minimum Dept	Dimensions (mm) Maximum Height	Dimensions (mm) Maximum Width	Dimensions (mm) Maximum Depth	Security Rating	LPCB Ref. No.
WMC/DV4	Walk-In Modular Secure Cabinet/Building System	1500	1000	1000	3000	5000	10000	4	450c/01
CB1/DV4	Small modular secure cabinet system with single leaf doorset	900	650	450	2000	5000	1500	4	450c/02
CB2/DV4	Small modular secure cabinet system with double leaf doorset	900	1350	450	2000	5000	1500	4	450c/03
WMC/DV3	Walk-in modular building system	1500	1000	1000	3000	4000	10000	3	450c/04
CB1/DV3	Small modular secure cabinet system with single leaf doorset	900	650	450	2000	5000	1500	3	450c/05
CB2/DV3	Small modular secure cabinet system with single leaf doorset	900	1350	450	2000	5000	1500	3	450c/06

System Components

Component	Type	Dimensions (mm)						Modular Cabinet (LPCB Ref No: 450c/...)					
		Minimum			Maximum								
		Height	Width	Depth	Height	Width	Depth	1	2	3	4	5	6
Wall panels	Side panel	900	450	N/A	3000	1200	N/A	✓	✓	✓	✓	✓	✓
	Side corner panel	900	450	N/A	3000	1200	N/A	✓	✓	✓	✓	✓	✓
	Single piece side panel[2]	900	650	450	2000	1800	1025		✓	✓		✓	✓
	Capping panel[3]	150	500	N/A	2100	2600	N/A	✓	✓	✓	✓	✓	✓
Roof panels	"Security Rating 4" Central roof panel	N/A	450	510	N/A	1200	5060	✓	✓	✓			
	"Security Rating 3" Central roof panel	N/A	450	510	N/A	1200	4060				✓	✓	✓
	"Security Rating 4" End roof panel	N/A	450	510	N/A	1200	5060	✓	✓	✓			
	"Security Rating 3" End roof panel	N/A	450	510	N/A	1200	4060				✓	✓	✓
	'One piece' roof panel	N/A	510	710	N/A	1200	5060		✓	✓		✓	✓
Doorsets[1]	Single leaf outward opening doorset	For dimensions, please refer to UltraSecure DS1/DV4 doorset (LPCB Ref. No. 450a/03)						✓	✓				
	Double leaf outward opening doorset	For dimensions, please refer to UltraSecure DS2/DV4 doorset (LPCB Ref. No. 450a/08)						✓		✓			
	Single leaf outward opening doorset	For dimensions, please refer to UltraSecure DS1/DV3 doorset (LPCB Ref. No. 450d/01)									✓	✓	
	Single leaf outward opening doorset	For dimensions, please refer to UltraSecure DS1/LS3 doorset (LPCB Ref. No. 450d/02)[4]									✓	✓	
	Double leaf outward opening doorset	For dimensions, please refer to UltraSecure DS2/DV3 doorset (LPCB Ref. No. 450d/03)									✓		✓

Approved Accessories

Accessory	Modular Cabinet (LPCB Ref: No 450c/…)					
	1	2	3	4	5	6
Louvre vents[5]	✓	✓	✓			

Notes:
1) Certification does not cover the use of locks other than those listed for use with the relevant Technocover doorsets (LPCB Ref. No's. 450a/03 and 08, and 450d/01, 02 and 03). Utilisation of unlisted locks may affect the level of security offered by the doorset(s) fitted to the cabinet.
2) Combined maximum size of panel is restricted by material availability. Refer to manufacturer before ordering.
3) The following constraints apply to capping panel:
   i) If the panel height is less than 1200 mm, the maximu m panel width is 2600 mm.
   ii) If the panel height is greater than 1200 mm, the maximum panel width is 1200 mm.
4) The following constraints apply when the UltraSecure DS1/LS3 door is fitted to CB1 cabinets or WMC modular buildings:
   i) Cabinet depth shall be at least 800 mm.
   ii) Cabinet height shall be at least 1200 mm.
   iii) Minimum distance on width side from leading edge of door leaf to side of cabinet is 625 mm.
5) A maximum of six louvre vents may be fitted to each panel.

Doorsets listed in this section have been approved on the basis of:

(i) A detailed specification evaluation by LPCB and product testing undertaken in accordance with PAS 23-1 and/or PAS 24-1.

(ii) A thorough factory assessment, the purpose of which is to confirm that the products being manufactured match those tested by the laboratory and that the manufacturing and quality controls are suitably robust to ensure the continued compliance of the products to the standards to which they are to be certified.

The doorsets listed in Section 12.1 are approved against the requirements of PAS 23-1 *General performance requirements for door assemblies - Part 1. Single leaf, external door assemblies to dwellings*.

This standard describes a series of test methods and a range of criteria relevant to the general performance of single leaf, single swing, and external door assemblies for dwellings. The scope of the standard covers inward and outward opening doorsets, with or without integral or coupled side panels and fanlights. Where these are covered by the LPCB certificate, details will be provided in the listing for that product.

The scope of the standard does not cover the installation of the product nor does it cover double leaf doors, sliding doors, folding doors, tilt and slide doors, and pivoted doors, or doors with any frame member over 3 m.

IR Martin Roberts, IR Security & Safety Limited

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Certificate No: 322b to PAS23-1:1999 (Incorporating Amendment No. 1)

Product Name	Type	Direction of Opening	Clear Opening Min Height (m)	Clear Opening Min Width (m)	Clear Opening Max Height (m)	Clear Opening Max Width (m)	Exposure Category	LPCB Ref. No.
Martin Roberts SD5001(1)	Single leaf, hinged security doorsets	Inward	0.951	0.503	2.250	1.332	800U	322a/02
	Single leaf, hinged security doorsets	Outward	0.951	0.503	3.049	1.332	800U	

Compatible Locking Systems:

LPCB Ref. No.	Trade Name	Type	Direction of Opening	Compatible Locking Options
322a/02	Martin Roberts SD5001	Single leaf, hinged security doorsets	Outward	2
			Inward	1

Option	Locking system	Type	Compatible External and Internal Operating Devices	
			External	Internal
1	Assa 1520	Escape Sash Lock	Key via an Assa 4801 single cylinder or Key via an Assa 4802 double cylinder	Assa 6650C solid brass handle plus either Assa 6256 thumbturn or Key via an Assa 4802 double cylinder
2	Assa 8761	Emergency Nightlatch	Key via an Assa 4801 single cylinder	Assa 640 solid brass handle

Note:
1) This product also meets the requirements of LPS1175: Issue 5 and PAS24-1:1999. For further information, please refer to entries in sections on LPS1175: Issue 5 and PAS24-1 relating to LPCB certificates 322a and 322c respectively.

The doorsets listed in Section 12.2 are approved against the requirements of PAS 24-1 *Enhanced security requirements for door assemblies - Part 1. Single leaf, external door assemblies to dwellings*.

The scope of products covered by the standard is the same as that described for PAS 23-1.

The concept of "enhanced security" in this product standard is based upon a relationship between forced human intervention techniques with basic hand tools and resistance to entry under multi-directional loading and hard and soft body impact tests. The standard provides a means of evaluation of resistance to opportunist attack and does not provide a means of evaluating the security against unauthorised intrusion to the levels or scope of manual entry methods employed within LPS 1175.

The ability to gain entry by picking the locks, deliberately breaking the glass or by attacking the frame fixing methods is not addressed in PAS 24.

A guide to security standards for doors and windows is available free of charge and can be downloaded from www.RedBookLive.com

Please refer to Section 5 for a list of all doorsets and other façade elements that have been certified to LPS 1175.

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Certificate No: 322c to PAS24-1:1999 (Incorporating Amendment No 1)

Product Name	Type	Direction of Opening	Clear Opening Min Height (m)	Clear Opening Min Width (m)	Clear Opening Max Height (m)	Clear Opening Max Width (m)	LPCB Ref. No.
Martin Roberts SD5001(1)	Single leaf, hinged security doorsets	Inward	0.951	0.503	2.250	1.332	322a/02
	Single leaf, hinged security doorsets	Outward	0.951	0.503	3.049	1.332	

Compatible Locking Systems:

LPCB Ref. No.	Trade Name	Type	Direction of Opening	Compatible Locking Options
322a/02	Martin Roberts SD5001	Single leaf, hinged security doorsets	Outward	2
			Inward	1

Option	Locking system	Type	Compatible External and Internal Operating Devices	
			External	Internal
1	Assa 1520	Escape Sash Lock	Key via an Assa 4801 single cylinder or Key via an Assa 4802 double cylinder	Assa 6650C solid brass handle plus either Assa 6256 thumbturn or Key via an Assa 4802 double cylinder
2	Assa 8761	Emergency Nightlatch	Key via an Assa 4801 single cylinder	Assa 640 solid brass handle

Notes:

1. This product also meets the requirements of LPS1175: Issue 5 and PAS23-1:1999. For further information, please refer to entries in sections on LPS1175: Issue 5 and PAS23-1 relating to LPCB certificates 322a and 322b respectively.

Windows listed in this section have been approved on the basis of:

(i) A detailed specification evaluation by LPCB and product testing undertaken by suitably competent laboratories recognised by LPCB to undertake product testing on its behalf.

(ii) A thorough factory assessment, the purpose of which is to confirm that the products being manufactured match those tested by the laboratory and that the manufacturing and quality controls are suitably robust to ensure the continued compliance of the products to the standards to which they are to be certified.

The windows listed in Section 13 are approved against the requirements of one or more of the following standards:

- LPS 1175 *Specification for testing and classifying the burglary resistance of building components, strongpoints and security enclosures*

- BS 7950 *Specification for enhanced security performance of casement and tilt/turn windows for domestic use*

While LPS1175 can be applied to all types of window, the scope of products covered by BS 7950 is restricted to the following:

(i) Casement windows
(ii) Tilt/turn and turn/tilt windows
(iii) Fixed lights and dummy vents

BS 7950 does not assess the resistance to entry by breaking glazing nor does it directly assess the fixing method employed.

The concept of “enhanced security” in this product standard is based upon a relationship between forced human intervention techniques with basic hand tools and resistance to entry under multi-directional loading and hard and soft body impact tests. The standard provides a means of evaluation of resistance to opportunist attack and does not provide a means of evaluating the security against unauthorised intrusion to the levels or scope of manual entry methods employed within LPS 1175.

Should specifiers wish to select windows that fall outside the scope of BS 7950 or which exhibit resistance to forms of forced entry not covered by BS 7950, it is recommended specifiers look to source windows that have been approved to LPS 1175.

Unlike BS 7950, LPS 1175 can be applied to all designs and configurations of windows. In order to be classified to LPS 1175 windows are subjected to a combination of static and dynamic load tests, plus physical attack testing with a wide range of tools aimed at all overcoming any elements of the windows construction including the glazing and the fixings used to install the window into the surrounding building facade.

A guide to security standards for doors and windows is available free of charge and can be downloaded from www.RedBookLive.com.

For details of other façade security products certified by LPCB, such as doors, shutters and grilles, please refer to Sections 5, 12.1 and 12.2.

In addition to the standards described here, LPCB also offer security performance certification of windows and other façade elements to ENV 1627 Burglar resistant construction products. We are also pleased to offer approval of other aspects of window performance, including weathertightness, thermal performance, fire and acoustics.

LPCB are also in the process of developing standards for glazing and security glazing films employing the principles contained within LPS 1175. LPS 1270 covers the resistance to manual attack of the glazing material

and will enable specifiers to select new or replacement glazing that affords two levels of security equivalent to that of the frame or façade in which it is to be employed.

Stolarka Wolomin S.A.

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Tel: +4821 776 3051 • Fax: +4822 776 3541

Certificate No: 610a to BS7950:1997 + Amendment No. 1

Timber Casement Windows

Product Name	Style	Model References	Nominal Dimensions (mm) Width Min.	Nominal Dimensions (mm) Width Max.	Nominal Dimensions (mm) Height Min.	Nominal Dimensions (mm) Height Max	LPCB Ref. No.
Fitzroy enhanced security timber casement window range (1,3)	Classic	107C, 109C, 110C, 112C, 113C, 207C, 209C, 210C, 212C, 213C, 207CC, 307CC, 309CC, 310CC, 312CC, 313CC, 410MC, 412CMC, 413CMC	630	2339	750	1350	610a/01
	Cottage Bar	C107C, C109C, C110C, C112C, C113C, C207C, C209C, C210C, C212C, C213C, C309CC, C310CC, C312CC, C313CC, C409CMC, C410CMC, C412CMC, C413CMC	630	2339	750	1350	
	Cottage Bar Deep Vent	C107D, C109D, C110D, C112D, C113D, C207CD, C209CD, C210CD, C212CD, C213CD, C309CDC, C310CDC, C312CDC, C313CDC, C309CDDC, C410CDDC, C412CDDC, C413CDDC	630	2339	750	1350	
	Georgian Bar	B107C, B109C, B110C, B112C, B113C, B207C, B209C, B210C, B212C, B213C, B207CC, B209CC, B210CC, B212CC, B213CC, B309CC, B310CC, B312CC, B313CC	630	1770	750	1350	
	Horizontal Bar	H109C, H110C, H112C, H113C, H209C, H210C, H212C, H213C, H209CC, H210CC, H212CC, H213CC, H309CC, H310CC, H312CC, H313CC, H410CMC, H412CMC	630	2339	900	1350	
	Narrow	N07C, N09C, N10C, N12C, N13C, 2N07C, 2N09C, 2N10C, 2N12C, 2N13C, 2N07CC, 2N09CC, 2N10CC, 2N12CC, 2N13CC, 3N09CC, 3N10CC, 3N12CC, 3N13CC, 4N09CMC, 4N10CMC, 4N12CMC, 4N13CMC	488	1770	750	1350	

Product Name	Style	Model References	Nominal Dimensions (mm) Width Min.	Nominal Dimensions (mm) Width Max.	Nominal Dimensions (mm) Height Min.	Nominal Dimensions (mm) Height Max	LPCB Ref. No.
	Narrow Georgian Bar	B1N07C, B1N09C, B1N10C, B1N12C, B2N07C, B2N09C, B2N10C, B2N12C, B2N07CC, B2N09CC, B2N10CC, B2N12CC, B3N09CC, B3N10CC, B3N12CC, B3N13CC	488	1342	750	1350	
	Narrow Horizontal Bar	HN09C, HN10C, HN12C, HN13C, H2N09C, H2N10C, H2N12C, H2N13C, H2N07CC, H2N09CC, H2N10CC, H2N12CC, H2N13CC, H3N09CC, H3N10CC, H3N12CC, H3N13CC, H4N10CMC, H4N12CMC	488	1770	750	1350	

Notes
1) This product is manufactured under licence for Fitzroy Joinery Limited, Garden Close, Langage Industrial Estate, Plympton PL7 5EU.
2) The use of glazing of alternative thickness to that specified above and/or incorporating obscured glass is not currently covered by the scope of approval. In selecting glazing for a partic ular application, specifiers should take note of national and local requirements.
3) This product also meets the requirements of BS6375-1: 1989 (Exposure Category 2000 Special) and BS6375-2: 1987 (Class A). For further information, please refer to entry in Part 1, Section 17 of Red Book 2 relating to BRE Certification Limited certificate WPS306-2.

Specification

Product Name	Aspect of Construction	Manufacturer	Model	Details	LPCB Ref. No.
Fitzroy enhanced security timber casement window range (1,3)	Dogging Claws	Aurora Windows Ltd	System 10 H01029 H01028	Casement window security claws and strikers (4 on side hung casements and 2 on top hung casements)	610a/01
	Glazing	-	-	Externally glazed using 24mm (4:16:4) thick plain glazing units(2)	
	Handles	Mila	Contoura	Cranked handle in white, RAL9016 and brass colour finishes	
	Locking Hardware	Mila	M340M	Multi-point espagnolette locking system with 19mm backset and 8mm long by 9mm diameter mushroom cams and two Mila 8-Series shoot bolts	
	Trickle Vents	Titon	Trimvent 4000 PL and AL	Variable opening trickle ventilators	

This section will include vehicle security barriers such as:

- fixed bollards
- rising bollards
- road blockers
- drop arm barriers

Fixed bollards and their supporting foundations will be evaluated against the requirements of PAS 68:2005 '*Specification for vehicle security barriers - fixed bollards'*, a standard drawing on the draft LPS 1246 '*Requirements and test methods for classifying security bollards'* originally developed by LPCB.

Other barriers will be evaluated against the requirements of forthcoming PAS standards for such systems.

Barriers are classified according to mass and velocity of the vehicle and following a single impact:

- distance the vehicle passes beyond the plane of the barrier
- distance the major debris disperses beyond the plane of the barrier

This enables specifiers to select barriers suitable to the risks identified during a risk assessment of the facilities to be protected.

External barriers that have been assessed to LPS1175 “Specification for testing and classifying the burglary resistance of building components, strongpoints and security enclosures”, are listed in this section.

The assessment covers the resistence of the barriers to unauthorised human access into secure areas by either penetrating the barrier, or removing the barrier, using a combination of physical force and tools.

The standard defines six grades of security from opportunist (1 minute with easily concealable hand tools) up to planned professional attack (10 minutes using a wide range of hand tools and power tools). Further details of the grading system can be found in the standard itself, copies of which are available free of charge and can be downloaded from www.redbooklive.com <http://www.redbooklive.com>.

The types of external barrier that can be assessed include:

- Fences
- Walls
- Gates
- Turnstiles

Resistance to scaling, tunnelling and vehicle impact are not covered by these tests. Please refer to Section 14 for barriers offering resistance to vehicle impact.

Product Selection

When selecting a security barrier, it is important to note aspects such as the size, locking systems and directions of opening; all can affect the level of security provided by the product. These aspects of each certified product have therefore been described to enable selection of the most appropriate barrier.

It is important to ensure that the products are installed in accordance with the manufacturer’s instructions and that all exposed fixings, the substrate into which the device is fitted and the locking mechanisms are regularly checked to ensure that they are in good condition and that they have not been tampered with.

Unless otherwise stated, the security ratings attributed to the products listed require all lock bolts to be fully engaged and any deadlocking mechanism provided must be engaged.

The Expanded Metal Company (Trading as Expamet Security Products)

P.O.Box 14, Longhill Industrial Estate (North), Hartlepool TS25 1PR UK
Tel: +44 (0)1429 867 366 • Fax: +44 (0)1429 867 355
E-mail: fencing@expamet.co.uk • Website: www.expandedmetalfencing.co.uk

Certificate No: 731a to LPS 1175 Issue 5.1

Alleygate Vehicle and Pedestrian Gates

Product Name	Type	Width (mm)	Height (mm)	Security Rating	LPCB Ref. No.
Alleygator ™	Pedestrian alley gate	810, 1000, 1100 and 1600	2350	1	731a/01
	Vehicle alley gate	2150, 2300, 2450, 3010 and 3300	2350	1	731a/02
	Vehicle alley gate incorporating inner pedestrian alley gate	2150, 2300, 2450, 3010 and 3300	2350	1	731a/03
	Pedestrian alley gate	810, 1000 and 1600	2350	2[1]	731a/04
	Vehicle alley gate	2150, 2300, 2450, 3010 and 3300	2350	2[1]	731a/05
	Vehicle alley gate incorporating inner pedestrian alley gate	2150, 2300, 3010 and 3300	2350	2[1]	731a/06

Compatible locking systems

Model	Type	Compatible Cylinders	Product (LPCB Ref. No. 731a/...)					
			01	02	03	04	05	06
Nemef 970601041/2	Heavy duty mortice lock with auxiliary latch	Dom 333i5HT	✓	✓	✓	✓	✓	✓

Compatible accessories

Model	Type	Product (LPCB Ref. No. 731a/...)					
		01	02	03	04	05	06
Roller top[2]	Anti-scaling attachment for top of gate	✓	✓	✓	✓	✓	✓

Notes:
1) The deadlock must be fully thrown by turning the key twice in order for the gate to meet Security Rating 2. If the key is only thrown once the gate achieves Security Rating 1.
2) The roller top option can be fitted without undermining the attack resistanc e provided by the gates. However, the roller top's resistance to removal is not covered by this approval nor is its resistance to scaling.
3) The gap between the gate and the adjacent walls must not exceed 45 mm.
4) The gap between the bottom of the gate leaf and the ground must be within the following range:
   (i) 10 mm to 110 mm - Alleygator™ pedestrian alley gates.
   (ii) 50 mm to 150 mm - Alleygator™ vehicle alley gates and vehicle alley gates incorporating pedestrian gates.

Part 7

FIXED FIRE FIGHTING SYSTEMS

PART 7: Fixed fire fighting systems

INTRODUCTION

Fixed fire fighting systems must be carefully selected following an assessment of both the risk of fire and the risks associated with the operation of the fixed fire fighting system.

If chosen correctly, the system will extinguish the fire rapidly enabling operations to be re-started following removal of the fire source and reinstatement of the protection system. Key installations may require duplicate systems so that servicing or re-charging of a system does not interrupt processes.

The systems included in this Part of the 'Red Book' are for the protection of specific risks, e.g. computer rooms, switch gear, high risk production lines etc. Great care needs to be taken in the choice of agent with respect to life safety, damage to equipment from bi-products, venting and the time it takes to have the system operational again after a discharge incident.

There are five sections, each having its own explanatory introduction. The first gives details of installation of companies. The second section gives details of approved components and systems, which have been shown to successfully extinguish test fires. The third and fourth sections give details of components for foam and fine water spray. The fifth and last section gives details of specialist extinguishing systems for catering equipment.

To be confident that a fixed fire extinguishing system will successfully cover your risk, a fully approved system (including components) should be installed by a approved Installer. It is important for specifiers to require an LPS 1204 Certificate of Conformity.

The purpose of the LPS 1204 scheme *Requirements for firms engaged in the design, installation and commissioning of fixed fire systems* is to provide an assurance that fixed fire systems, extensions and alterations using gas or powder as a suppressant perform correctly. Sprinkler systems are covered by the LPS 1048 scheme (see Part 5 Section 1).

It is recommended that the responsibility of the supplier for provision of the system in total, (including the integration of the following facets), be established at the contract stage:

- Risk assessment.
- Extinguishing design concentration.
- Enclosure structural/leakage integrity.
- Discharge/Post discharge venting.
- Electrical system integration.

LPS 1204 Certificated Firms (Section 1A)

Firms listed in Section 1A are authorised by the LPCB to issue a Certificate of Conformity for fixed systems to the LPCB recognised specifications identified in LPS 1204.

Additionally, firms which are Certificated Supervising Firms are identified. These firms are authorised by the LPCB to supervise Registered Firms.

LPS 1204 Registered Firms (Section 1B)

Firms listed in Section 1B are recognised by the LPCB to design and install under the supervision of an LPCB Certificated Firm.

In this publication there are no Registered Firms listed.

Certification of Fixed Systems and LPCB Certificates of Conformity

It is a requirement of LPS 1204 that Certificated Firms shall issue an LPCB Certificate of Conformity in respect of each completed installation, extension and alteration.

Additionally, a Certificated Supervising Firm shall issue an LPCB Certificate of Conformity in respect of each completed installation, extension and alteration which is designed and installed by a Registered Firm.

The issue of an LPCB Certificate of Conformity:

(a) certifies that the fixed system, extension and alteration is designed, installed and commissioned in accordance with the LPCB recognised standards identified in LPS 1204 and

(b) ensures that the certificated system, extension and alteration is recorded by the LPCB.

Additional Offices

Where a firm has additional offices, each office must meet the requirements LPS 1204 to be eligible for certification, and is separately listed.

LPCB Inspection of Fixed Systems

During the LPCB six-monthly follow-up inspection of Certificated and Registered firms completed fixed systems are selected and inspected for conformity with the specified recognised standards.

ADT Fire and Security

ADT House, Unit 61, Stephenson Way, Wave rtree Technology Park, Liverpool L13 1HD UK
Tel: +44 (0)151 5514000 • Fax: +44 (0)151 5514100
E-mail: dcarmstrong@tycoint.com • Website: www.adt.co.uk

Certificate No. CFSI-006 to LPS 1204

Certificated to design, install and commission FM200, Inergen and Novec 1230 systems and issue LPCB Certificates of Conformity for these systems.

Hall & Kay Fire Engineering (Windsor)

1st Floor, Sefton Lodge, Clewer Hill Road, Windsor SL4 4FT UK
Tel: +44 (0)1753 842130 • Fax: +44 (0)1753 842385
E-mail: windsor@hkfire.co.uk • Website: www.hkfire.co.uk

Certificate No. CFSI-009 to LPS 1204

Certificated to design, install and commission FM200, Argonite and LPG Nitrogen and Argon Systems and issue LPCB Certificates of Conformity for these systems.

Hallmark Fire Limited

Systems House, Stoke Road, Hoo, Rochester, Kent ME3 9NT UK
Tel: +44 (0)8700 111150 • Fax: +44 (0)8700 111160
E-mail: sales@hallmarkfire.co.uk • Website: www.hallmarkfire.co.uk

Certificate No. CFSI-010 to LPS 1204

Certificated to design, install and commission Argonite and FM200 systems and issue LPCB Certificates of Conformity for these systems.

Kidde Products Limited

Ashcroft Road, Knowsley Industrial Park, Liverpool, Merseyside L33 7TS UK
Tel: +44 (0)151 6329440 • Fax: +44 (0)151 6329444
E-mail: sales@ginge-kerr.co.uk • Website: www.ginge-kerr.co.uk

Certificate No. CFSI-007 to LPS 1204

Certificated to design, install and commission Argonite systems and issue LPCB Certificates of Conformity for these systems.

Siemens plc, Building Technologies, Fire Safety Division

Hawthorne Road, Staines, Middlesex TW18 3AY UK
Tel: +44 (0)1784 461616 • Fax: +44 (0)1784 464646
Website: www.sbt.siemens.com

Certificate No. CFSI-004 to LPS 1204

Certificated to design, install and commission FM200 (pre-engineered/engineered) Argotec, CO_2 and Cerexen Argon and Nitrogen systems and issue LPCB Certificates of Conformity for these systems.

Tyco Fire and Integrated Solutions (the trading company for Tyco Fire and Integrated Solutions (UK), Limited and Tyco Fire and Integrated Solutions (Ireland) Limited)

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Tel: +44 (0)1384 458993 • Fax: +44 (0)1384 458981
E-mail: howfire@howfire.co.uk • Website: www.howfire.co.uk

Certificate No. CFSI-005 to LPS 1204

Certificated to design, install and commission CO_2 and Inergen systems and issue LPCB Certificates of Conformity for these systems.

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

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Tel: +44 (0)117 927 7271 • Fax: +44 (0)117 929 7586
Website: www.wormald.co.uk

Certificate No. CFSI-013 to LPS 1204

Certificated to design, install and commission Inergen systems and issue LPCB Certificates of Conformity for these systems.

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

Smethwick Hawthorns Business Centre, Halfords Lane, Smethwick, Birmingham, West Midlands B66 1DW UK
Tel: +44 (0)121623 1000 • Fax: +44 (0)121 558 2282
Website: www.wormald.co.uk

Certificate No. CFSI-012 to LPS 1204

Certificated to design, install and commission Inergen systems and issue LPCB Certificates of Conformity for these systems.

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

206 Bedford Avenue, Slough Trading Estate, Slough, Berkshire SL1 4RY UK
Tel: +44 (0)1753 574111 • Fax: +44 (0)1753 824226
Website: www.wormald.co.uk

Certificate No. CFSI-011 to LPS 1204

Certificated to design, install and commission Inergen systems and issue LPCB Certificates of Conformity for these systems.

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

Tyco Park, Grimshaw Lane, Newton Heath, Manchester M40 2WL UK
Tel: +44 (0)161 205 2321 • Fax: +44 (0)161 455 4459
E-mail: wfs.manchester@tycoint.com • Website: www.tycofis.com

Certificate No. CFSI-002 to LPS 1204

Certificated to design, install and commission Inergen systems and issue LPCB Certificates of Conformity for these systems.

The equipment listed in this section has been assessed and tested to a test schedule suitable for the product containing tests from both LPS and EN standards for gaseous system components. The production facilities have also been assessed to ensure that the components meet and continue to meet these standards. In order to maintain approval these facilities are re-inspected twice a year and the components examined and tested routinely.

Some listed products may have been approved against a earlier versions of the standards or at a time when accreditation was unavailable. These products are still regarded as LPCB Approved.

LPCB is also a Notified Body and many of the products in this section will need to be assessed against the new European Norm EN 12094 *Fixed firefighting systems. Components for gas extinguishing systems. Requirements & test methods* series of standards before they can be CE marked. These standards are in various stages of being issued, some have yet to be drafted, some are being drafted and some have already been published. We are working with manufacturers to ensure this is achieved before the various deadlines. Please contact us if you want further information on the current CE Marking status of any of the products in the Red Book.

In order to function correctly the approved components must be used in accordance with the manufacturers technical instructions.

Component approval does not mean LPCB system approval. LPCB system approval requirements are set out in Section 2.2.

Ceodeux - Firetec

24 Route de Diekirch - B.P.19, L-7505 Lintgen, G.D. de Luxembourg

Ceodeux CO2 Container valves

1. This range of equipment is suitable for storage temperatures from -20ºC to +60ºC and is approved for use with CO2
2. This range of equipment is approved for use with Ceodeux Design Manual Reference: B 04800 - CO2 Revision: C
3. System pressure is specified as 60 bar at +20ºC

Product Name	Description	LPCB Ref. No.
B0480 0004	CO2 Container Valve	724a/01
B0480 0005	CO2 Container Valve	
B0480 0006	CO2 Container Valve	
B0480 0007	CO2 Container Valve	
B0480 0106	CO2 Container Valve	
B0480 0107	CO2 Container Valve	
B0480 0108	CO2 Container Valve	
B0480 0109	CO2 Container Valve	
B0480 0110	CO2 Container Valve	
B0480 0111	CO2 Container Valve	

Ceodeux 200 bar Inert Container valves

4. This range of equipment is suitable for storage temperatures from -20ºC to +60ºC and is approved for use with 200 bar inert gas
5. This range of equipment is approved for use with Ceodeux Design Manual Reference B 04801 - 200 bar Revision: F
6. System pressure is specified as 200 bar at +15ºC

Product Name	Description	LPCB Ref. No.
B0480 1002	200 bar Inert Container Valve	724a/02
B0480 1003	200 bar Inert Container Valve	
B0480 1206	200 bar Inert Container Valve	
B0480 1207	200 bar Inert Container Valve	
B0480 1208	200 bar Inert Container Valve	

Product Name	Description	LPCB Ref. No.
B0480 1209	200 bar Inert Container Valve	
B0480 1210	200 bar Inert Container Valve	

7) This range of equipment is suitable for storage temperatures from -20ºC to +60ºC and is approved for use with 300 bar inert gas.
8) This range of equipment is approved for use with Ceodeux Design. Manual Reference: B 04802 - 300bar Revision: K.
9) System pressure is specified as 300 bar at +15ºC.

Ceodeux 300 bar Inert Container valves

7) This range of equipment is suitable for storage temperatures from -20ºC to +60ºC and is approved for use with 300 bar inert gas.
8) This range of equipment is approved for use with Ceodeux Design. Manual Reference: B 04802 - 300bar Revision: K.
9) System pressure is specified as 300 bar at +15ºC.

Product Name	Description	LPCB Ref. No.
B0480 2007	300 bar Inert Container Valve	724a/03
B0480 2008	300 bar Inert Container Valve	7324a/03
B0480 2009	300 bar Inert Container Valve	724a/03
B0480 2010	300 bar Inert Container Valve	

Ceodeux Actuators

10) This range of equipment is suitable for storage temperatures from -20ºC to +60ºC and is approved for use with Ceodeux CO2, 200 bar inert gas and 300 bar inert gas Container Valves.
11) This range of equipment is approved for use with Ceodeux Design Manual References: B04420065 Revision: B, B04420076 Revision: C and B04420575 Revision: C.

Product Name	Description	LPCB Ref. No.
B04420065	Pneumatic / Electrical Actuator	724a/04
B04420076	Pneumatic Actuator	
B04420575	Electrical Actuator	

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PROINERT FIXED FIRE FIGHTING COMPONENTS

- This range of equipment is suitable for storage from -20º to 50ºC
- This range of equipment is approved for use in conjunction with Fike Design, Installation, Maintenance and User Manual P/N 06-294, Issue May 2004
- ProInert is supplied in Containers at either 200 or 300 bar @ 15ºC.
- System pressure downstream of cylinder valve specified as 42 bar nominal.

PROINERT Container Valves

Product Name	Description	LPCB Ref. No.
IG71-001-1	200 bar	654a/01
IG71-001-2	300 bar	

PROINERT Gas Container Assemblies

Product Name	Description	LPCB Ref. No.
IG71-006-300	10L-300 bar	654a/09
IG71-067-200	67L-200 bar	
IG71-080-200	80L-200 bar	
IG71-080-300	80L-300 bar	
IG71-140-300	140L-300 bar	

PROINERT Actuators

Product Name	Description	LPCB Ref. No.
IG71-002	Pneumatic actuator	654a/02

PROINERT Pressure Gauges

Product Name	Description	LPCB Ref. No.
02-10673	Cylinder 300 bar	654a/03
02-10672	Cylinder 200 bar	
02-10901	160 bar gauge	

PROINERT Pilot Actuation Packages

Product Name	Description	LPCB Ref. No.
IG71-017	Solenoid actuation pack (with manual operation)	654a/04
IG71-019	Slave actuation pack	

PROINERT Flexible Connectors

Product Name	Description	LPCB Ref. No.
02-10721	Discharge hose - Inert gas	654a/05
02-10798	Pneumatic hose - Valve actuator	
02-10801	Pneumatic hose - Pilot actuator	

PROINERT Check Valve

Product Name	Description	LPCB Ref. No.
IG71-008	Check valve	654a/06

PROINERT Manifold

Product Name	Description	LPCB Ref. No.
IG71-004-2	2-way manifold	654a/07
IG71-004-3	3-way manifold	
IG71-004-4	4-way manifold	
IG71-004-5	5-way manifold	

PROINERT Nozzles

Product Name	Description	LPCB Ref. No.
IG71-010-XXX	15mm	654a/08
IG71-011-XXX	20mm	
IG71-012-XXX	25mm	
IG71-013-XXX	40mm	

PROINERT Selector Valves

Product Name	Description	Working Pressure(bar)	LPCB Ref. No.
IG71-025-SV1	25mm selector valve	100	654a/10
IG71-040-SV1	40mm selector valve	138	

Product Name	Description	Working Pressure(bar)	LPCB Ref. No.
IG71-050-SV1	50mm selector valve	99	
IG71-080-SV1	80mm selector valve	66	

A manifold relief valve, rated at 55 bar, must be incorporated in any Fike Prolnert system that includes any of these selector valves.

Minimum pneumatic operating pressure required is 8 bar.

CLEAN AGENT FIXED FIRE FIGHTING COMPONENTS

- This range of equipment is suitable for storage from -20º to 50ºC.

CLEAN AGENT Pilot Actuation Packages

Product Name	Description	LPCB Ref. No.
70-172	Clean Agent Solenoid Actuator Kit	654b/01
70-173	Clean Agent Slave Actuator Kit	

CLEAN AGENT Flexible connectors

Product Name	Description	LPCB Ref. No.
02-4977	Actuactor hose - Pilot Actuator	654b/02

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Certificate No: 594a to EN 12094 series part 4 and LPS 1024

GINGE KERR ARGONITE FIXED FIRE FIGHTING COMPONENTS

[1] This range of equipment is suitable for storage temperatures from -20°C to +50°C and is approved for use with Argonite.
[2] This range of equipment is approved for use in conjunction with the Ginge Kerr Design manual reference MA-01-9006-0100 (revision 9 dated 2nd of April)
[3] System pressure is specified at 150 bar, 200 bar and 300 bar @ 15°C.
[4] Cylinder is designed and manufactured in accordance with European Directive 84/225/EEC and the TPED through compliance with EN1964-2
[5] A range of wall brackets, clamping bars, spacers and clamping bolts for secure container installation are also av ailable
[6] Cylinder is designed and manufactured in accordance with BS 5045-1 and is for Indian service only. Cylinder is not compliant with European Directive 84/225/EEC and the TPED.

ARGONITE Container and Container Bracket Assemblies

Product Name	Description	Capacity (ltr)	System Pressure (bar)	LPCB Ref. No.
01-1331-5900	15.9 Litre Cylinder	15.9	150 (4), (5)	594a/01
01-1311-5900	67.5 Litre Cylinder	67.5	150 (4), (5)	
01-1321-5900	80.0 Litre Cylinder	80.0	150 (4), (5)	
01-1332-5900	15.9 Litre Cylinder	15.9	200 (4), (5)	
01-1312-5900	67.5 Litre Cylinder	67.5	200 (4), (5)	
01-1322-5900	80.0 Litre Cylinder	80.0	200 (4), (5)	
01-1334-5900	15.9 Litre Cylinder	15.9	300 (4), (5)	
01-1314-5900	67.5 Litre Cylinder	67.5	300 (4), (5)	
01-1324-5900	80.0 Litre Cylinder	80.0	300 (4), (5)	
01-1322-7100	80.0 Litre Cylinder	80.0	200 (5) (6)	594a/19

ARGONITE Manifolds

Product Name	Description	No. cylinders	System pressure (bar)	LPCB Ref. No.
01-3506-2011 to 01-3506-2019	Single Row Discharge Manifold	1 to 10	150, 200	594a/06
01-3506-2021 to 01-3506-2029	Double Row Discharge Manifold	4 to 20	150, 200	
01-3506-3011 to 01-3506-3019	Single Row Discharge Manifold	1 to 10	300	
01-3506-3021 to 01-3506-3029	Double Row Discharge Manifold	4 to 20	300	
01-3508-0002	Pilot Manifold (2 Diverter Valves)		300 (6)	
01-3508-0003	Pilot Manifold (3 Diverter Valves)		300 (6)	
01-3508-0004	Pilot Manifold (4 Diverter Valves)		300 (6)	
01-3508-0005	Pilot Manifold (5 Diverter Valves)		300 (6)	

[6] Working Pressure Outlet 8 bar

ARGONITE Manifold Check Valves

Product Name	Description	Nominal bore (mm)	System pressure (bar)	LPCB Ref. No.
01-6454-0000	Manifold Check Valve	½" BSP & ¾" NPT	150, 200 & 300	594a/09

ARGONITE Pilot Line Equipment

Product Name	Description	Nominal bore (mm)	System pressure (bar)	LPCB Ref. No.
01-6363-0000	Pilot Line Check Valve	¼" BSP	150, 200 & 300	594a/18
01-3388-0000	Actuation Line Leak Bleeder Unit	-	150, 200 & 300	
15-8685-0651	Actuation Line T-Piece	DN5	150, 200 & 300	
01-4130-000	Actuation Line Cross	DN5	150, 200 & 300	

ARGONITE Hoses

Product Name	Description	Nominal bore (mm)	System pressure (bar)	LPCB Ref. No.
01-3284-0100/0200	Discharge Hose (7)	DN9	150, 200 & 300	594a/03
01-3271-0100/0200	Actuation Hose (7)	DN5	150, 200 & 300	
01-3272-0100/0200	Actuation Hose (7)	DN5	150, 200 & 300	
01-3273-0100/0200	Actuation Hose (7)	DN5	150, 200 & 300	

[7] Hoses are available in a variety of lengths

ARGONITE Diverter Valves

Product Name	Description	Size	System pressure (bar)	LPCB Ref. No.
01-6240-000	Diverter Valve	½"	150, 200 & 300	594a/08
01-6242-000	Diverter Valve	1.0"	150, 200 & 300	
01-6244-000	Diverter Valve	1½"	150, 200 & 300	
01-6246-000	Diverter Valve	2.0"	150, 200 & 300	

ARGONITE Pressure Regulator & Restrictor Assemblies

Product Name	Description	Orifice size (mm)	System pressure (bar)	LPCB Ref. No.
01-6017-000	Pressure Regulator	N/A	150, 200 & 300	594a/04
01-370X-1030/1070 (8), (9), (10)	½" Restrictor Assembly	3-7	150, 200 & 300	
01-370X-3050/3180 (9)	1.0" Restrictor Assembly	5-18	150, 200 & 300	
01-370X-4120/4270 (9)	1½" Restrictor Assembly	12-27	150, 200 & 300	
01-370X-5200/5360 (9)	2.0" Restrictor Assembly	20-36	150, 200 & 300	

[8] Not available with NPT Female/NPT Female or NPT Female/BSP Female connections
[9] Where X can be 1 for NPT Male/NPT Female, 2 for NPT Female/NPT Female, 3 for NPT Male/BSP Female or 4 for NPT Female/BSP Female
[10] Also availalbe with BSP Male/BSP Female (part no. 01-3706-1030/1070) or BSP Male/NPT Female connections (part no. 01-3705-1030/1070)

ARGONITE Pressure Relief Devices

Product Name	Description	System pressure (bar)	LPCB Ref. No.
01-16653-0001/0101	Pressure Relief Device	150	594a/17
01-16653-0002/0102	Pressure Relief Device	200	
01-16653-0003/0103	Pressure Relief Device	300	

ARGONITE Pressure Monitoring Devices

Product Name	Description	System pressure (bar)	LPCB Ref. No.
01-7221-0300	Manifold Pressure Gauge ½	150, 200 & 300 bar	594a/15
03-5713-0000	Discharge Pressure Switch	Operating pressure 90 bar	
01-7171-1150	Contact Gauge Unit	150	
01-7171-1200	Contact Gauge Unit	200	
01-7171-1300	Contact Gauge Unit	300	

ARGONITE Discharge Nozzles

Product Name	Description	Orifice size (mm)	System pressure (bar)	LPCB Ref. No.
01-3465-X200 (11)	½" Nozzle Assembly	3-10	60	594a/05
01-3465-X300 (11)	¾" Nozzle Assembly	7-14	60	
01-3465-X400 (11)	1.0" Nozzle Assembly	10-18	60	
01-3465-X500 (11)	1½" Nozzle Assembly	15-26	60	

[11] Where X can be 1 for BSP or 2 for NPT connections

ARGONITE Container Valves

Product Name	Description	System pressure (bar)	LPCB Ref. No.
01-6471-0150	Pneumatic Argonite Valve	150	594a/10
01-6471-0200	Pneumatic Argonite Valve	200	
01-6471-0300	Pneumatic Argonite Valve	300	

ARGONITE Release Valves

Product Name	Description	System pressure (bar)	LPCB Ref. No.
01-7172-1150	Release Unit	150	594a/11
01-7172-1200	Release Unit	200	
01-7172-1300	Release Unit	300	
01-7173-1150	Release Unit	150	
01-7173-1200	Release Unit	200	
01-7173-1300	Release Unit	300	

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KIDDE200 RANGE OF FM200 FIXED FIRE FIGHTING COMPONENTS

a) This range of equipment is suitable for storage temperatures from -20°C to +55°C and is approved for use with HFC 227ea (FM200) & Nitrogen.
b) This range of equipment is approved for use in conjunction with the Kidde200 Design Manual that also relates to HFC 227ea (FM200).
c) System pressure is specified at 25 bar @ 20°C and max service pressure of 34.5 bar @ 55°C.

Kidde 200 Container Valve, Container and Container Bracket Assemblies

Product Name	Capacity (ltrs)	Bracket No.
1-4006(x)-0000-KID	6 ltr Container Assembly (1)	6
1-4010(x)-0000-KID	10 ltr Container Assembly (1)	10
1-4015(x)-0000-KID	15 ltr Container Assembly (1)	15
1-4025(x)-0000-KID	25 ltr Container Assembly (1)	25
1-4041(x)-0000-KID	41 ltr Container Assembly (1)	41
1-4063(x)-0000-KID	63 ltr Container Assembly (1)	63
1-4100(x)-0000-KID	100 ltr Container Assembly (1)	100
1-4155(x)-0000-KID	155 ltr Container Assembly (1)	155
1-4241(x)-0000-KID	241 ltr Container Assembly (1)	241

Notes:
Where (x) can be 0 for assemblies without contents monitoring switch OR 1 for assemblies complete with contents monitoring switch
(1) These containers are designed and manufactured to BS5054:Part 2

KIDDE200 Container Valves

Product Name	Description
1-49/90421	CV21 Container Valve
1-49/90422	CV45 Container Valve
1-49/90423	CV60 Container Valve

KIDDE200 Discharge Hoses

Product Name	Description	Nominal Bore (mm)
1-40.815.01	Standard Discharge Hose	25
1-40.815.11	Discharge Hose C/W check valve	25
1-40.815.02	Standard Discharge Hose	40
1.40.815.22	Discharge Hose with St.St. ends	40
1-40.815.03	Standard Discharge Hose	50
1-40.815.23	Discharge Hose with St.St. ends	50
1-40.815.04	Standard Discharge Hose	65
1-40.815.24	Discharge Hose with St.St. ends	65

KIDDE200 Discharge Manifolds, including Check Valves and Brackets

Product Name	Description	Nominal bore (mm)
1.40.816.28	Two point manifold	80
1-40.816.38	Three point manifold	80
1-40.816.21	Two point manifold	100
1-40.816.31	Three point manifold	100
1-40.816.05	Main/Reserve Tee Check	50

KIDDE200 Pressure Switches

Product Name	Description
1-40/70355	Container Pressure Switch
1-40.818.01	Discharge Pressure Switch

KIDDE200 Discharge Nozzles

Product Name	Description	Nominal bore (mm)
1-45410 (4), (5), (6)	360° Nozzle	10
1-45415 (4), (5), (6)	360° Nozzle	15
1-45420 (4), (5), (6)	360° Nozzle	20
1-45425(4), (5), (6)	360° Nozzle	25
1-45432 (4), (5), (6)	360° Nozzle	32
1-45440 (4), (5), (6)	360° Nozzle	40
1-45450 (4), (5), (6)	360° Nozzle	50
1-45210 (4), (5), (6)	180° Nozzle	10
1-45215 (4), (5), (6)	180° Nozzle	15

Product Name	Description	Nominal bore (mm)
1-45220 (4), (5), (6)	180° Nozzle	20
1-45225 (4), (5), (6)	180° Nozzle	25
1-45232 (4), (5), (6)	180° Nozzle	32
1-45240 (4), (5), (6)	180° Nozzle	40
1-45250 (4), (5), (6)	180° Nozzle	50

[4] BSPT and NPT thread options available
[5] Material options include aluminiu and brass
[6] Nozzles drilled in accordance with system calculations

KIDDE200 Valve Actuators

Product Name	Description
1-49.700.01	Pneumatic Actuator
1-49.700.02	Solenoid Actuator
1-49.700.03	Manual Actuator
1-49.700.05	Pilot Vent Valve
1-49.700.06	Manual/Pneumatic Actuator

KIDDE200 Pilot Hoses

Product Name	Description	Nominal bore (mm)
1-40/90181	Pilot Hose 500mm	3/16"
1-40/90190	Pilot Hose 725mm	3/16"

Product Name

KIDDE GX20 RANGE OF FM200 FIXED FIRE FIGHTING COMPONENTS
a. This range of equipment is suitable for storage temperatures from -20°C to +54°C and is approved for use with FM200.
b. This range of equipment is approved for use in conjunction with the Kidde Fire Protection Ltd, FM200 Design Manual.
c. System pressure is specified at 25 bar @ 20°C and max service pressure of 34.5 bar @ 55°C.
d. Nitrogen pilot pressure is specified as 124 bar @ 20°C.

[1] Cylinders are designed and manufactured to 84/525/EEC or TRG 330
[2] Vertical mount cylinder with straight syphon tube
[3] Horizontal mount cylinder with angled syphon tube continued

KIDDE GX20 Container Valve, Container and Container Bracket Assemblies

Product Name	Description	Capacity (ltr)	Strap	Bracket No.
E7763-102	Cyl & GCV40 Valve Assy	8 (1), (2)	C6331-103	D1162-002
E7763-122	Cyl & GCV40 Valve Assy	8 (1), (3)	C6331-103	D1162-002
E7763-103	Cyl & GCV40 Valve Assy	16 (1), (2)	C6331-104	D1162-003
E7763-123	Cyl & GCV40 Valve Assy	16 (1), (3)	C6331-104	D1162-003
E7763-104	Cyl & GCV40 Valve Assy	28 (1), (2)	C6331-104	D1162-004
E7763-124	Cyl & GCV40 Valve Assy	28 (1), (3)	C6331-104	D1162-004
E7763-105	Cyl & GCV40 Valve Assy	51 (1), (2)	C6331-105	
E7763-106	Cyl & GCV50 Valve Assy	81 (1), (2)	C6331-105	
E7763-108	Cyl & GCV50 Valve Assy	142 (1), (2)	C6331-106	
E7763-110	Cyl & GCV65 Valve Assy	243 (1), (2)	C6331-107	
B6793-720	Nitrogen Pilot Cylinder	1.77		B6793-721
E7763-101	Cyl & GCV40 Valve Assy	5 (1), (2)	C6331-103	D1162-001
E7763-121	Cyl & GCV40 Valve Assy	5 (1), (3)	C6331-103	D1162-001

KIDDE GX20 Container Valves

Product Name	Description
K63536-03	GCV40 valve
K63536-02	GCV50 valve
K63536-01	GCV65 valve

KIDDE GX20 Discharge Hoses, Outlet Adapters, Discharge Manifolds, including Check Valves and Bracket

Product Name	Description	Nominal bore (mm)
B6793-760	GCV40 Outlet Hose	40
B6793-761	GCV50 Outlet Hose	50
B6793-763	GCV65 Outlet Hose	65
K63497-02	GCV40 Outlet Adaptor	40
K63497-03	GCV50 Outlet Adaptor	50
K63497-04	GCV65 Outlet Adaptor	65
B6793-762	Elbow Check	50
B6793-764	Elbow Check	65
D1511-006	2 Port Manifold	50
D1511-007	2 Port Manifold	80
D1511-009	2 Port Manifold	100
D1511-008	3 Port Manifold	80
D1511-010	3 Port Manifold	100

KIDDE GX20 Pressure Switches and Devices

Product Name	Description
B6793-730	Cylinder Contents Supervisory Pressure Switch
B6793-731	Discharge Pressure Switch
B6793-732	Discharge Pressure Switch (Explosion Proof)
	Pressure Switch
B6793-733	Pressure Trip

KIDDE GX20 Discharge Nozzles

Product Name	Description	Nominal bore (mm)
C3333-301-xx	180^{o} Nozzle (4), (5)	15
C3333-302-xx	180^{o} Nozzle (4), (5)	20
C3333-303-xx	180^{o} Nozzle (4), (5)	25
C3333-304-xx	180^{o} Nozzle (4), (5)	32
C3333-305-xx	180^{o} Nozzle (4), (5)	40
C3333-306-xx	180^{o} Nozzle (4), (5)	50
C3333-307-xx	360^{o} Nozzle (4), (5)	15
C3333-308-xx	360^{o} Nozzle (4), (5)	20
C3333-309-xx	360^{o} Nozzle (4), (5)	25
C3333-310-xx	360^{o} Nozzle (4), (5)	32
C3333-311-xx	360^{o} Nozzle (4), (5)	40
C3333-312-xx	360^{o} Nozzle (4), (5)	50

[4] Nozzles drilled in accordance with system calculations.
[5] Nozzles are manufactured from brass.

KIDDE GX20 Valve Actuators

Product Name	Description
B6793-701	Electric Control Head
B6793-702	Electric & Cable Control Head
B6793-703	Cable & Electric Control Head (Flameproof)
B6793-704	Cable Operated Control Head
B6793-705	Lever Operated Control Head
B6793-706	Pressure & Lever Operated Control Head
B6793-707	Pressure Operated Control Head
B6793-708	Pressure Operated Control Head (6)
B6793-709	Electric Control Head (6)

[6] Stackable configuration

KIDDE GX20 Pilot Equipment

Product Name	Description
B6793-770	Master Cylinder Adaptor Kit

Product Name	Description
B6793-771	559mm Long Pilot hose
B6793-772	762mm Long Pilot hose
B6793-773	Male Straight Adaptor
B6793-774	Male Elbow Adaptor
B6793-775	Male Branch Tee

LPG Tecnicas en Extincion de Incendios-S.A

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LPG 200 bar and 300 bar Inert Fixed fire Fighting Components

1. This range of equipment is suitable for storage and environmental conditions from -20º to +50º and is approved for use with'Inert 55'' and all combinations of Argon and Nitrogen.
2. This range of equipment is approved for use with LPG Design Manual reference: MD/55/01/IN.
3. Nominal system pressure is specified as 200 bar and 300 bar at 15ºC.

LPG Discharge Valves for Inert (200 bar) and Inert (300 bar)

Product Name	Description	LPCB Ref. No.
2000306V	128-60 container valve (200 bar)	446a/01
26512800	128-65 container valve (330 bar)	
2000280V	128-80 container valve (200 bar)	446a/02
28512800	128-85 container valve (330 bar)	

LPG Restrictors for Inert (200 bar) and Inert (300 bar)

Product Name	Description	LPCB Ref. No.
61350005	¾" Restrictor	446a/17
61350006	1 Restrictor	
61350007	1 ¼" Restrictor	
61350008	1 ½" Restrictor	
61350009	2 Restrictor	

LPG Discharge Hoses for Inert (200 bar) and Inert (300 bar)

Product Name	Description	LPCB Ref. No.
30522010	¾" flexible hose	446a/18

LPG Discharge Containers for Inert (200 bar) and Inert (300 bar)

Product Name	Description	LPCB Ref. No.
10800080	80 litre cylinder (200 bar)	446a/19
11400060	140 litre cylinder (200 bar)	
10800300	80 litre cylinder (300 bar)	
11400300	140 litre cylinder (300 bar)	

LPG Check Valves for Inert (200 bar) and Inert (300 bar)

Product Name	Description	LPCB Ref. No.
20006050	¾" check valve	446a/20

LPG Nozzles for Inert (200 bar) and Inert (300 bar)

Product Name	Description	LPCB Ref. No.
30400000	?" 360° nozzle	446a/21
30400001	¾" 360° ° nozzle	
30400002	½" 360° nozzle	
30400003	1" 360° nozzle	
30400004	1 ¼" 360° nozzle	
30400005	1 ½" 360° nozzle	
30400006	2" 360° nozzle	
30400007	?" 180° nozzle	
30400008	¾" 180° nozzle	
30400009	½" 180° nozzle	
30400010	1" 180° nozzle	
30400011	1 ¼" 180° nozzle	
30400012	1 ½" 180° nozzle	
30400013	2" 180° nozzle	

LPG HFCS FIXED FIRE FIGHTING COMPONENTS

a) This range of equipment is suitable for storage from @ 20º to 55ºC
b) Systems are specified as follows:
   HFC23: System pressure is specified as 41 bar @ 20°C, maximum filling density 0.85 kg/l.
   HFC125: System pressure is specified as 41 bar @ 20ºC, maximum filling density 0.93 kg/l.
   HFC227ea: System pressure is specified as 41 bar @ 20ºC, maximum filling density 1.15 kg/l.
c) Systems with HFC23 are not superpressurised.
d) Components listed are appropriate for the gas as indicated.

LPG HFCS Discharge Valves, including syphon tube for HFC23

Product Name	Description	LPCB Ref. No.
2131910	LPG190-13	446a/03
2131450	LPG145-13	
2131280	LPG128-13	

LPG HFCS Discharge Valves, including syphon tube for HFC125 and HFC227ea

Product Name	Description	LPCB Ref. No.
2001910	LPG190-00	446a/04
2001450	LPG145-00	
2001280	LPG128-00	

LPG HFCS Discharge Containers for HFC23, HFC125 and HFC227ea

Product Name	Description	LPCB Ref. No.
10120100	120 l. container	446a/05
10950100	100 l. container	
10750100	75 l. container	
10670080	67 l. container	
10400080	40.2 l. container	
10260060	26.8 l. container	
10130060	13.4 l. container	
10050060	5.0 l. container	

LPG HFCS Discharge Hoses for HFC23, HFC125 and HFC227ea

Product Name	Description	LPCB Ref. No.
30508HFC	Rigid telecopic hose 1.5"	446a/06
30508080	Rigid hose 1½" HG/MF	
30508000	Rigid hose 1½" HG/HG	
30506HFC	Rigid hose 1.0"	

Product Name	Description	LPCB Ref. No.
30502140	R2F hose 400 Md 1.0"	
30506070	R2F hose 400 Mod ¾"	

LPG HFCS Manifolds for HFC23

Product Name	Description	LPCB Ref. No.
3FZYXXVV(3)	Single Row manifold	446a/12

According to the following:

F denotes it is appropriate for HFC23.
Z denotes the output: 'I' means left, 'D' means right and 'C' means central.
Y denotes the cylinder capacity: 'B' means 67 l, 'C' means 75 l, 'E' means 100 l and 'F' means 120 l.
XX denotes the number of cylinders connected.
VV denotes the size: '06' means 1", '07' means 1 1/4", '08' Means 1 1/2", '09' Means 2", '10' Means 2 1/2", '11' means 3" and '12' means 4".

LPG HFCS Manifolds HFC125 and HFC227ea

Product Name	Description	LPCB Ref. No.
3SZYXXVV(3)	Single Row manifold	446a/13

According to the following:

S denotes it is appropriate for HFCs systems pressurized with nitrogen at 41 bar at 20^{o}C
Z denotes the output: 'I' means left, 'D' means right and 'C' means central.
Y denotes the cylinder capacity: 'B' means 67 l, 'C' means 75 l, 'E' means 100 l and 'F' means 120 l.
XX denotes the number of cylinders connected.
VV denotes the size: '06' means 1", '07' means 1 1/4", '08' Means 1 1/2", '09' Means 2", '10' Means 2 1/2", '11' means 3" and '12' means 4".

LPG HFCS Pressure Switches for HFC23, HFC125 and HFC227ea

Product Name	Description	LPCB Ref. No.
30330010	Manifold switch	446a/14

LPG HFCS Pressure Gauges for HFC23

Product Name	Description	LPCB Ref. No.
30216010	TW 0-160 gauge	446a/15
3021160B	T/W 0-160 gauge	

LPG HFCS Pressure Gauges for HFC125 and HFC227ea

Product Name	Description	LPCB Ref. No.
30210100	TW 0-100 gauge	446a/16
3021100B	T/W 0-100 gauge	

LPG HFCS Valves for HFC23, HFC125 and HFC227ea

Product Name	Description	LPCB Ref. No.
20008000	Piston check valve 2.0"	446a/07
2008HFC	Piston telescopic 2.0"	
20006060	Ball check valve 1.0"	
20006HFC	Ball telescopic check valve 1.0"	

LPG HFCS Nozzles for HFC23, HFC125 and HFC227ea

Product Name	Description	LPCB Ref. No.
30440320	R 360^{o} Standard 3/8"	446a/08

Product Name	Description	LPCB Ref. No.
30440420	R 360° Standard ½"	
30440520	R 360° Standard ¾"	
30440620	R 360° Standard 1.0"	
30440720	R 360° Standard 1¼"	
30440820	R 360° Standard 1½"	
30440920	R 360° Standard 32.0"	
30420320	R 180° Standard 3/8"	
30420420	R 180° Standard ½"	
30420520	R 360° Standard ¾"	
30420620	R 360° Standard 1.0"	
30420720	R 360° Standard 1¼"	
30420820	R 360° Standard 1½"	
30420920	R 360° Standard 2.0"	

LPG HFCS Brackets for HFC23, HFC125 and HFC227ea

Product Name	Description	LPCB Ref. No.
30620310	Modular 2 l.	446a/11
30621310	Modular 5/7/13	
30625010	Modular 26/40	
30626710	Modular 67/75	
30621010	Modular 100/120	
306XX6SS(1)	Single row 67 l.	
306XX7SN(1)	Single row 75 l.	
306021002	Kit 2 bottles 100/120 single row	
306031002	Kit 3 bottles 100/120 single row	

[1] XX denotes the number of cylinders.
[2] The number and combination of kits depends on the number of cylinder in the battery.

LPG Pneumatic Line Actuation for Inert 200 bar, Inert 300 bar, HFC23, HFC125 and HFC 227ea

Product Name	Description	LPCB Ref. No.
3023024B	Solenoid actuator	446a/09
30180APB	Manual actuator	
2901280B	128-90 container valve	446a/10
30111APB	1 way cone high pressure	
30112APB	2 way cone high pressure	
30113APB	3 way cone high pressure	
20007020	¼" relief valve	
3080008C	Pressure relief screw (short)	
3080008L	Pressure relief screw (long)	
30522001	PTFE hose ¼" x 700m	
30506014	PTFE hose ¼" x 580mm	
10020000	2 litre cylinder	

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Certificate No: 587a to EN 12094

HYGOOD i2 FIXED FIRE FIGHTING COMPONENTS

[1]This range of equipment is suitable for storage temperatures from -20°C to 50°C and is approved for use with i2
[2] This range of equipment is approved for use in conjunction with Hygood Design Manual reference 14A-0801H (issue 1 dated January 2004)
[3] Nominal system pressure is specified at 15°C is stated at 200 bar. Nominal service pressure at 50°C is stated as 235 bar

Hygood i2 Storage Cylinders

Product Name	Description	LPCB Ref. No.
16738	27 Litre Cylinder Assembly (EC)	587a/09
16739	40 Litre Cylinder Assembly (EC)	
16740	50 Litre Cylinder Assembly (EC)	
16741	67 Litre Cylinder Assembly (EC)	
16742	80 Litre Cylinder Assembly (EC)	

Hygood i2 Pressure Gauges

Product Name	Description	LPCB Ref. No.
16735	Pressure Indicator-standard (200 bar)	587a/10

Hygood i2 Switched Pressure Gauges

Product Name	Description	LPCB Ref. No.
16736	Switched Pressure Gauge (200 bar)	587a/11
16737	Switched Pressure Gauge	

Hygood i2 Pressure Switches

Product Name	Description	LPCB Ref. No.
16407	Pressure Switch	587a/12

Hygood i2 Nozzles

Product Name	Description	LPCB Ref. No.
17079	½ "(180°) NPT Nozzle	587a/13
17080	½ "(360°) NPT Nozzle	
17081	1"(180°) NPT Nozzle	
17082	1"(360°) NPT Nozzle	
17083	1½ "(180°) NPT Nozzle	
17084	1½ "(360°) NPT Nozzle	
17085	½ "(180°) BSPT Nozzle	587a/14
17086	½ "(360°) BSPT Nozzle	
17087	1"(180°) BSPT Nozzle	
17088	1"(360°) BSPT Nozzle	
17089	1½ "(180°) BSPT Nozzle	
17090	1½ "(360°) BSPT Nozzle	

Hygood i2 Flexible Connectors

Product Name	Description	LPCB Ref. No.
16762	Discharge Hose	587a/15
16725	Pilot Hose (300mm)	
16726	Pilot Hose (530mm)	

Hygood i2 Manifolds

Product Name	Description	LPCB Ref. No.
16784	Single Row - 2 Cylinder Manifold Assembly	587a/16
16785	Single Row - 3 Cylinder Manifold Assembly	587a/15
16786	Single Row - 4 Cylinder Manifold Assembly	587a/16
16787	Single Row - 5 Cylinder Manifold Assembly	
16788	Single Row - 6 Cylinder Manifold Assembly	
16789	Triple Row - 6 Cylinder Manifold Assembly	
16790	Triple Row - 9 Cylinder Manifold Assembly	
16791	Triple Row - 12 Cylinder Manifold Assembly	
16792	Triple Row - 15 Cylinder Manifold Assembly	
16793	Triple Row - 18 Cylinder Manifold Assembly	

Product Name	Description	LPCB Ref. No.
16794	Triple Row - 22 Cylinder Manifold Assembly	
16795	Triple Row - 24 Cylinder Manifold Assembly	
16796	Triple Row - 27 Cylinder Manifold Assembly	
16797	Triple Row - 30 Cylinder Manifold Assembly	

Hygood i2 Pressure Reduction Devices

Product Name	Description	LPCB Ref. No.
16808	50mm Orifice Plate	587a/17
16809	80mm Orifice Plate	

HYGOOD FM200 FIXED FIRE FIGHTING COMPONENTS

[1] This range of equipment is suitable for storage at temperatures from 0°C to 50°C and is approved for use with FM200®.
[2] This range of equipment is approved for use in conjunction with Hygood Ltd, FM200 Installation guide.
[3] System pressure is specified at 25 bar at 20°C.
[4] Containers are designed and manufactured in accordance with BS 5045 Part 2 Class 1A.
[5] Containers are designed to be mounted vertically.

HYGOOD FM200 Valve and Container Assemblies

Product Name	Description	Capacity (litres)
9055	Container Assembly	6.5
9060	Container Assembly	13
9065	Container Assembly	25
9071	Container Assembly	55
9075	Container Assembly	106
9080	Container Assembly	147
9085	Container Assembly	180

HYGOOD FM200 Container Bracket Assemblies and Valve Actuators

Product Name	Description
9000	6.5-25 litre Container
9010	55 litre Container
9012	106-180 litre Container
95530	Solenoid Actuator 24v dc BASEEFA
9400	Solenoid Actuator 24v dc
2900	Pneumatic Actuator
2880	Manual Actuator

HYGOOD FM200 Discharge Hoses and Pilot Valves

Product Name	Description	Nominal bore (mm)
6540	50mm Discharge Hose	50
6490	8mm Pilot Hose x 710mm	8

HYGOOD FM200 Discharge Nozzles

Product Name	Description	Nominal bore (mm)
3380	10mm Aluminium Nozzle	10
3390	15mm Aluminium Nozzle	15
3400	20mm Aluminium Nozzle	20
3410	25mm Aluminium Nozzle	25
3420	32mm Aluminium Nozzle	32
3430	40mm Aluminium Nozzle	40
3440	50mm Aluminium Nozzle	50

HYGOOD FM200 Manifold and CV Assemblies

Product Name	Description
9335	2 Port 65mm Manifold & Check Valve
9336	3 Port 65mm Manifold & Check Valve
9337	4 Port 65mm Manifold & Check Valve
9352	2 Port 80mm Manifold & Check Valve
9353	3 Port 80mm Manifold & Check Valve
9345	4 Port 80mm Manifold & Check Valve
9346	5 Port 80mm Manifold & Check Valve
9355	2 Port 100mm Manifold & Check Valve
9356	3 Port 100mm Manifold & Check Valve
9354	4 Port 100mm Manifold & Check Valve
9357	5 Port 100mm Manifold & Check Valve
9358	6 Port 100mm Manifold & Check Valve
9312	3 Port 150mm Manifold & Check Valve
9313	4 Port 150mm Manifold & Check Valve
9314	5 Port 150mm Manifold & Check Valve
9315	6 Port 150mm Manifold & Check Valve
9316	7 Port 150mm Manifold & Check Valve
9317	8 Port 150mm Manifold & Check Valve
9318	9 Port 150mm Manifold & Check Valve
9319	10 Port 150mm Manifold & Check Valve

HYGOOD FM200 Manifold Bracket and Burst Disc Assemblies

Product Name	Description
30460	65mm Nominal Bore Manifold
30500	80mm Nominal Bore Manifold
30510	100mm Nominal Bore Manifold
30515	150mm Nominal Bore Manifold
2790	Manifold Burst Disc Assembly

HYGOOD FM200 Pressure Switches, Watchman Weigh Bases & Warning Notices

Product Name	Description
99210	Discharge Pressure Switch
9370	425mm x 425mm Platform
9360	300mm x 300mm Platform
2676	Door Warning Notice NOAEL
2675	Door Warning Notice NOAEL
2659	Manual Release Notice

HYGOOD NOVEC 1230 FIXED FIRE FIGHTING COMPONENTS

[1]This range of equipment is suitable for storage temperatures from -20°C to +50°C and is approved for use with Hygood Novec 1230
[2]This range of equipment is approved for use in conjunction with the Hygood Design Manual Reference 14a-06H issue 2
[3]System pressure is specified at 24.8 bar at 20°C.

Hygood Novec 1230 Valve and container assemblies

Product Name	Description	Capacity (ltr)	LPCB Ref. No.
16387	25mm valve container assembly (EC)	6.5	587a/01
16388	25mm valve container assembly (EC)	13	
16389	25mm valve container assembly (EC)	25.5	
16390	50mm valve container assembly	52	
16391	50mm valve container assembly (EC)	106	
16392	50mm valve container assembly (EC)	147	
16373	25mm valve container assembly (DOT)	8	
16374	25mm valve container assembly (DOT)	16	
16375	25mm valve container assembly (DOT)	32	
16376	50mm valve container assembly (DOT)	52	
16377	50mm valve container assembly (DOT)	106	

Product Name	Description	Capacity (ltr)	LPCB Ref. No.
16378	50mm valve container assembly (DOT)	147	
16379	50mm valve container assembly (DOT)	180	

Hygood Novec 1230 Container Bracket Assemblies

Product Name	Description	LPCB Ref. No.
16832	6.5 ltr Container Bracket Assembly (wall-mounted)	587a/02
16833	13 ltr Container Bracket Assembly (wall-mounted)	
16834	25.5 ltr Container Bracket Assembly (wall-mounted)	
16838	6.5/13/25.5 ltr Container Bracket Assembly (floor-mounted)	
16836	8/16/32 ltr Container Bracket Assembly (floor-mounted)	
16837	52/106/147/180 ltr Container Bracket Assembly (floor-mounted)	

Hygood Novec 1230 Valve Actuation

Product Name	Description	LPCB Ref. No.
16399	Solenoid Actuator 24 vdc	587a/03
16400	Local Manual Actuator	
16401	Remote Manual Actuator	
16302	Pneumatic Actuator	
16407	Pressure Switch (Gas Released)	
16848	Pressure Switch (Supervisory)	

Hygood Novec 1230 Discharge Hoses

Product Name	Description	Nominal Bore (mm)	LPCB Ref. No.
16409	25mm Discharge House	25	587a/03
16411	50mm Discharge Hose	50	587a/04

Hygood Novec 1230 Check Valves

Product Name	Description	Nominal Bore (mm)	LPCB Ref. No.
16851	25mm Check Valve	25	587a/05
16852	50mm Check Valve	50	

Hygood Novec 1230 Manifolds

Product Name	Description	Nominal Bore (mm)	Ports	LPCB Ref. No.
16857-16859	65mm Manifold	65	2, 3, 4	587a/06
16860-16864	80mm Manifold	80	2, 3, 4, 5, 6	
16865-16869	100mm Manifold	100	2, 3, 4, 5, 6	
16870-16877	150mm Manifold	150	2, 3, 4, 5, 6, 7, 8, 9, 10	

Hygood Novec 1230 Nozzles

Product Name	Description	Nominal Size (mm)	LPCB Ref. No.
16413-16418	Pre-Engineered Aluminium Nozzle	25, 40, 50	587a/07
16437-16448	Engineered Aluminium Nozzle	15, 20, 25, 32, 40, 50	
16425-16430	Pre-engineered Brass Nozzle	25, 40, 50	
16461-16472	Engineered Brass Nozzle	15, 20, 25, 32, 40, 50	

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REDDAWAY200 RANGE of FM200 FIXED FIRE FIGHTING COMPONENTS

a. This range of equipment is suitable for storage temperatures from -20°C to +55°C and is approved for use with HFC227ea (FM200) and Nitrogen.
b. This range of equipment is approved for use in conjunction with the Reddaway200 Design Manual that also relates to HFC227ea (FM200)
c. System pressure is specified at 25 bar @ 20°C and a maximum service pressure of 34.5 bar @ 55°C

1.These containers are designed and manufactured to BS5045 Part 2.
2. Available with and without contents monitoring pressure switch.
3. An extension to the part number gives the container fill.
4. BSPT and NPT thread options available.
5. Material options include aluminium and brass.
6. Nozzles drilled in accordance with system calculations.

REDDAWAY200 Container Valves

Product Name	Component Description
1-49/90421	CV21 Container valve
1-49/90422	CV45 Container valve
1-49/90423	CV60 Container valve

REDDAWAY200 Container Valve, Container and Container Bracket Assemblies

Product Name	Compenent Description	Bracket No.
1-4006-RED*	6 ltr Container assembly (1), (2), (3)	6
1-4010-RED*	10 ltr Container assembley (1), (2), (3)	10
1-4015-RED*	15 ltr Container assembley (1), (2), (3)	15
1-4025-RED*	25 ltr Container assembley (1), (2), (3)	25
1-4041-RED*	41 ltr Container assembley (1), (2), (3)	41
1-4063-RED*	63 ltr Container assembley (1), (2), (3)	63
1-4100-RED*	100 ltr Container assembley (1), (2), (3)	100
1-4155-RED*	155 ltr Container assembley (1), (2), (3)	155
1-4241-RED*	241 ltr Container assembley (1), (2), (3)	241

REDDAWAY200 Discharge Hoses

Product Name	Component Description	Nominal bore (mm)
1-40.815.01	Standard discharge hose	25
1-40.815.11	Discharge hose complete with check valve	25
1-40.815.02	Standard discharge hose	40
1-40.815.22	Discharge hose with St.St. ends	40
1-40.815.03	Standard discharge hose	50
1-40.815.23	Discharge hose with St.St.ends	50
1-40.815.04	Standard discharge hose	65
1-40.815.24	Discharge hose with St.St.ends	65

REDDAWAY200 Discharge Manifolds including Check Valves and Brackets

Product Name	Component Description	Nominal bore (mm)
1-40.816.28	Two point manifold	80
1-40.816.38	Three point manifold	80
1-40.816.21	Two point manifold	100
1-40.816.31	Three point manifold	100
1-40.816.05	Main reserve tee check	50

REDDAWAY200 Pressure Switches

Product Name	Component Descripton
1-40/70355	Container pressure switch
1-40.818.01	Discharge pressure switch

REDDAWAY200 Discharge Nozzles

Product Name	Component Description	Nominal bore (mm)
1-45410	360° Nozzle (4), (5), (6)	10
1-45415	360° Nozzle (4), (5), (6)	15
1-45420	360° Nozzle (4), (5), (6)	20
1-45425	360° Nozzle (4), (5), (6)	25
1-45432	360° Nozzle (4), (5), (6)	32
1-45440	360° Nozzle (4), (5), (6)	40
1-45450	360° Nozzle (4), (5), (6)	50
1-45210	180° Nozzle (4), (5), (6)	10
1-45215	180° Nozzle (4), (5), (6)	15
1-45220	180° Nozzle (4), (5), (6)	20
1-45225	180° Nozzle (4), (5), (6)	25
1-45232	180° Nozzle (4), (5), (6)	32
1-45240	180° Nozzle (4), (5), (6)	40
1-45250	180° Nozzle (4), (5), (6)	50

REDDAWAY200 Valve Actuators

Product Name	Component Description
1-49.700.01	Pneumatic actuator
1-49.700.02	Solenoid actuator
1-49.700.03	Manual actuator
1-49.700.05	Pilot vent valve
1-49.700.06	Manual/pneumatic actuator

REDDAWAY200 Pilot Hoses

Product Name	Component Description	Nominal bore (inch)
1-40/90181	Pilot hose 500mm	3/16
1-40/90180	Pilot hose 725mm	3/16

Siemens SAS, Building Technologies

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Siemens Sinorix™ 227 Fire Fighting Components

1. This range of equipment is suitable for storage temperatures of -20°C to 50°C and is approved for use with HFC227ea
2. This range of equipment is approved for us in conjunction with Siemens Design manual reference 'RTF_EXPORT_HFC227ea_C' - Revision: July 2005
3. Nominal system pressure at 20°C is stated at 42 bar absolute.

Siemens Sinorix™ 227 Nozzles

Product Name	Descr iption	LPCB Ref. No.
BFFP Type Nozzle	3/4Nozzle 1 Nozzle	126aa/01
BUCEFA Type Nozzle	3/4Nozzle 1 Nozzle 1 1/4Nozzle	126aa/02

Siemens Sinorix™ 227 Flexible Connectors

Product Name	Description	LPCB Ref. No.
FLEJIC 3	Pilot line hose (Type 3)	126aa/03
FLEJIC 4	Pilot line hose (Type 3)	
FLEJIC 5	Pilot line hose (Type 3)	
FRF33	Manifold Hose (Type 1)	126aa/04

Siemens Sinorix™ 227 Check and Non Return Valves

Product Name	Description	LPCB Ref. No.
CARF 33	Check Valve	126aa/05

Siemens Sinorix™ 227 Container Valves and Actuators

Product Name	Description	LPCB Ref. No.
VS12F	Container Valve	126aa/06

Siemens Sinorix™ 227 Container Valves and Actuators

Product Name	Description	LPCB Ref. No.
VS33	Container Valve	126aa/07
DEMA FM	Electro-pneumatic actuator	126aa/08
CP16	Pneumatic actuator	126aa/09
DEPYM	Pneumatic actuator	126aa/10
CM	Manual actuator	126aa/11

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Siemens Sinorix™ CO2 Fire Fighting Components

1. This range of equipment is suitable for storage temperatures from -20ºC to +60ºC and is approved for use with CO2
2. This range of equipment is approved for use with Siemens Building technologies data sheet 04-01-902 Revision: 0
3. System pressure is specified as 60 bar at +20ºC

Siemens Sinorix™ CO2 Container valves

Product Name	Description	LPCB Ref. No.
CX505127	CO2 Container Valve	724a/01

Siemens Sinorix™ Cerexen ® Fire Fighting Components

1. This range of equipment is suitable for storage temperatures from -20ºC to +60ºC and is approved for use with 200 bar inert gas
2. This range of equipment is approved for use with Siemens Building technologies data sheet 04-02-901 Revision: 0
3. System pressure is specified as 200 bar at +15ºC

Siemens Sinorix™ Cerexen ® 200 bar Inert Container valves

Product Name	Description	LPCB Ref. No.
CX505120	200 bar Inert Container Valve	724a/02

Siemens Sinorix™ Cerexen ® 300 bar Inert Container valves

4. This range of equipment is suitable for storage temperatures from -20ºC to +60ºC and is approved for use with 300 bar inert gas
5. This range of equipment is approved for use with Siemens Building technologies data sheet 04-02-902 Revision: 0
6. System pressure is specified as 300 bar at +15ºC

Siemens Sinorix™ Cerexen ® 300 bar Inert Container valves

Product Name	Description	LPCB Ref. No.
CX505135	300 bar Inert Container Valve	724a/03

Siemens Sinorix™ Cerexen ® Actuators

7. This range of equipment is suitable for storage temperatures from -20ºC to +60ºC and is approved for use with Siemens CX505127, CX505120 and CX505135 Container Valves.
8. This range of equipment is approved for use with Siemens Building technologies data s heet 04-03-900 Revision: 0

Siemens Sinorix™ Cerexen ® Actuators

Product Name	Description	LPCB Ref. No.
CX505131	Pneumatic Actuator	724a/04
CX505130	Pneumatic Actuator	
CX505132	Pneumatic/Manual Actuator	
CX505134	Electrical Actuator	

Siemens Sinorix™ Cerexen ® Selector Valves

9. This range of equipment is suitable for storage temperatures of -20°C to 50°C and is approved for use with Cerexen
10. This range of equipment is approved for us in conjunction with Siemens Design manual reference 000010_a. - Revision: March 2005
11. Nominal system pressure at 15°C is stated at 200 bar.

Siemens Sinorix™ Cerexen ® Selector Valves

Product Name	Description	LPCB Ref. No.
1½" Selector Valve	1½" Selector Valve	126z/01
2" Selector Valve	2 Selector Valve	

Siemens Sinorix™ Cerexen ® Nozzles

9. This range of equipment is suitable for storage temperatures of -20°C to 50°C and is approved for use with Cerexen
10. This range of equipment is approved for us in conjunction with Siemens Design manual reference 000010_a. - Revision: March 2005
11. Nominal system pressure at 15°C is stated at 200 bar.

Siemens Sinorix™ Cerexen ® Nozzles

Product Name	Description	LPCB Ref. No.
Cerexen Type Nozzle - 2 Hole	Nozzle ½" Nozzle ¾" Nozzle 1 Nozzle 1 ¼" Nozzle 1 ½" Nozzle 2 Nozzle	126z/02
Cerexen Type Nozzle - 4 Hole	Nozzle ½" Nozzle ¾" Nozzle 1 Nozzle	126z/03

Product Name	Description	LPCB Ref. No.
	1 ¼" Nozzle	
	1 ½" Nozzle	
	2 Nozzle	

Siemens Sinorix™ Cerexen ® Flexible Connectors

9. This range of equipment is suitable for storage temperatures of -20°C to 50°C and is approved for use with Cerexen
10. This range of equipment is approved for us in conjunction with Siemens Design manual reference 000010_a. - Revision: March 2005
11. Nominal system pressure at 15°C is stated at 200 bar.

Siemens Sinorix™ Cerexen ® Flexible Connectors

Product Name	Description	LPCB Ref. No.
MTD2040N-P 1006KP	Pilot line hose (Type 3)	126z/04
MTD2040N-P 1010KP	Pilot line hose (Type 3)	
MTKH60000-P 1112KZ2P	Manifold hose (Type 1)	

Siemens Sinorix™ Cerexen ® Pressure Reduction Devices

9. This range of equipment is suitable for storage temperatures of -20°C to 50°C and is approved for use with Cerexen
10. This range of equipment is approved for us in conjunction with Siemens Design manual reference 000010_a. - Revision: March 2005
11. Nominal system pressure at 15°C is stated at 200 bar.

Siemens Sinorix™ Cerexen ® Pressure Reduction Devices

Product Name	Description	LPCB Ref. No.
Cerexen Blende Type 1½"	1½" Orifice Plate	126z/05
Cerexen Blende Type 2"	2 Orifice Plate	

Thorn Security Limited

Burlington House, Hewett Road, Gapton Hall Industrial Estate, Great Yarmouth, Norfolk NR31 0NN UK
Tel: +44 (0)1493 417600 • Fax: +44 (0)1493 417700
Website: www.tycosafetyproducts-europe.com

THORN SECURITY FM200 FIXED FIRE FIGHTING COMPONENTS

[1] This range of equipment is suitable for storage temperatures from 0°C to 50°C and is approved for use with FM200®.
[2] This range of equipment is approved for use in conjunction with Thorn Security, FM200 Design Manual.
[3] System pressure is specified at 25 bar at 20°C.

[6] The 6.5, 13, 25.5, 52, 106 and 147 litre EC containers shall be designed and manufactured in accordance with the 84/527/EEC directive. The 40 and 80 litre containers shall be designed and manufactured in accordance with the 84/525/EEC directive.
[7] The 8, 16, 32, 52, 106, 147 and 180 litre DOT containers shall be designed and manufactured to DOT (HSE) 4BW 34.5.

FM200 Valve and Container Assemblies

Product Name	Description
303-205-009	6.5 litre Container Assembly (EC)
303-205-010	13 litre Container Assembly (EC)
303-205-011	25.5 litre Container Assembly (EC)
303-205-012	52 litre Container Assembly (EC)
303-205-013	106 litre Container Assembly (EC)
303-205-014	147 litre Container Assembly (EC)
303-205-025	40 litre Container Assembly (EC)
303-205-024	80 litre Container Assembly (EC)
303-205-015	8 litre Container Assembly (DOT)

Product Name	Description
303-205-016	16 litre Container Assembly (DOT)
303-205-017	32 litre Container Assembly (DOT)
303-205-018	52 litre Container Assembly (DOT)
303-205-019	106 litre Container Assembly (DOT)
303-205-020	147 litre Container Assembly (DOT)
303-205-021	180 litre Container Assembly (DOT)

FM200 Container Bracket Assemblies & Valve Actuators

Product Name	Description
311-205-001	6.5l Container
311-205-002	13l Container
311-205-003	25.5l Container
311-205-004	52-180l Container
304-205-002	Solenoid Actuator 24v dc BASEEFA
304-205-001	Solenoid Actuator 24v dc
304-205-004	Pneumatic Actuator
304-205-003	Manual Actuator

FM200 Discharge Hoses, Pilot Valves and Nozles

Product Name	Description	Nominal bore (mm)
306-205-002	50mm Discharge Hose	50
310-205-019	10mm Aluminium Nozzle	10
310-205-007	15mm Aluminium Nozzle	15
310-205-020	20mm Aluminium Nozzle	20
310-205-008	25mm Aluminium Nozzle	25
310-205-021	32mm Aluminium Nozzle	32
310-205-009	40mm Aluminium Nozzle	40
310-205-010	50mm Aluminium Nozzle	50

[8] 360° and 180° discharge patterns available.
[9] Nozzles drilled in accordance with system calculation.

FM200 Manifold and Check Valve Assemblies

Product Name	Description
307-205-012	2 Port 65mm Manifold & Check Valve
307-205-013	3 Port 65mm Manifold & Check Valve
307-205-014	4 Port 65mm Manifold & Check Valve
307-205-015	5 Port 65mm Manifold & Check Valve
307-205-016	6 Port 65mm Manifold & Check Valve
307-205-017	7 Port 65mm Manifold & Check Valve
307-205-018	8 Port 65mm Manifold & Check Valve
307-205-019	9 Port 65mm Manifold & Check Valve
307-205-020	10 Port 65mm Manifold & Check Valve

FM200 Pressure Switches, Container Load Cells and Warning Notices

Product Name	Description
305-205-002	Discharge Pressure Switch
TSL9370	425mm x 425mm Platform
TSL9360	300mm x 300mm Platform
314-205-002	Door Warning Notice less than NOAEL
314-205-001	Door Warning Notice greater than NOAEL
314-205-003	Manual Release Notice

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]
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E-mail: wfs.manchester@tycoint.com • Website: www.tycofis.com

WORMALD ANSUL INERGEN FIXED FIRE FIGHTING

[1] This range of equipment is suitable for storage temperatures of -20°C to +50°C and is approved with Inergen.
[2] This range of equipment is approved for use with a Wormald Ansul (UK) Limited LPCB approved Inergen Design Manual.
[3] System pressure is specified at 200 bar at 15°C.
[4] These containers are designed and manufactured to 84/525/EEC
[5] A range of retention bars, retention rings and fixing links for secure container installations are also available.

INERGEN Container and Container Bracket Assemblies

Product Name	Description	Capacity (ltr)	LPCB Ref. No.
K0240-4156	80 litre cylinders	80	014a/05
K0240-4146	67 litre cylinders	67	
K0240-4136	40 litre cylinders	40	
K0240-4126	27 litre cylinders	27	

INERGEN Discharge Manifolds, Check Valves and Brackets

Product Name	Description	Nominal Bore (mm)	LPCB Ref. No.
SL.93787	560-6 Manifold	50	014a/05
SL.93788	840-9 Manifold	50	
SL.93789	1120-12 Manifold	50	
SL.93790	1400-15 Manifold	50	
K0241-3676	Manifold Valve	7	

[6] A range of end joints, unions, tees and elbows are available

INERGEN Orifice Units

Product Name	Description	Orifice Size	LPCB Ref. No.
SL.93931	2.0" Orifice Unit	30 3	014a/05
K0243-0616	Single Cylinder Orifice Unit	3 5	
SL.93791	Single Orifice Unit	R½	

INERGEN Directional Valves and Equipment

Product Name	Description	Nominal Bore (mm)	LPCB Ref. No.
SL.93617	Directional Valve	50	014a/05
SL.93812	Pilot Cylinder Assembly	-	

INERGEN Discharge Units

Product Name	Description	Orifice Size	LPCB Ref. No.
SL.93943	1½" Inergen Nozzles	3-10	014a/05
SL.93938	1 Inergen Nozzles	10-20	
SL.93773	1½" Inergen Nozzles	8-28	

Nozzles sized in accordance with system calculations.

INERGEN Discharge Hoses and Associated Valves

Product Name	Description	Nominal Bore (mm)	LPCB Ref. No.
K0247-0226	Discjharge Hose	DN10	014a/05
K0247/0216	Actuation Hose	DN8	
SL.93464	Pilot Line Non-Return Valve	10mm O.D.	

INERGEN Container Valves

Product Name	Description	LPCB Ref. No.
K0241-0216	Quick Action Valve C1 12-6	014a/05

INERGEN Actuators and Indicators

Product Name	Description	LPCB Ref. No.
K0246-0326	Electric Actuator SF2	014a/05
K0240-6276	Manual Release	
K0241-3886	Pneumatic Actuator	
K0241-3826	Release Head II	
SL.93851	Gas Discharge Pressure Switch	
SL.93769	Pressure Gauge	
SL.93894	Pressure Monitoring Gauge PG9	

Tyco Safety Products

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Certificate No: 587a to EN 12094

NOVEC 1230 FIXED FIRE FIGHTING COMPONENTS

1. This range of equipment is suitable for storage temperatures from -20°C to +50°C and is approved for use with Novec 1230
2. This range of equipment is approved for use in conjunction with the Tyco Safety Products (TSP) Design Manual Reference 14a-06 issue 2
3. System pressure is specified at 24.8bar @ 20°C

NOVEC 1230 Valve and Container Assemblies

Product Name	Description	Capacity (ltr)	LPCB Ref. No.
303.207.009	25mm valve container assembly (EC)	6.5	587a/01
303.207.010	25mm valve container assembly (EC)	13	
303.207.011	25mm valve container assembly (EC)	25.5	
303.207.012	50mm valve container assembly (EC)	52	
303.207.013	50mm valve container assembly (EC)	106	
303.207.014	50mm valve container assembly (EC)	147	
303.207.001	25mm valve container assembly (DOT)	8	
303.207.002	25mm valve container assembly (DOT)	16	
303.207.003	25mm valve container assembly (DOT)	32	
303.207.004	50mm valve container assembly (DOT)	52	
303.207.005	50mm valve container assembly (DOT)	106	
303.207.006	50mm valve container assembly (DOT)	147	
303.207.007	50mm valve container assembly (DOT)	180	

NOVEC 1230 Bracket Assemblies

Product Name	Description	LPCB Ref. No.
311.205.001	6.5 ltr Container Bracket Assembly (wall-mounted)	587a/02
311.205.002	13 ltr Container Bracket Assembly (wall-mounted)	
311.205.003	25.5 ltr Container Bracket Assembly (wall-mounted)	
311.207.003	6.5/13/25.5 ltr Container Bracket Assembly (floorl-mounted)	

Product Name	Description	LPCB Ref. No.
311.207.001	8/16/32 ltr Container Bracket Assembly (floorl-mounted)	
	6.5/13/25.5 ltr Container Bracket Assembly (floorl-mounted)	
311.207.002	52/106/147/180 ltr Container Bracket Assembly (floorl-mounted)	

NOVEC 1230 Valve Actuation

Product Name	Description	LPCB Ref. No.
304.205.010	Solenoid Actuator 24v dc	587a/03
304.207.002	Local Manual Actuator	
304.207.003	Remote Manual Actuator	
304.207.004	Pneumatic Actuator	
305.205.002	Pressure Switch (Gas Released)	
304.205.006	Pressure Switch (Supervisory)	

NOVEC 1230 Discharge Hoses

Product Name	Description	Nominal Bore (mm)	LPCB Ref. No.
306.207.002	25mm Discharge Hose	25	587a/04
306.207.003	50mm Discharge Hose	50	

NOVEC 1230 Check vlaves

Product Name	Description	Nominal Bore (mm)	LPCB Ref. No.
302.207.001	25mm Check Valve	25	587a/05
302.207.002	50mm Check Valve	50	

NOVEC 1230 Manifolds

Product Name	Description	Nominal bore (mm)	Ports	LPCB Ref. No.
307.207.001-003	65mm Manifold	65	2, 3, 4	587a/06
307.207.004-008	80mm Manifold	80	2, 3, 4, 5, 6	
307.207.009-013	100mm Manifold	100	2, 3, 4, 5, 6	
307.207.014-021	150mm Manifold	150	3, 4, 5, 6, 7, 8, 9, 10	

NOVEC 1230 Nozzles

Product Name	Description	Nominal Size (mm)	LPCB Ref. No.
310.207.001-006	Pre-engineered Aluminium Nozzle	25, 40, 50	587a/07
310.207.007-018	Engineered Aluminium Nozzle	15, 20, 25, 32, 40, 50	
310.207.001/B-006/B	Pre-engineered Brass Nozzle	25, 40, 50	
310.207.007/B-018/B	Engineered Brass Nozzle	15, 20, 25, 32, 40, 50	

Certificate No: 587a to EN 12094

TYCO SAFETY PRODUCTS IG-55 FIXED FIRE FIGHTING COMPONENTS

a This range of equipment is suitable for storage temperatures of -20°C to 50°C and is approved for use with IG55
b This range of equipment is approved for us in conjunction with Tyco Safety Products Design manual reference 14A-0801Y (issue dated January 2004)
c Nominal system pressure at 15°C is stated at 200 bar. Nominal service pressure at50°C is stated at 235 bar.

Tyco Safety Products IG-55 Fixed Fire Fighting Components

Product Name	Description	LPCB Ref. No.
305.208.001	27 litre Cylinder Assembly (EC)	587a/09
305.208.002	40 litre Cylinder Assembly (EC)	
305.208.003	50 litre Cylinder Assembly (EC)	
305.208.004	67 litre Cylinder Assembly (EC)	
305.208.005	80 litre Cylinder Assembly (EC)	

Tyco Safety Products IG-55 Pressure Gauges

Product Name	Description	LPCB Ref. No.
301.208.001	Pressure Indicator - standard (200 bar)	587a/10

Tyco Safety Products IG-55 Switched Pressure Gauges

Product Name	Description	LPCB Ref. No.
301.208.002	Switched Pressure Gauge (200 bar)	587a/11
301.208.003	Switched Pressure Gauge (90 bar)	

Tyco Safety Products IG-55 Pressure Switches

Product Name	Description	LPCB Ref. No.
305.205.002	Pressure Switch	587a/12

Tyco Safety Products IG-55 Nozzles

Product Name	Description	LPCB Ref. No.
310.208.001	½" (180º) NPT Nozzle	587a/13
310.208.002	½" (360º) NPT Nozzle	
310.208.003	1" (180º) NPT Nozzle	
310.208.004	1" (360º) NPT Nozzle	
310.208.005	1½" (180º) NPT Nozzle	
310.208.006	1½" (360º) NPT Nozzle	
310.208.007	½" (180º) BSPT Nozzle	587a/14
310.208.008	½" (360º) BSPT Nozzle	
310.208.009	1" (180º) BSPT Nozzle	
310.208.010	1" (360º) BSPT Nozzle	
310.208.011	1½" (180º) BSPT Nozzle	
310.208.012	1½" (360º) BSPT Nozzle	

Tyco Safety Products IG-55 Flexible Connectors

Product Name	Description	LPCB Ref. No.
306.208.001	Discharge hose Pilot Hose (300mm)	587a/15
306.208.002	Pilot Hose (530mm)	

Tyco Safety Products IG-55 Manifolds

Product Name	Description	LPCB Ref. No.
307.208.001	Single Row - 2 Cylinder Manifold Assembly	587a/16
307.208.002	Single Row - 3 Cylinder Manifold Assembly	
307.208.003	Single Row - 4 Cylinder Manifold Assembly	
307.208.004	Single Row - 5 Cylinder Manifold Assembly	
307.208.005	Single Row - 6 Cylinder Manifold Assembly	
307.208.006	Triple Row - 6 Cylinder Manifold Assembly	
307.208.009	Triple Row - 9 Cylinder Manifold Assembly	
307.208.012	Triple Row - 12 Cylinder Manifold Assembly	
307.208.015	Triple Row - 15 Cylinder Manifold Assembly	
307.208.018	Triple Row - 18 Cylinder Manifold Assembly	
307.208.021	Triple Row - 21 Cylinder Manifold Assembly	
307.208.024	Triple Row - 24 Cylinder Manifold Assembly	
307.208.027	Triple Row - 27 Cylinder Manifold Assembly	
307.208.030	Triple Row - 30 Cylinder Manifold Assembly	

Tyco Safety Products IG-55 Pressure Reduction Devices

Product Name	Description	LPCB Ref. No.
306.208.004	50mm Orifice Plate	587a/17
306.208.005	80mm Orifice Plate	

Vesta SRL

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E-mail: vinfo@vestafire.it • Website: www.vestafire.it

Certificate No: 640a to LPS 1024, LPS 1025, prEN 12094-4

Vesta Inertgas 200 Fixed Fire Fighting Components

[1] This range of equipment is suitable for storage temperatures between -20°C and +60°C and is approved for use with IG01, IG55 and IG100 gases.
[2] This equipment must be used in conjunction with Vesta SRL Design and User Manual Mv.1-Rev.1.Dic.2003.
[3] System pressure is specified as 200 bar at 15°C
[4] Pilot actuation pressure is specified as 200 bar

Vesta Inertgas Container Valves

Product Name	Description	LPCB Ref. No.
76-2-090-0216	VPF1	640a/01

Valve Inertgas 200 Valve Actuator

Product Name	Description	LPCB Ref. No.
75-2-090-9992	ATT15GP	640a/02

Valve Inertgas 200 Presssure Gauge

Product Name	Description	LPCB Ref. No.
20-2-110-0112	0-315 bar	640a/03

Systems listed in this section represent the result of testing to evaluate the following;

- Use of approved constituent gas components approved in Part 7: Section 2.1;
- The extinguishing concentration in accordance with ISO 14520-1 *Gaseous fire-extinguishing systems. Physical properties and system design. General requirements*;
- Ability of the extinguishing agent at the design concentration to extinguish the fires and pass the requirements of LPS 1230 *Requirements for fire testing of fixed gaseous fire extinguishing systems*; and
- The Design Manual, Software Programme and Installation & Maintenance Manual specified in the system approval Listing.

Notes:
1. Gases used for extinguishing fires are generally hazardous to health. In selecting a system, specifiers are advised to carry out proper risk assessments based on the latest health and safety datasheets.

2. LPCB strongly recommends that the design & installation of these systems be carried out by a Certificated LPS 1204 company (see Part 7, Section 1).

Fike Protection Systems Ltd

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Certificate No: 654b to LPS 1230

Fike ProInert Fixed Gaseous Fire Extinguishing System

Product Name	Risk	Design Concentration	Comments	LPCB Ref. No.
Fike Proinert Fixed Gaseous Fire Extinguishing System	Class A Standard (Solid fires e.g. paper, wood, plastics)	39.7%	Design concentration includes 30% safety factor	654b/01
	Class A Cables (Solid fire risks including cables)	44.3%	Confirmation that minimum safety factor is adequate	
	Class B (Liquid Fires e.g. heptane)	46.0%	Design concentration includes 30% safety factor	

Design concentration Class A Standard and Class B = Extinguishing concentration x safety factor (minimum 1.3).
Design concentration Class A Cables System test concentration. Where this value is lower than the Class A Standard value, the Class A Standard value should be used for design purposes.
Design concentrations are as tested to LPS 1230 in BRE Test Report Number 214668.
Extinguishing concentrations are as tested in BRE Test Report Number 214668 (ISO 14520-1 tests).

This system uses:

Design, Installation, Maintenance and User Manual:	Fike manual, P/N 06-294, Issue May 2004.
Software Programme:	Fike ProInert flow calculation Software, Version 6.2

a) This system is suitable for storage in environmental conditions from -20° to +50°.
b) System pressure is specified as 200 bar or 300 bar @ 15°C

Ginge Kerr Danmark A/S

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Certificate No: 594b to ISO14529-1 and LPS 1230

Ginge Kerr Danmark 300 bar Argonite Fixed Gaseous Fire Extinguishing System

Product Name	Risk	Design Concentration	Comments	LPCB Ref. No.
Ginge-Kerr Argonite	Class A Standard (Solid fires e.g. paper, wood, plastics)	40.1%	Design concentration includes 30% safety factor	594b/01
	Class A Cables (Solid fire risks including cables)	47.6%	Confirmation that minimum safety factor is adequate.	
	Class B (Liquid Fires e.g. heptane)	47.1%	Design concentration includes 30% safety factor	

Design concentration Class A Standard and Class B = Extinguishing concentration x safety factor (minimum 1.3).
Design concentrations Class A Cables System test concentration - where this is lower than the Class A Standard value, the Class A Standard value should be used for design purposes.
Design concentrations are as tested to LPS 1230 in BRE Test Report Number 206880.
Extinguishment concentrations are as tested in BRE Test Report Number 206879 & 216485 (ISO 14520-1 tests)

This system uses:

Design, Installation, Maintenance and User Manual: General Manual - Argonite System, MA-01-9006-0100, Revision 9 dated 2 April 2003.
Software Programme : Ginge-Kerr Danmark A/S Argonite Program, VdS-Version 4.6a (1998) SNR AN2700.

a) This system is suitable for storage in environmental conditions from -20° to +55°.
b) System pressure is specified as 150 bar, 200 bar and 300 bar @ 15°C.

LPG Tecnicas en Extincion de Incendios-S.A

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E-mail: marketing@lpg.es • Website: www.lpg.es

Certificate No: 446b to LPS 1230

LPG FE-13 Fixed gaseous fire extinguishing system

Product Name	Risk	Design Concentration	Comments	LPCB Ref. No.
LPG FE-13	Class A Standard (Solid Fires e.g. paper, wood, plastics)	15.9%	Design concentration includes 30% safety factor	446b/01
	Class A Cables (Solid fire risks including cables)	16.5%	Confirmation that minimum safety factor is adequate	
	Class B (Liquid Fires e.g. heptane)	16.1%	Design concentration includes 30% safety factor	

Design concentration Class A Standard and Class B = Extinguishing concentration x safety factor (minimum 1.3).
Design concentration Class A Cables System test concentration. Where this value is lower than the Class A Standard value, the Class A Class a Standard value should be used for design purposes.
Design concentrations are as tested to LPS 1230 in BRE Test Report Number 206580.
Extinguishment concentrations are as tested in BRE Test Report Number 206579 (ISO 14520-1 tests)

This system uses:

Design Manual: MD/FE/IN-01 Rev 5
Software Programme : Firenet version 2.5, LPC, Nov. 2001.
Installation, Maintenance and User Manual for FE-13 Fire Extinguishing Systems, MU/FE/IN_02 Rev: 00
a) This system is suitable for storage in environmental conditions from -20° to 55°.

b) System pressure is specified as 41 bar @ 20°C and container maximum filling density is 0.85 kg/l.
c) Systems are not superpressurized.

LPG 'Inert 55' 200 bar and 300 bar Inert Gaseous Fire Suppression System

Product Name	Risk	Design Concentration	Comments	LPCB Ref. No.
Inert 55	Class A Standard (Solid fires e.g. paper, wood, plastics	41.0%	Design concentration includes 30% safety factor	446b/02
	Class A Cables (Solid fires risks including cables)	45.6%	Confirmation that minimum safety factor is adequate	
	Class B (Liquid Fires e.g.heptane)	45.2%	Design concentration includes 30% safety factor	

Design concentration Class A Standard and Class B = Extinguishing concentration x safety factor (minimum 1.3).
Design concentration Class A Cables System test concentration. Where this value is lower than the Class A Standard value, the Class A Standard value should be used for design purposes.
Design concentrations are as tested to LPS 1230 in BRE Test Report Number 213932
Extinguishing concentrations are as tested in BRE Test Report Number 216936 (ISO 14520-1 tests).

This system uses :
Design Manual: MD/55/01/IN
Software Program: VdS Schadenverhutung calculation package version 4.6a.
This system is suitable for storage and environmental conditions from -20º to 50º.
System pressure is specified as 200 bar and 300 bar at 15ºC.

Macron Safety Systems (UK) Ltd

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E-mail: macron.info@tycoint.com • Website: www.macron-safety.com

Product Name	Risk	Design Concentration	Comments	LPCB Ref. No.
Hygood Novec 1230	Class A Standard (Solid fires, e.g. paper, wood, plastics)	6.3%	Design concentration includes 30% safety factor	587b/01
	Class A Cables (Solid fire risks including cables)	6.1%	Confirmation that minimum safety factor is adequate	
	Class B (Liquid fires e.g. heptane)	6.4%	Design concentration includes 30% safety factor	

Design concentration Class A Standard and Class B = Extinguishing concentration x safety factor (minimum 1.3).
Design concentration Class A Cables System test concentration. Where this value is lower than the Class A Standard value, the Class A Class a Standard value should be used for design purposes.
Design concentrations are as tested to LPS 1230 in BRE Test Report Number 208832 v2.
Extinguishing concentrations are as tested in BRE Test Report Number 208831 (ISO 14520-1 tests)

This system uses:

Design, Installation, Maintenance and User Manual: Hygood Novec™ 1230 Total Flooding Systems (Engineered & Pre-engineered)
Design Manual Reference 14a-06H Issue 2

Software Programme: Novec 1230 FlowCalc Version 3.60

a) This system is suitable for storage in environmental conditions from -20° to +50°.
b) System pressure is specified as 24.8 bar @ 20°C

Tyco Fire and Integrated Solutions [the trading company for Tyco Fire and Integrated Solutions (UK) Limited and Tyco Fire and Integrated Solutions (Ireland) Limited]

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Certificate No: 014b to LPS 1230

Product Name	Risk	Design Concentration	Comments	LPCB Ref. No.
Wormald Ansul INERGEN	Class A Standard) Solid fires e.g. paper, wood, plastics)	43%	Design concentration includes 30% safety factor	014b/01
	Class A Cables (Solid fire risks including cables)	47.8%-	Confirmation that minimum safety factor is adequate	
	Class B (Liquid fires e.g. heptane)	46.7%	Design concentration includes 30% safety factor	

Design concentration Class A Standard and Class B = Extinguishing concentration x safety factor (minimum 1.3).
Design concentration Class A Cables System test concentration. Where this value is lower than the Class A Standard value, the Class A Class a Standard value should be used for design purposes.
Design concentrations are as tested to LPS 1230 in BRE Test Report Number 206885.
Extinguishing concentrations are as tested in BRE Test Report Number 206884 (ISO 14520-1 tests)

This system uses:

Design, Installation, Maintenance and User Manual:
INERGEN 200 bar manual, Issue July 2002, including Appendix B '200 bar INERGEN L.P.I. systems,
Software Programme:
C.A.P Version 14.04

a) This system is suitable for storage in environmental conditions from -20° to +50°C.
b) System pressure is specified as 200 bar @ 20°C
c) If this fixed gaseous fire extinguishing system is used with existing pipework (so called drop-in systems) it is the responsibility of the installing company to ensure that:
- all pipework can withstand system pressures and will be safe during operation;
- all pipework meets the requirements of the gas system manufacturers design manual; and
- all applicable legislation is complied with.

Tyco Safety Products

Burlington House, Hewett Road, Gapton Hall Industrial Estate, Great Yarmouth, Norfolk NR31 0NN UK
Tel: +44 (0) 1493 417600 • Fax: +44(0) 1493 417700

Novec 1230

Product Name	Risk	Design Concentration	Comments	LPCB Ref. No.
Tyco Safety Products Novec 1230	Class A Standard (Solid fires e.g. paper, wood, plastics)	6.3%	Design concentration includes 30% safety factor	587b/01
	Class A Cables (Solid fire risks including cables)	6.1%	Confirmation that minimum safety factor is adequate	
	Class B (Liquid Fires e.g. heptane)	6.4%	Design concentration includes 30% safety factor	

Design concentration Class A Standard and Class B = Extinguishing concentration x safety factor (minimum 1.3).
Design concentration Class A Cables System test concentration. Where this value is lower than the Class A Standard value, the Class A Class a Standard value should be used for design purposes.
Design concentrations are as tested to LPS 1230 in BRE Test Report Number 208832 v2.
Extinguishing concentrations are as tested in BRE Test Report Number 208831 (ISO 14520-1 tests)

This system uses:

Design, Installation, Maintenance and User Manual: Tyco Safety Products (TSP) Novec™ 1230 Total Flooding Systems (Engineered & Pre-engineered) Design Manual Reference 14a-06 Issue 2

Software Programme: TSPNovec 1230 FlowCalc TSP 3.60

a) This system is suitable for storage in environmental conditions from -20° to +50°.
b) System pressure is specified as 25 bar @ 20°C

The fine water spray components listed below have been evaluated in relation to their general performance capability but not in relation to their suitability for specific applications.

G.W. Sprinkler A/S

Kastanievej 15, DK-5620 Glamsbjerg, Denmark
Tel: +45 64 72 2055 • Fax: +45 64 72 2255
E-mail: sales.dep@gwsprinkler.com

Certificated Products		**LPCB Ref. No.**
GW LOFLOW K11 Fine Water Spray Sprinkler	Glass bulb type. To be installed and used only in accordance with the manufacturer's instructions. Applications are limited to where the purchaser, authority having jurisdiction and/or insurer consent to use.	084k/01

The LPCB Approval Scheme for fixed fire extinguishing systems for catering equipment has been developed in recognition of the specific risk posed by oil fires in cooking appliances of catering or food production establishments.

The objective of the scheme is to ensure that the Listed systems provide adequate protection of the cooking appliances, hood, filters and extract system when correctly installed, serviced and maintained by trained personnel.

Note
To reduce the potential for fires in the extract ductwork, the fixed fire extinguishing system should be installed in conjunction with a grease filtration system meeting the requirements of LPS 1263:Part 1:*Fire Performance Requirements for Kitchen Extract Systems*.

Product Testing
The systems listed below have been tested against LPS 1223: *Requirements and Testing Procedures for Approval of Fixed Fire Extinguishing Systems for Catering Equipment* the main requirements of which cover:

• system specification
• design manual assessment
• component testing
• fire extinguishment tests
• system testing, including extinguishing agent discharge tests

Traditional extinguishing agents do not readily extinguish catering equipment oil fires because they do not provide sufficient cooling effect to reduce the cooking oil to below its auto-ignition temperature. The fire extinguishing tests in LPS 1223 recognise this requirement together with the need to ensure that neither the composition of the agent nor the manner in which it is discharged onto the fire causes flaming oil to be ejected.

Authorised Installer requirements
Such fixed extinguishing systems rely upon competent designers and installers and as such LPS 1223 contains requirements placed upon the listed manufacturers to ensure they maintain adequate control over their authorised installers. LPCB regularly audits the companies listed below to:

- Check that adequate control over the authorised installers is maintained. If LPCB do not audit all regional operations then the necessary information shall be available at the main site during audit;
- Check that systems faults are reported and actioned appropriately by the listed company and/or their authorised installers; and
- Carry out product audit checks.

*** Fish and chip ranges**
Fish and chip ranges are a specialised type of catering equipment that require special consideration with regards to protection, based on the position and orientation of the extract system.

Unless otherwise stated in the individual product entries, the Listed systems are not approved for protection of fish and chip ranges.

Amerex Corporation

7595 Gadsden Highway, Trussville, Alabama 35173, USA
Tel: +1 205 655 3271 • Fax: +1 205 655 3279
E-mail: sales@amerex-fire.com • Website: www.amerex-fire.com/fireinfo

Certificated Products	**LPCB Ref. No.**
Amerex KP Fire Suppression System for catering equipment	407a/01

Certificated Products	LPCB Ref. No.
Systems shall be designed, installed and maintained in accordance with Amerex Design, Installation, Maintenance and Recharge Manual Part No. 12385 Issued 1 May 1995 including Addenda 1 to 8 and Appendix A.	

Ansul Incorporated

One Stanton Street, Marinette, Wisconsin 54143-2542, USA
Tel: +1 715 735 7411 • Fax: +1 715 735 7411
Website: www.ansul.com

Certificated Products	LPCB Ref. No.
Ansul R-102 restaurant Fire Suppression System*	591a/01
Systems shall be designed, installed and maintained in accordance with Ansul Design, installation, Recharge and Maintenance Manual part No. 418087-06	
** Approved with a mild steel and stainless steel agent cylinder*	

Part 8

SMOKE AND FIRE VENTILATION SYSTEMS

This Section lists products which have been approved for use in smoke and fire ventilation systems. In order to ensure that they are installed and operate correctly, attention should be paid to the recommendations of the LPC Design Guide for the Fire Protection of Buildings:2000.

All approved products will bear a label quoting the relevant LPCB reference number. Certification is limited to the sizes and classifications given.

Fire ventilation systems are installed:

To keep escape and access routes free from smoke.
To facilitate fire fighting operations by creating a smoke free layer.
To delay and/or prevent flashover, and the subsequent full development of the fire.
To protect equipment, furnishings, contents, etc.
To reduce the thermal effects on structural components during a fire.
To reduce damage caused by thermal decomposition products and hot gases.

The key components of smoke and fire ventilation systems are fire dampers; ductwork; smoke curtains and powered smoke and heat exhaust ventilation fans. Introductory guidance notes on their functions are given at the start of each section.

Compartmentation is defined as a building element designed to prevent the spread of fire within or between buildings, for further information refer to The LPC Design Guide for the Fire Protection of Buildings:2000.

Fire dampers are installed:

- To maintain compartmentation where air distribution ducts pass through compartment walls and floors.
- To achieve the same fire resistance in terms of integrity as required for compartment walls or floors.
- To close completely as soon as a fire is detected.

All the fire resistant dampers listed in Section 1 of this part of the list have been tested and assessed against the requirements of LPS 1162 - Requirements and tests for the LPCB approval of fire dampers.

Actionair

Ruskin Air Management, Joseph Wilson Industrial Estate, South Street, Whitstable, Kent CT5 3DU UK
Tel: +44 (0)1227 276100 • Fax: +44 (0)1227 264262
E-mail: sales@actionair.co.uk • Website: www.actionair.co.uk

Certificate No: 017a to LPS 1162

Product Name	Series	Max Duct Size	ISO 10294-1[5] Vertical plane	ISO 10294-1[5] Horizontal plane	Fire Resistance (Integrity) Vertical Plane	Fire Resistance (Integrity) Horizontal Plane	Durability Standard[2]	Corrosion Marine[3]	Tests Cyclic[4]	LPCB Ref. No.
Fire/Shield	101	1250mm x 1016mm	E240	E240	240 min.	240 min.	Satisfactory	Not tested	Not tested	017a/01
	201	1250 x 1016mm	E240	E240	240 min.	240 min.	Satisfactory	Not tested	Not tested	
	301	1016 diameter	E240	E240	240 min.	240 min.	Satisfactory	Not tested	Not tested	
	401	1250mm x 1016mm	E240	E240	240 min.	240 min.	Satisfactory	Not tested	Not tested	
Smoke/Shield PTC	501	1000mm x 1000mm	E180	E240	180 min.	240 min.	Satisfactory	Not tested	Not tested	017a/04
	601	100mm diameter	E180	E240	180 min.	240 min.	Satisfactory	Not tested	Not tested	
	701	1000mm x 500mm	E180	E240	180 min.	240 min.	Satisfactory	Not tested	Not tested	

Notes:
1) Smoke/Shield PTC is known as Vent/Shield PTC when used as a smoke vent in an evacuation system, both Smoke/Shield PTC and Vent/Shield PTC can be controlled by Actionpac - Multiplex control System.
2) Standard LPS 1162 requirement for normal use.
3) Corrosion test Appendix B LPS 1162 for marine use.
4) Cyclic test Appendix A LPS 1162 for repeated use.
5) LPS1162 incorporates the requirements of ISO 10294-1

Advanced Air (UK) Limited

PO Box 153, Burrell Way, Thetford IP24 3WB UK
Tel: +44 (0)1842 765657 • Fax: +44 (0)1842 753493
E-mail: sales@advancedair.co.uk • Website: www.advancedair.co.uk

Certificate No: 128a to LPS 1162

Product Name	Series	Max Duct Size: Height	Max Duct Size: Width	Max Duct Size: Diameter	ISO 10294-1[5]	Fire Resistence Integrity (min)	Fire Resistence Insulation (min)	Durability Standard[2]	Corrosion Marine[3]	Tests Cyclic[4]	LPCB Ref. No.
Curtain Fire Damper	100	1000	1000	1000	E240	Vertical plane 240		Satisfactory	Not tested	Not tested	128a/01
	100	1000	1000	1000	E240	Horizontal plane 240					
	200	1000	1000	1000	E240	Vertical plane 240		Satisfactory	Not tested	Not tested	
	200	1000	1000	1000	E240	Horizontal plane 240					
Fire Smoke Control Damper	1240	1000	1000	1000	E120	Vertical plane 120		Satisfactory	Not tested	Not tested	128a/02

Product Name	Series	Max Duct Size: Height	Max Duct Size: Width	Max Duct Size: Diameter	ISO 10294-1[3]	Fire Resistence Integrity (min)	Fire Resistence Insulation (min)	Durability Standard[2]	Corrosion Marine[3]	Tests Cyclic[4]	LPCB Ref. No.
	1240	1000	1000	1000	E120	Horizontal plane 120					
	1250	1000	1000	1000	E120	Vertical plane 120		Satisfactory	Not tested	Not tested	
	1250	1000	1000	1000	E120	Horizontal plane 120					
	1260	1000	1000	1000	E120	Vertical plane 120		Satisfactory	Not tested	Not tested	
	1260	1000	1000	1000	E120	Horizontal plane 120					
	1270	1000	1000	1000	E120	Vertical plane 120		Satisfactory	Not tested	Not tested	
	1270	1000	1000	1000	E120	Horizontal plane 120					
Insulated Fire Damper	2400	1000	1000	1000	ES210/ESI205	Vertical plane 210	205	Satisfactory	Not tested	Not tested	128a/03
	2400	1000	1000	1000	ES210	Horizontal plane 250	250				

Notes:
1) Standard LPS1162 requirements for normal use, vertical plane.
2) Corrosion test Appendix B LPS 1162 for marine use.
3) Cyclic test Appendix A LPS1162 for repeated use.
4) LPS 1162 incorporates the requirements of ISO 10294-1.

Arabian Thermal Aire Industries Company Ltd

Al-Jubail Industrial City, Tareeg # 118, Al-Sinaiyah-31961, Kingdom of Saudi Arabia
Tel: +966 3 341 5857
E-mail: info@ataiksa.com • Website: www.ataico.com

Certificate No: 699a to LPS 1162

Product Name	Series	Max Duct Size: height (mm)	Max Duct Size: width (mm)	Max Duct size: diameter (mm)	ISO 10294	Fire Resistance Integrity (min)[2]	Fire Resistance Insulation (min)	Durability Standard[1]	Corrosion Marine	Test Cyclic	LPCB Ref. No.
ATAI-Waterloo galvanized steel shutter	WFA	1000	1250	-	-	Horizonal plane - 240	-	Satisfactory	Not tested	Not tested	699a/01
ATAI-Waterloo galvanized steel smoke/fire damper	WGDB	1000	1000	-	-	Horizontal plane - 240	-	Satifactory	Not tested	Not tested	699a/02

Notes:
1) Standard LPS1162 requirement for normal use.
2) Mounted in a steel deck assembly.

Fire resistant ductwork is installed:

- To maintain compartmentation when air distribution ducts pass through compartment walls and floors where fire resisting dampers are not used to provide the compartmentation
- To achieve the same fire resistance in terms of integrity, and if required insulation, as required for the compartment walls or floors.

All the fire resistant ducts listed in Section 2 of this part of the list have been tested and assessed against the requirements of BS 476: Part 24 *Fire tests on building materials and structures: Method for determination of the fire resistance of ventilation ducts.*

Certification is limited to the applications and fire resistances given.

Fire Protection Limited

Flamebar House, South Road, Templefields, Harlow, Essex CM20 2AR UK
Tel: +44 (0)1279 634 230 • Fax: +44 (0)1279 634 231
E-mail: info@fireprotection.co.uk • Website: www.fireprotection.co.uk

Certificate No: 277a to BS 476: Part 24

Product Name	Duct Type	Condition	Type of Insulation (kg/m^3)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
Flamebar BW11	Ventilation	Fire outside	-	-	120	15	277a/01
	Ventilation	Fire outside	-	-	240	15	
	Ventilation	Fire outside	45	25	120	60	
	Ventilation	Fire outside	45	60	120	60	
	Ventilation	Fire outside	60	40	120	90	
	Ventilation	Fire outside	60	50	120	118	
	Ventilation	Fire outside	60	120	120	120	
	Ventilation	Fire outside	105	50	120	120	
	Ventilation	Fire outside	105	80	120	120	
	Ventilation	Fire outside	105	50	240	208	
	Ventilation	Fire outside	60	120	240	240	
	Ventilation	Fire outside	105	80	240	240	
	Ventilation	Fire outside	105	120	240	240	
	Ventilation	Fire outside	105	100**	240	240	
	Ventilation	Fire inside	-	-	120	-	
	Ventilation	Fire inside	-	-	240	-	
	Ventilation	Fire inside	45	25	120	30	
	Ventilation	Fire inside	45	60	120	30	
	Ventilation	Fire inside	60	50	120	45	
	Ventilation	Fire inside	105	50	120	60	
	Ventilation	Fire inside	60	120	120	90	
	Ventilation	Fire inside	105	80	120	90	
	Ventilation	Fire inside	105	120	120	120	
	Ventilation	Fire inside	60	120	240	90	
	Ventilation	Fire inside	105	80	240	90	
	Ventilation	Fire inside	105	120	240	120	
	Ventilation	Fire inside	105	100**	240	120	
	Smoke outlet	Fire outside	-	-	120	15	
	Smoke outlet	Fire outside	-	-	240	15	
	Smoke outlet	Fire outside	45	25	120	60	
	Smoke outlet	Fire outside	45	60	120	60	
	Smoke outlet	Fire outside	60	40	120	90	
	Smoke outlet	Fire outside	60	50	120	118	
	Smoke outlet	Fire outside	60	120	120	120	
	Smoke outlet	Fire outside	105	50	120	120	
	Smoke outlet	Fire outside	105	80	120	120	
	Smoke outlet	Fire outside	105	50	240	208	
	Smoke outlet	Fire outside	60	120	240	240	
	Smoke outlet	Fire outside	105	80	240	240	
	Smoke outlet	Fire outside	105	120	240	240	
	Smoke outlet	Fire outside	105	100**	240	240	

Product Name	Duct Type	Condition	Type of Insulation (kg/m^3)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
	Smoke outlet	Fire inside	-	-	120	-	
	Smoke outlet	Fire inside	-	-	240	-	
	Smoke outlet	Fire inside	45	25	120	30	
	Smoke outlet	Fire inside	45	60	120	30	
	Smoke outlet	Fire inside	60	50	120	45	
	Smoke outlet	Fire inside	105	50	120	60	
	Smoke outlet	Fire inside	60	120	120	90	
	Smoke outlet	Fire inside	105	80	120	90	
	Smoke outlet	Fire inside	105	120	120	120	
	Smoke outlet	Fire inside	60	120	240	90	
	Smoke outlet	Fire inside	105	80	240	90	
	Smoke outlet	Fire inside	105	120	240	120	
	Smoke outlet	Fire inside	105	100**	240	120	
	Kitchen extract	Fire outside	-	-	120	15	
	Kitchen extract	Fire outside	-	-	240	15	
	Kitchen extract	Fire outside	60	50	120	28*	
	Kitchen extract	Fire outside	60	60	120	30*	
	Kitchen extract	Fire outside	105	50	120	44*	
	Kitchen extract	Fire outside	60	120	120	45*	
	Kitchen extract	Fire outside	105	80	120	45*	
	Kitchen extract	Fire outside	105	50	240	44*	
	Kitchen extract	Fire outside	60	120	240	45*	
	Kitchen extract	Fire outside	105	80	240	45*	
	Kitchen extract	Fire outside	105	120	240	60*	
	Kitchen extract	Fire outside	105	100**	240	60*	
	Kitchen extract	Fire inside	-	-	120	-	
	Kitchen extract	Fire inside	-	-	240	-	
	Kitchen extract	Fire inside	45	25	120	30	
	Kitchen extract	Fire inside	45	60	120	30	
	Kitchen extract	Fire inside	60	50	120	45	
	Kitchen extract	Fire inside	105	50	120	60	
	Kitchen extract	Fire inside	60	120	120	90	
	Kitchen extract	Fire inside	105	80	120	90	
	Kitchen extract	Fire inside	105	120	120	120	
	Kitchen extract	Fire inside	60	120	240	90	
	Kitchen extract	Fire inside	105	80	240	90	
	Kitchen extract	Fire inside	105	120	240	120	
	Kitchen extract	Fire inside	105	100**	240	120	

Notes:
1) All ducts are protected with 0.7mm to 1.0mm nominal thickness of Flamebar BW11 Fire Proofing.
2) Maximum hanger centres are 1500mm for fire ratings up to two hours and 1000mm for fire ratings up to four hours.
3) The 50mm thick x 60kg/m^3 density mineral wool insulation may be in the form of either slabs or wrap.

* Refers to internal face inside furnace.
** Includes 500mm x 25mm x 105kg/m^3 density mineral wool collar around duct on both sides of penetration seals through fire compartment walls and floors.

Firespray International Limited

Flamebar House, South Road, Templefields, Harlow, Essex CM20 2AR UK
Tel: +44 (0)1279 634 230 • Fax: +44 (0)1279 634 232
E-mail: info@firespray.eu.com • Website: www.firespray.eu.com

Certificate No: 415a to BS 476: Part 24

Product Name	Duct Type	Condition	Type of Insulation (kg/m^3)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
Flamebar BW11	Ventilation	Fire outside	-	-	120	15	415a/01
	Ventilation	Fire outside	-	-	240	15	
	Ventilation	Fire outside	45	25	120	60	

Product Name	Duct Type	Condition	Type of Insulation (kg/m^3)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
	Ventilation	Fire outside	45	60	120	60	
	Ventilation	Fire outside	60	40	120	90	
	Ventilation	Fire outside	60	50	120	118	
	Ventilation	Fire outside	60	120	120	120	
	Ventilation	Fire outside	105	50	120	120	
	Ventilation	Fire outside	105	80	120	120	
	Ventilation	Fire outside	105	50	240	208	
	Ventilation	Fire outside	60	120	240	240	
	Ventilation	Fire outside	105	80	240	240	
	Ventilation	Fire outside	105	120	240	240	
	Ventilation	Fire outside	105	100**	240	240	
	Ventilation	Fire inside	-	-	120	-	
	Ventilation	Fire inside	-	-	240	-	
	Ventilation	Fire inside	45	25	120	30	
	Ventilation	Fire inside	45	60	120	30	
	Ventilation	Fire inside	60	50	120	45	
	Ventilation	Fire inside	105	50	120	60	
	Ventilation	Fire inside	60	120	120	90	
	Ventilation	Fire inside	105	80	120	90	
	Ventilation	Fire inside	105	120	120	120	
	Ventilation	Fire inside	60	120	240	90	
	Ventilation	Fire inside	105	80	240	90	
	Ventilation	Fire inside	105	120	240	120	
	Ventilation	Fire inside	105	100**	240	120	
	Smoke outlet	Fire outside	-	-	120	15	
	Smoke outlet	Fire outside	-	-	240	15	
	Smoke outlet	Fire outside	45	25	120	60	
	Smoke outlet	Fire outside	45	60	120	60	
	Smoke outlet	Fire outside	60	40	120	90	
	Smoke outlet	Fire outside	60	50	120	118	
	Smoke outlet	Fire outside	60	120	120	120	
	Smoke outlet	Fire outside	105	50	120	120	
	Smoke outlet	Fire outside	105	80	120	120	
	Smoke outlet	Fire outside	105	50	240	208	
	Smoke outlet	Fire outside	60	120	240	240	
	Smoke outlet	Fire outside	105	80	240	240	
	Smoke outlet	Fire outside	105	120	240	240	
	Smoke outlet	Fire outside	105	100**	240	240	
	Smoke outlet	Fire inside	-	-	120	-	
	Smoke outlet	Fire inside	-	-	240	-	
	Smoke outlet	Fire inside	45	25	120	30	
	Smoke outlet	Fire inside	45	60	120	30	
	Smoke outlet	Fire inside	60	50	120	45	
	Smoke outlet	Fire inside	105	50	120	60	
	Smoke outlet	Fire inside	60	120	120	90	
	Smoke outlet	Fire inside	105	80	120	90	
	Smoke outlet	Fire inside	105	120	120	120	
	Smoke outlet	Fire inside	60	120	240	90	
	Smoke outlet	Fire inside	105	80	240	90	
	Smoke outlet	Fire inside	105	120	240	120	
	Smoke outlet	Fire inside	105	100**	240	120	
	Kitchen extract	Fire outside	-	-	120	15	
	Kitchen extract	Fire outside	-	-	240	15	
	Kitchen extract	Fire outside	60	50	120	28*	
	Kitchen extract	Fire outside	60	60	120	30*	
	Kitchen extract	Fire outside	105	50	120	44*	
	Kitchen extract	Fire outside	60	120	120	45*	
	Kitchen extract	Fire outside	105	80	120	45*	
	Kitchen extract	Fire outside	105	50	240	44*	
	Kitchen extract	Fire outside	60	120	240	45*	
	Kitchen extract	Fire outside	105	80	240	45*	
	Kitchen extract	Fire outside	105	120	240	60*	
	Kitchen extract	Fire outside	105	100**	240	60*	
	Kitchen extract	Fire inside	-	-	120	-	
	Kitchen extract	Fire inside	-	-	240	-	
	Kitchen extract	Fire inside	45	25	120	30	
	Kitchen extract	Fire inside	45	60	120	30	
	Kitchen extract	Fire inside	60	50	120	45	
	Kitchen extract	Fire inside	105	50	120	60	
	Kitchen extract	Fire inside	60	120	120	90	

Product Name	Duct Type	Condition	Type of Insulation (kg/m^3)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
	Kitchen extract	Fire inside	105	80	120	90	
	Kitchen extract	Fire inside	105	120	120	120	
	Kitchen extract	Fire inside	60	120	240	90	
	Kitchen extract	Fire inside	105	80	240	90	
	Kitchen extract	Fire inside	105	120	240	120	
	Kitchen extract	Fire inside	105	100**	240	120	

Notes:
1) All ducts are protected with 0.7mm to 1.0mm nominal thickness of Flamebar BW11 Fire Proofing.
2) Maximum hanger centres are 1500mm for fire ratings up to two hours and 1000mm for fire ratings up to four hours.
3) The 50mm thick x 60kg/m^3 density mineral wool insulation may be in the form of either slabs or wrap.

* Refers to internal face inside furnace.
** Includes 500mm x 25mm x 105kg/m^3 density mineral wool collar around duct on both sides of penetration seals through fire compartment walls and floors.

Rockwool Limited

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E-mail: info@rockwool.co.uk • Website: www.rockwool.co.uk

Certificate No: 022f to BS476 : Part 24 : 1987

Product Name	Duct Type	Condition	Maximum Duct size (ht x wt) (mm)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
FirePro	Ventilation vertical orientation	Fire Outside	100 x 1000	25	30	30	022f/01
	Ventilation vertical orientation	Fire Outside	1000 x 1000	30	60	60	
	Ventilation vertical orientation	Fire Outside	1500 x 1500	50	90	90	
	Ventilation vertical orientation	Fire Outside	1500 x 1500	70	120	120	
	Ventilation vertical orientation	Fire Outside	1525 dia.	25	30	30	
	Ventilation vertical orientation	Fire Outside	1525 dia.	30	60	60	
	Ventilation vertical orientation	Fire Outside	1525 dia.	50	90	90	
	Ventilation vertical orientation	Fire Outside	1525 dia.	70	120	120	
	Ventilation horizontal orientation	Fire Outside	1000 x 1000	25	30	30	
	Ventilation horizontal orientation	Fire Outside	1500 x 1500	40	60	60	
	Ventilation horizontal orientation	Fire Outside	1200 x 1200	70	90	90	

Product Name	Duct Type	Condition	Maximum Duct size (ht x wt) (mm)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
	Ventilation horizontal orientation	Fire Outside	1000 x 1000	90	120	120	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	25	30	30	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	40	60	60	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	70	90	90	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	90	120	120	
	Ventilation vertical orientation	Fire Inside	1000 x 1000	25	30	30	
	Ventilation vertical orientation	Fire Inside	1000 x 1000	30	60	60	
	Ventilation vertical orientation	Fire Inside	1500 x 1500	50	90	90	
	Ventilation vertical orientation	Fire Inside	1500 x 1500	70	120	120	
	Ventilation vertical orientation	Fire Inside	1525 dia.	25	30	30	
	Ventilation vertical orientation	Fire Inside	1525 dia.	30	60	60	
	Ventilation vertical orientation	Fire Inside	1525 dia.	50	90	90	
	Ventilation vertical orientation	Fire Inside	1525 dia.	70	120	120	
	Ventilation horizontal orientation	Fire Inside	1000 x 1000	25	30	30	
	Ventilation horizontal orientation	Fire Inside	1500 x 1500	40	60	60	
	Ventilation horizontal orientation	Fire Inside	1200 x 1200	70	90	90	
	Ventilation horizontal orientation	Fire Inside	1000 x 1000	90	120	120	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	25	30	30	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	40	60	60	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	70	90	90	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	90	120	120	
	Ventilation vertical orientation	Fire Outside	1000 x 1000	25	30	30	
	Ventilation vertical orientation						

Product Name	Duct Type	Condition	Maximum Duct size (ht x wt) (mm)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
	Ventilation vertical orientation	Fire Outside	1000 x 1000	30	60	60	
	Ventilation vertical orientation	Fire Outside	1500 x 1500	50	90	90	
	Ventilation vertical orientation	Fire Outside	1500 x 1500	70	120	120	
	Ventilation vertical orientation	Fire Outside	1525 dia.	25	30	30	
	Ventilation vertical orientation	Fire Outside	1525 dia.	30	60	60	
	Ventilation vertical orientation	Fire Outside	1525 dia.	50	90	90	
	Ventilation vertical orientation	Fire Outside	1525 dia.	70	120	120	
	Ventilation horizontal orientation	Fire Outside	1000 x 1000	25	30	30	
	Ventilation horizontal orientation	Fire Outside	1500 x 1500	40	60	60	
	Ventilation horizontal orientation	Fire Outside	1200 x 1200	70	90	90	
	Ventilation horizontal orientation	Fire Outside	1000 x 1000	90	120	120	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	25	30	30	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	40	60	60	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	70	90	90	
	Ventilation horizontal orientation	Fire Outside	1525 dia.	90	120	120	
	Ventilation vertical orientation	Fire Inside	1000 x 1000	25	30	30	
	Ventilation vertical orientation	Fire Inside	1000 x 1000	30	60	60	
	Ventilation vertical orientation	Fire Inside	1500 x 1500	50	90	90	
	Ventilation vertical orientation	Fire Inside	1500 x 1500	70	120	120	
	Ventilation vertical orientation	Fire Inside	1525 dia.	25	30	30	
	Ventilation vertical orientation	Fire Inside	1525 dia.	30	60	60	
	Ventilation vertical orientation	Fire Inside	1525 dia.	50	90	90	
	Ventilation vertical orientation	Fire Inside	1525 dia.	70	120	120	

Product Name	Duct Type	Condition	Maximum Duct size (ht x wt) (mm)	Insulation Thickness (mm)	Fire Resistance Integrity (min)	Fire Resistance Insulation (min)	LPCB Ref. No.
	Ventilation horizontal orientation	Fire Inside	1000 x 1000	25	30	30	
	Ventilation horizontal orientation	Fire Inside	1500 x 1500	40	60	60	
	Ventilation horizontal orientation	Fire Inside	1200 x 1200	70	90	90	
	Ventilation horizontal orientation	Fire Inside	1000 x 1000	90	120	120	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	25	30	30	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	40	60	60	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	70	90	90	
	Ventilation horizontal orientation	Fire Inside	1525 dia.	90	120	120	
	Kitchen extract	Fire Outside	1500 x 1500	40	30	30	
	Kitchen extract	Fire Outside	1000 x 1000	90	60	60	

Smoke curtains are used:

- To create a smoke reservoir by containing and limiting the travel of smoke.
- To channel smoke in a predetermined direction.
- To prevent or retard smoke entry to another area or void.

All the smoke curtains listed in Section 3 of this part of the list have been tested and assessed against the requirements of LPS 1182 *Requirements and tests for fixed fabric smoke curtains, fixed metal smoke curtains and powered smoke curtains*.

Powered smoke and heat exhaust ventilation fans are used:

- To channel heat and smoke in a predetermined direction
- To prevent smoke logging of the protected space.

All the fans listed have been approved against the requirements of BSEN 12101-3 *Smoke and heat control systems. Part 3 Specification for powered smoke and heat exhaust ventilation.*