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# Technical Directory of Certificated Fire Products & Services

**Part 5** - Certificated, fire resisting timber doorsets and components:

**Section 5.5** - Fire and smoke seals

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# Part 5: Certificated, fire resisting timber doorsets and components:

## Section 5.5 - Fire and smoke seals

Warrington Certification Technical Directory: Part 5: Section 5: Issued - March 2009



**Technical Directory of Certificated Fire Products and Services for Buildings**

This publication is one of the series which comprises the Technical Directory of fire products and services which have been approved by Warrington Certification. In each Part of the Technical Directory there is a section of introductory text to help the designer/specifier, followed by listings of relevant products/systems for which certificates have been issued by Warrington Certification.

The complete list of the Parts within the Directory is as follows:

Part	Publications
1	Principles of passive fire protection of buildings
2	List of FIRAS certificated installation contractors
3	Certificated fire risk assessors
4	Products certificated against the requirements of the CPD
5	Certificated, fire resisting timber doorsets and components
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**Objective of Part 5 of this directory**

The principal purpose of Part 5 of the Technical Directory is to provide a listing of Certifire certificated fire resisting and smoke control timber doors and doorsets, companies certificated to modify the door leaves by the cutting of apertures and the production of door frames, building hardware (ironmongery), glass and glazing systems and fire and/or smoke seals. The intention being to aid an informed choice of third-party certificated products.

Part 1 of the Directory provides a description of passive fire protection in buildings and this can be referenced in conjunction with this Part to enable an informed understanding of the requirements for fire resisting and smoke control doorsets.

The effectiveness of a building's design with respect to its performance in a fire depends crucially upon the materials used in its construction. Sections of Part 1 of the Directory touch upon criteria affecting the performance of numerous products and materials and in this Part, only timber doorsets and associated components are addressed in any detail.

To enable ease of updating and more focussed use on the individual components used within the doorsets, this Part of the Directory has been divided into 5 Sections:

- Section 1: Timber doorsets
- Section 2: Aperture and Framing companies
- Section 3: Building Hardware
- Section 4: Glass and Glazing systems
- Section 5: Fire and/or smoke seals

At this juncture it is emphasised that all products which play a part in passive fire protection shall have been tested satisfactorily to standards appropriate to their end use and ideally certificated by an independent, UKAS-accredited certification body such as Warrington Certification. Certification is not merely a 'Global' field of application assessment. It cannot be stressed too strongly that building designers and others involved in the specification of passive fire safety products should specify only certificated products and systems. Furthermore, it is emphasised that the scope of certification may vary widely and this possibly a reflection of the number of tests conducted to underpin the scope.

Additionally, in the cases of both passive and active fire protection, competent installation of the products should be carried out by appropriately trained operatives working for contractors certificated to perform such work. The best of designs and the most suitable of products and systems will only provide the planned performance in a fire if construction and installation work are carried out properly.

**WHAT IS CERTIFICATION AND WHY HAVE IT?**

**Third Party Assessment or Certification is conformity Assessment carried out by a body that is independent of both supplier and customer organisations. The prime purpose and justification for this is to provide a level of enhanced confidence in the stated performance claims made for the product with relevance to its intended purpose as a fire-resistant barrier. The objective is to provide assurance of the fitness for the purpose of the product, consistency in performance and its expected reliability in fire.**

The International Organisation for Standardisation, ISO, lists seven different systems of assessment, each valid as a third-party scheme. These range from type testing of samples of a product through to 100% testing, with various intermediate levels.

In the fire industry we are most accustomed to third-party product certification; the system comprising type testing of the product, assessment and surveillance of the factory production control system and audit testing. Labelling of the product and listing in a widely available publication are also usual features of these schemes.

The fundamental benefit of third-party certification - put simply - is that it gives the specifier, customer and end user, regulator or any combination of these an informed choice when purchasing or selecting the product. It also gives the regulator and enforcement authority concise independent information against which they can verify compliance. Choosing a product, which carries the badge or mark of a reputable third-party certification body, will provide safeguards as to the performance of the product. Testing (to national or international standards) will have verified that it meets the specification, while inspection of the manufacturing process has checked that there is consistency in quality and conformity of manufacture. It is important to note that the final responsibility lies with the manufacturer of the product.

Warrington Certification is a third-party certification body, accredited by the United Kingdom Accreditation Service (UKAS). Services provided comprise:

- Certification of products and systems under CERTIFIRE;
- Certification of installation contractors under FIRAS;
- European Technical Approvals
- Attestation of conformity for the Construction Products Directive (CPD) and Marine Equipment Directive (MED);
- Quality management system certification to ISO 9001: 2000;
- Certification of products/services under the Warringtonfire – mideast certification scheme;
- Certification of security products;
- Inspection services.

CERTIFIRE certification (for products and systems) and FIRAS certification (for installation contractors) are operated by Warrington Certification, an independent, third-party testing and approvals organisation accredited by the United Kingdom Accreditation Service (UKAS). Part 2 of this Directory provides a listing of currently certificated installation contractors. This is supported by a live listing via [www.warringtonfire.net/firas](http://www.warringtonfire.net/firas).

**CERTIFIRE certification**

CERTIFIRE is voluntary third-party certification (for fire protection products), operated by Warrington Certification, accredited by UKAS to BS EN 45011, for a number of product categories.

Certification comprises:

**Initial type testing**

Testing against industry-agreed Technical Schedules (see Appendix).

**Quality Management System**

Certification and surveillance of the manufacturer's quality management system to ISO 9001: 2001.

**Factory production control**

Assessment and surveillance of the manufacturer's production control system.

**Product audit testing**

Periodic audit testing of the product as routine or in response to a major product failure.

**Labelling**

Fixing of labels as appropriate.

**Directory**

Certificated products are listed in this Directory via different Parts and on a website at [www.warringtonfire.net/certifire](http://www.warringtonfire.net/certifire). Categories of fire protection products certificated under CERTIFIRE include the following:

- Fire-resisting doorsets;
- Fire protection of structural steelwork;
- Cavity barriers;
- Penetration seals;
- Ductwork;
- Fire door hardware;
- Intumescent and smoke control door edge seals;
- Fire-resistant glass and glazing systems;
- Wall and ceiling linings.

## Timber fire-resisting and/or smoke control doorsets

**How do fire-resisting and smoke control doorsets help accomplish the objectives of passive fire protection? They need to perform in such a way as to restrict the passage of heat and hot gases, and the spread of fire and smoke, beyond the compartment of origin of a fire.**

In order to restrict the passage of heat and hot gases, and the spread of fire and smoke a doorset must:

- For integrity – maintain the integrity of any wall in which it is installed for the required design duration;
- For insulation – restrict the rise of temperature transmitted from the fire to the non-fire face of the wall for the required design duration;
- Prevent the passage of smoke.

It is vital that the building designer specifies fire-resisting and smoke control doors which are appropriate to their function. In that connection the door leaf is just part of the consideration, because it is the parts of the whole doorset – the frame, leaf, architrave/moulding, seals, hardware and (if any) glazing – which in combination deliver its fire resistance performance. Tests may lead to a doorset being certificated to resist fire (and smoke) for a particular duration. The accompanying certificate will make clear that such a fire resistance duration will result only if the tested combination is replicated exactly in a design, without change of any of the components. Construction companies should be particularly careful not to seek to cut corners in that respect if invited by suppliers to accept something less than the tested combination.

The reason for such caution lies in the principal function of a fire-resisting doorset as distinct from other types of doors, to prevent the spread of fire and/or smoke through the opening which it protects. For the purposes of this account, such doorsets are assumed to be fitted in openings in compartment walls (and such walls may be adjoining protected stairwells or other means of escape). If, for the purposes of passive fire protection in the building under design, it is judged that a wall should have 60 minutes fire resistance, then any doorset protecting an opening in that wall must have at least equal performance. Compartmentation and compartment walls are dealt with in Part 1, section 6 of this Directory.

This present section applies to the generality of hinged or pivoted timber based doors/doorsets, generally referred to as pedestrian doors. Roller shutters and bigger, heavy duty doors are dealt with in Part 10 of this Directory, ‘Industrial fire-resisting doors and shutters’. Steel based pedestrian doorsets are covered in Part 9.

### Fire-resisting doors, the Building Regulations and test standards

In the words of Approved Document B,

*‘Any test evidence used to substantiate the fire resistance rating of a door or shutter should be carefully checked to ensure that it adequately demonstrates compliance and is applicable to the complete installed assembly. Small differences in detail (such as glazing apertures, intumescent strips, door frames and ironmongery etc) may significantly affect the rating’.*

Approved Document B refers to classifications of doors (by their minimum fire resistances) when they have been tested to either BS 476: Part 22 or to the relevant European standard. It will be the integrity of the door which is determined by testing (cited in minutes of fire resistance). A successful test to British Standard 476: Part 22 will, for example, provide enough evidence to enable a claim to be made of 30 minutes fire resistance (integrity) for a door and such a door is often referred to as FD30; if such a door also restricts smoke leakage at ambient temperatures, when tested in accordance with BS 476: Part 31, then that attribute is indicated by adding the letter ‘S’ to the coding, FD30S. In the case of testing to European standards, all fire-resisting doors are to be classified in accordance with BS EN 13501, Fire classification of construction products and building elements, Part 2, Classification using data from fire resistance tests (excluding products for use in ventilation systems).

They are to be tested to the relevant method from the BS EN 1634 series of standards. Again, the fire resistance performance is cited in minutes of integrity (indicated by ‘E’) and any smoke control is indicated by adding ‘Sa’. So a 30 minute door which also restricts smoke at ambient temperatures is coded E30Sa.

Table B1 of Appendix B in Volume 2 of Approved Document B is titled ‘Provisions for fire doors’ and lists, for 10 specified design situations (some of them with subdivisions), the appropriate choice of fire door as evidenced by testing to either BS 476 or to the relevant European standard. The accompanying text in Appendix B draws attention to some considerations of detail and specific application, including the need to fit self-closing devices to most fire-resisting doors.

### Fire-resisting doorsets: the objectives

To summarise the objectives relating to the provision of fire-resisting doorsets:

- In a compartment wall or other separating wall where an opening is necessary to permit the passage of people and goods (it could be an opening in a large cavity barrier), then a fire-resisting doorset acts to maintain the fire protection provided by the wall for the required design duration. These openings may be termed pedestrian doors;
- Where a vertical shaft or service duct (examples might be staircases/lifts/ hoistways) passes through a compartment floor such shafts will be enclosed by fire-resisting walls - openings in enclosures of that kind shall be protected with fire-resisting doorsets to maintain the fire resistance of the shaft or duct for the design duration;
- If walls which form part of a route which is a means of escape from fire (for example, a corridor or stairway) require to have pedestrian doors, then such door openings shall be protected for the design duration by a doorset of appropriate fire resistance.

If a single door is judged to be not adequate to protect an opening then it may be necessary to install two doors, one on each side of the opening.

It is frequently the case, where an opening of greater width is required, that a fire-resisting doorset involves two leaves, each hung on separate frame jambs.

All fire-resisting doorsets in compartment walls need to be fitted with self-closing devices.

### Types of fire-resisting doorsets

Doorsets which fall within the scope of this section may be one of the following types although only timber doorsets are addressed in the Part of the Directory:

- Timber;
- Timber faced/edged, with mineral board core;
- Composite materials for leaves & frames;
- Flush steel ‘pan and lid’ construction;
- Steel frames leaves with glass panels;
- Proprietary steel frames and leaves with glass panels.

Timber: timber doorsets come in a variety of designs and constructions. For the purposes of passive fire protection, designs available are made of timber and/or timber-based materials which have leaves with solid timbers edges/rails. The core materials may range from chipboards to lamels (strips/planks) of solid timber and the facings may be of chipboard, plywood or medium-density fibreboard. The doors will require intumescent edge seals to resist fire spread and smoke seals to provide smoke control.

Timber faced/edged doorsets with mineral board core: doorsets of this type generally have leaves which are timber faced but with cores on mineral boards. Cores of such material may improve a doorset’s performance in terms of integrity and are often used for periods in excess of 60 minutes integrity. These doorsets, just like all-timber assemblies, will require intumescent edge seals to resist fire spread and smoke seals to provide smoke control.

Steel/glass doorsets: such doorsets are frequently used in public buildings (and not in industrial buildings) and come with steel framing and glass panel infills. When heated, steel expands and may distort. Any glass contained within a steel frame will not, in a fire, provide appreciable resistance to distortion, so integrity can be a problem if gaps appear along a door’s edge, for example. That problem may be reduced by appropriate attention to the door hardware and latching system. The steel frame usually lacks insulation (although not always) while the glazing may be non-insulating or insulating. It is clearly necessary to evaluate the components and conditions to which any certification evidence relates when considering steel/glass doorsets.

Flush steel: flush steel doorsets comprise outer leaves of steel sheeting inside which there may be one of a number of door construction systems. The internal construction can be a combination of metal spacers/strips, with infill of mineral wool or even, for example, a paper honeycomb.

Flush steel doors in steel frames can have high fire resistance in terms of integrity. When such doors are fitted with inset glazed panels it is critical to determine what effect that feature has on integrity by reviewing the product’s certification. Most doors of this type will not deliver high levels of insulation in a fire, especially at the leaf edges and along the lines of framing elements, because of the conductivity of the metal. Higher insulation performance requires doors with cores of boards of mineral or other insulating fibre.

### Doorset selection

The specifier is reminded of the questions to ask when making choices for fire-resisting doorsets. Does the doorset:

- Perform a particular function with respect to passive fire protection?
- Contribute to fire growth?
- Exhibit good or bad surface spread of flame?
- Demonstrate fire resistance (integrity)?
- Contribute to the fire load?
- Preserve the stability of the structure?
- Inhibit/restrict temperature rise (insulation)?
- Resist the spread of smoke?
- Inhibit deflection of wall and floor elements or the transference of loads?
- Exhibit durability?
- Self-close?

### Doorset installation and door hardware

Door hardware was mentioned above in relation to test evidence and is separately the subject of section 3 of this Part of the directory. It should be said here, however, that the doors considered in this present section may be either hinged or pivoted and that, unless installation is carried out to the highest standard, defects or component shortcomings at the points at which a door swings or latches can significantly affect the doorset's performance in a fire.

The same applies to the installation of the doorset's framework in the wall which accommodates it and particularly to the effective sealing around the edges between the doorset frame and the wall.

Sealing (by, intumescent strips/smoke seals) at the door edge/frame interface must be of the appropriate type and suitability for the particular doorset, complete and undamaged, and fitted strictly in accordance with manufacturers' directions. Any change from the tested specification must be justified by third-party certification.

BS 8214:2008 Code of practice for fire door assemblies gives requirements for their specification, design, construction, installation and maintenance of timber (and other) fire doors

### Standards and guidance

While a door is provided to permit the passage of people and goods, and while the attribute of fire resistance is required for passive fire protection of the opening, there may also be special requirements relating to the passage of disabled persons. See Approved Document M to the Building Regulations, Access to and use of buildings.

For additional guidance, see:

- A volume in the FPA's Design Guide, Protection of openings and service penetrations from fire [www.thefpa.co.uk](http://www.thefpa.co.uk);
- The British Woodworking Federation's BWF-CERTIFIRE Complete guide to fire door assemblies [www.bwf.org.uk](http://www.bwf.org.uk); The BWF-CERTIFIRE Fire Door & Doorset Scheme was established by a group of Prime Fire Door Manufacturers, aiming to increase the standard of fire doors across the supply chain. The Scheme has now expanded to include not just the market leaders in fire door manufacturing, but also in converting, ironmongery, intumescent seals and glazing systems, and, more recently, merchants and installers.

The Scheme was established as a partnership, combining the membership, lobbying and promotion skills of the BWF, with the technical and certification skills of Warrington Certifire Ltd. However, the members



have always been the Scheme's managers, influencing strategic direction, promotion and activities. With over 200 members, the Scheme is the biggest in the market, representing a majority of fire doors sold in the UK

- The Glass and Glazing Federation's publication A guide to best practice in the specification and use of fire-resistant glazed systems (which can be downloaded from [www.ggf.co.uk](http://www.ggf.co.uk)).

### Testing timber doorsets in the UK & Europe

Fire door assemblies are assessed to the test method regimes of either BS 476: Part 22, Methods for determination of the fire resistance of non-loadbearing elements of construction or BS EN 1634, Fire resistance tests for door and shutter assemblies, Part 1, Fire doors and shutters. Smoke control is determined by testing to BS 476: Part 31, Methods for measuring smoke penetration through doorset and shutter assemblies or BS EN 1634: Part 3, Smoke control doors.

### Certification

Warrington Certification operates a number of Technical Schedules under the CERTIFIRE brand, to address timber fire-resisting doorsets, building hardware, glazing and fire and/or smoke seals. Products listed in this Part of the Directory are certificated against these Technical Schedules. These specific schedules relating to timber doorsets and accessories are as follows:

- TS00 - General Requirements
- TS10 - Timber Fire Doors (BS)
- TS21 - Smoke Door Seals (BS)
- TS23 - Locks and Latches
- TS24 - Hinges
- TS25 - Glass and Glazing (BS)
- TS26 - Panic Exit Devices
- TS31 - Emergency Exit Devices
- TS32 - Letterplates
- TS33 - Door Coordinator Devices
- TS34 - Door Closing Devices and Accessories
- TS35 - Intumescent Seals
- TS37 - Glass (EN)
- TS38 - Glazing System (EN)
- TS41 - Signal-activated uncontrolled door closers
- TS42 - Fire Resisting Doorsets (EN)
- TS47 - Air Transfer Grilles
- TS64 - Smoke door seals (EN)

### Part 5: Section 5.5 Applicable CERTIFIRE Technical Schedules for fire and/or smoke seals are:

- TS21: The contribution of edge seals to the control of smoke leakage via door assemblies;
- TS35: The contribution of edge seals to the fire resistance performance of door assemblies;
- TS64: The contribution of edge seals to the control of smoke leakage via door assemblies (EN);

This section lists currently CERTIFIRE certificated fire and/or smoke seals. A 'live' listing can be found at [warringtonfire.net/certifire](http://warringtonfire.net/certifire).

The certificates provide general and specific guidance for the seals in order that timber doorsets can maintain their certification when fitted with the seals. The certificates state whether the seals may be used generally on doorsets or are only suitable for specific types of doors.

**List of CERTIFIRE certificated Fire and Smoke Seals**

CERTIFIRE CF No.	Company	Certificated Fire and/or Smoke Seals	Page No.
276	ASTROFLAME (FIRESEALS) LIMITED	Astroflame 'Astrostrip' Intumescent Fire and Smoke Seals, Astroflame 'Astrostrip Quad Seal' Intumescent Fire, Smoke, Acoustic and Thermal Seals	14
330	LORIENT POLYPRODUCTS LIMITED	Lorient Palusol 100P Intumescent Seals (with optional SS/AS/TS/FS/DS Smoke Seals)	16
341	LORIENT POLYPRODUCTS LIMITED	Lorient Palusol of 100P Intumescent Seals (with optional SS/AS/TS/FS/DS Smoke Seals)	17
355	PYROPLEX LIMITED	Pyroplex Intumescent Seals (with optional smoke seals)	18
356	MANN MCGOWAN FABRICATIONS LIMITED	ID30 & ID30S Intumescent Seals (with optional SS5, Flexfin and Twinfin 5 smoke seals)	19
358	FIRESTOP MANUFACTURING LIMITED	Firestop Intumescent Seals (with optional smoke seals)	20
367	MANN MCGOWAN FABRICATIONS LIMITED	Mann McGowan Pyrostrip 100P Intumescent Fire Seals with SS5, Flexfin 5 and Twinfin 5 smoke seals	21
387	INTUMESCENT SEALS LIMITED	Therm-A-Flex, Therm-A-Seal, Therm-A-Blade and Therm-A-Stop Intumescent Door Seals, Therm-A-Smoke, Therm-A-Blade and Therm-A-Stop Cold Smoke Seals	22
397	MANN MCGOWAN FABRICATIONS LIMITED	Mann McGowan Pyrostrip 500F Intumescent Fire Seals with SS5, Flexfin 5 and Twinfin 5 smoke seals	23
462	INTUMESCENT SEALS LIMITED	Sealmaster Intumescent Fire and Smoke Seals	24
543	ASTROFLAME LIMITED	Astroflame 'Astrostrip' Intumescent Fire and Smoke Seals, Astroflame 'Astrostrip Quad Seal X Intumescent Fire, Smoke, Acoustic and Thermal Seals	25

**List of CERTIFIRE certificated Smoke Seals Only**

CERTIFIRE CF No.	Company	Certificated Fire and/or Smoke Seals	Page No.
136	LORIENT POLYPRODUCTS LIMITED	Lorient IS1010, IS1212, IS1212K, IS1511, IS1515, IS7010si, IS7020si, IS7025, IS7025si, IS7026si, IS8005si, IS8010si, IS8035si, IS8036si and IS8037si Smoke Seals	13
280	MANN MCGOWAN FABRICATIONS LIMITED	Mann McGowan Enviroseal SS5, Flexfin 5 and Twinfin Smoke Seals	15
599	REDDIplex LIMITED	Reddiplex 9945 & 9946 Smoke and Acoustic Sealing Systems	26

✉ **LORIENT POLYPRODUCTS LIMITED**  
Fairfax Road, Heathfield Industrial Estate,  
Newton Abbot, TQ12 6UD

☎ 01626 834252  
📠 01626 833166

**Introduction:**

This approval relates to the use of the above door seals in contributing to the performance of doorsets against the leakage of ambient temperature smoke, as defined in BS 476: Part 31.1: 1983.

**Scope of Approval:**

This approval relates to the doorsets with leaf to frame gaps between 3.5 mm and 4.5 mm.

These seals are suitable to be used with:

single-acting door assemblies required to restrict smoke leakage at ambient temperatures as defined in Appendix B of Approved Document B, 'Fire Safety' to the Building Regulations 1991. It is applicable to latched and unlatched, single leaf and double leaf assemblies consisting of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames with or without intumescent edge seals. It is only applicable to assemblies that have been approved, or have been shown by test, to achieve the required period of performance


The seals shall be used as follows:

Lorient IS1010, IS1212, IS1212K, IS1511, IS1515, IS7010si, IS7020si, IS7025, IS7025si, and IS7026si smoke seals are of the compression/deflection (C/D) type.

Lorient IS8005si, IS8010si, IS8035si, IS8036si and IS8037si seals are aluminium cased automatic threshold seals. The seals shall be uninterrupted and fixed around the head and vertical edges of the frame. Double leaf door shall additionally incorporate an approved smoke seal at the meeting edges and threshold. The seals shall be installed in accordance with the manufacturer's instructions.

**Test Methods:**

BS 476: Part 31.1: 1983

 **Approval CF 276** – Astroflame ‘Astrostrip’ Intumescent Fire and Smoke Seals, Astroflame ‘Astrostrip Quad Seal’ Intumescent Fire, Smoke, Acoustic and Thermal Seals

✉ **ASTROFLAME (FIRESEALS) LIMITED**  
Unit 8, The I O Centre, Stephenson Road,  
Segensworth, Fareham, Hampshire, PO15 5RU

☎ 01329 844500  
📠 01329 844600

✓ **Introduction:**

Astroflame ‘Astrostrip’ and ‘Astrostrip Quad Seal’ seals comprise a range of pvc-encased, graphite based, intumescent seals of the high pressure type with or without integral smoke and or acoustic seals. The seals include integral smoke and or acoustic seal variants of the wiping type, and comprise either a gasket of Aquamac qlon thermal, smoke and acoustic seal or a brush smoke seal pile. The seals contain nominally 2 mm thick intumescent strip, 2 mm less in width than the nominal overall seal width.

✓ **Scope of Approval:**

The approval applies to the described seals of minimum dimensions 10 mm wide by 4 mm thick (But also includes seals of increased dimensions) in all variations of finish, both with and without integral smoke and or acoustic seals. The following table gives examples, however they are not absolute:

Product Reference	Type	Profile Dimensions
AF1004 FO	Fire Only	10 mm x 4 mm
AF1204 FO	Fire Only	12 mm x 4 mm
AF1504 FO	Fire Only	15 mm x 4 mm
AF1004 FS	Fire / Smoke	10 mm x 4 mm
AF1204 FS	Fire / Smoke	12 mm x 4 mm
AF1504 FS	Fire / Smoke	15 mm x 4 mm
AF1004Q	Fire/Smoke/ Acoustic/Thermal	10 mm x 4 mm
AF1204Q	Fire/Smoke/ Acoustic/Thermal	12 mm x 4 mm
AF1504Q	Fire/Smoke/ Acoustic/Thermal	15 mm x 4 mm

These seals are suitable to be used with:

CERTIFIRE approved FD30 single-acting, single leaf, latched or unlatched doorsets of maximum leaf dimensions 2040 mm high by 926 mm wide and of minimum thickness 42 mm. The doorset assemblies shall consist of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames.

The approval certifies that the described integral smoke seal variants are suitable for use with door assemblies required to restrict smoke leakage at ambient temperatures as defined in BS476: Part 31.1:1983. It is applicable for use within single

acting, single-leaf FD20S and FD30S assemblies. ‘Astrostrip Quad Seal’ seals may be interrupted around the hinges and at the latch position and may be installed either in the frame or the leaf. ‘Astrostrip’ seals must not be interrupted and shall be fitted such that they bypass any door hardware e.g. around the hinges and at the latch position. The seals shall be installed in the door frame.

✓ **Test Methods:**

BS 476: Part 22: 1987  
BS 476: Part 31.1: 1983

 **Approval CF 280** – Mann McGowan Enviroseal SS5, Flexfin 5 and Twinfin Smoke Seals

✉ **MANN MCGOWAN FABRICATIONS LIMITED**  
Unit 4, Brook Trading Estate, Deadbrook Lane,  
Aldershot, Hampshire, GU12 4XB

☎ 01252 333601  
📠 01252 322724

✓ **Introduction:**

This approval relates to the use of the above door seals in contributing to the performance of doorsets against the leakage of ambient temperature smoke, as defined in BS 476: Part 31.1: 1983.

✓ **Scope of Approval:**

This approval relates to the doorsets with leaf to frame gaps between 3.5 mm and 4.5 mm.

These seals are suitable to be used with:

CERTIFIRE approved FD30 single-acting, single leaf, latched or unlatched doorsets of maximum leaf dimensions 2040 mm high by 926 mm wide and of minimum thickness 42 mm. The doorset assemblies shall consist of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames.

The doorsets into which the seals are to be fitted may be single or double acting and single or double leaf as follows:

- Enviroseal SS5 continuous around single acting doors**
- Enviroseal SS5 continuous around double acting doors**
- Flexfin 5 continuous around single acting doors**
- Flexfin 5 continuous around double acting doors**
- Twinfin 5 continuous around single acting doors**
- Twinfin 5 continuous around double acting doors**
- Twinfin 5 interrupted at hinges and latch around single acting doors**

The Twinfin seals shall be fixed around the head and vertical edges of the frame along the centre line of the door frame rebate and the Twinfin 5 seals may only be interrupted at the hinge and latch positions by a total length of 321 mm.

The seals shall be installed in accordance with the manufacturers instructions.

✓ **Test Method:**

BS 476: Part 31.1: 1983

✉ **LORIENT POLYPRODUCTS LIMITED**  
Fairfax Road, Heathfield Industrial Estate,  
Newton Abbot, Devon, TQ12 6UD

☎ 01626 834 252  
📠 01626 833166

**Introduction:**

Lorient Palusol 100P intumescent seals comprise of a range of sodium silicate based intumescent seals with or without integral smoke seals. The combined seals include integral smoke seal variants of the wiping type, denoted with the suffix letters SS (Brush Pile) FS (Brush Pile with blade) TS (twin blade), AS (offset blade) and DS (offset folding twin blade). The seals are designated by the letters LP followed by four digits. The nominal overall dimensions (in mm) are given by the first two and last two digits respectively. The seals contain 2 mm less in width (3.5 mm less for DS variants) than the nominal overall seal width (DS seal width is measured over outer fin dimension).

**Scope of Approval:**

This approval applies to the described seals of minimum dimensions 10 mm wide by 3 mm thick (but also includes seals of increased dimensions) in all variations of finish, both with and without integral smoke seals. The following table gives examples however, they are not absolute:

Product Reference	Type	Profile Dimensions
LP1003	Fire Only	10 mm x 3 mm
LP1004	Fire Only	10 mm x 4 mm
LP1004SS	Fire/Smoke	10 mm x 4 mm
LP1004AS	Fire/Smoke	10 mm x 4 mm
LP1004TS	Fire/Smoke	10 mm x 4 mm
LP1004FS	Fire/Smoke	10 mm x 4 mm
LP1504DS	Fire/Smoke	15 mm x 4 mm

These seals are suitable to be used with:

CERTIFIRE approved FD30 single-acting, single-leaf, latched or unlatched doorsets of maximum leaf dimensions 2040 mm high by 926 mm wide and of minimum thickness 42 mm. The doorset assemblies shall consist of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames (Code ITT).

The approved Lorient Palusol 100P seals shall have nominal widths and cross-sectional areas of intumescent (compared with the remainder of the LP1504 range), this intumescent seal may only be used to replace originally tested seals of nominal dimensions 10 mm wide by 4 mm thick.

✉ **LORIENT POLYPRODUCTS LIMITED**  
Fairfax Road, Heathfield Industrial Estate,  
Newton Abbot, Devon, TQ12 6UD

☎ 01626 834 252  
📠 01626 833166

**Introduction:**

Lorient Palusol 100P intumescent seals comprise of a range of PVC-encased, sodium silicate based, intumescent seals with or without integral smoke seals. The combined seals include integral smoke seals variants of the wiping type, denoted with suffix letters SS (brush pile) FS (brush pile with blade) TS (twin blade), AS (offset blade) and DS (offset folding twin blade). The seals are designated by the letters LP followed by four digits. The nominal overall dimensions (in mm) are given by the first two and last two digits respectively. The seals contain 2mm less in width (3.5 mm less for DS variants) than the nominal overall seal width. (DS seal width is measure over outer fin dimension).

**Scope of Approval:**

These seals are suitable to be used with:

CERTIFIRE approved FD30 single-acting, single leaf, latched or unlatched doorsets of maximum leaf dimensions 2040 mm high by 926 mm wide and of minimum thickness 42 mm. The doorset assemblies shall consist of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames.

The approval additionally certifies that the described integral smoke seal variants are suitable for use with door assemblies required to restrict smoke leakage at ambient temperatures as defined in BS 476: Part 31.1: 1983 and Appendix B of Approved Document B 'Fire Safety to the Building Regulations 1991. The described integral smoke seals are applicable for use within single-acting, single-leaf FD20S and FD30S assemblies. The seals shall be uninterrupted around the head and vertical edges and maybe installed either in the frame or the leaf. The LP1504DS may be partially interrupted but one fin shall remain continuous. In order to achieve this, the seal may be positioned offset at a maximum of 23 mm from the opening side of the door or frame to provide a continuous smoke seal.

The seals shall be installed in accordance with the manufacturers instructions.

**Test Methods:**

BS 476: Part 22: 1987  
BS 476: Part 31.1: 1993

✉ **PYROPLEX LIMITED**  
The Furlong, Droitwich,  
Worcestershire, WR9 9BG

☎ 01905 795432  
📠 01905 795757

**Introduction:**

Pyroplex intumescent seals comprise of a range of PVC-encased graphite based, intumescent seals with or without integral smoke seals.

**Scope of Approval:**

This approval applies to the described seals of nominal dimensions 10 mm wide by 4 mm thick (but also includes seals of modified dimensions) in all variations of finish, both with and without integral smoke seals. The following table gives examples, however they are not absolute.

Pyroplex Intumescent Door Edge Seals – Flexible Seals	
Profile Size (mm)	Pyroplex Product Code
10mm x 2.5mm	8979
15mm x 2.5mm	8980

Pyroplex Intumescent Door Edge Seals – Rigid Box Seals Fire Only	
Profile Size (mm)	Pyroplex Product Code
10mm x 4mm	8500
15mm x 4mm	8700

Pyroplex Intumescent Door Edge Seals – Rigid Box Seals Fire and Smoke Seals		
Profile Size (mm)	Pyroplex Product Code	Seal Type
10mm x 4mm	8510	Pile with Fin
10mm x 4mm	8512	Pile Only
10mm x 4mm	8524	Single Flipper
10mm x 4mm	8523	Twin Flipper
10mm x 4mm	8923	Side Flipper
15mm x 4mm	8710	Pile with Fin
15mm x 4mm	8712	Pile Only
15mm x 4mm	8724	Single Flipper
15mm x 4mm	8723	Twin Flipper
15mm x 4mm	8924	Side Flipper

✉ **MANN MCGOWAN FABRICATIONS LIMITED**  
4 Brook Trading Estate, Deadbrook Lane,  
Aldershot, Hampshire, GU12 4XB

☎ 01252 333601  
📠 01252 322724

**Introduction:**

ID30 & ID30S intumescent seals comprise of a range of PVC-encased, graphite based, intumescent seals with or without integral smoke seals.

**Scope of Approval:**

This approval applies to the described seals of minimum dimensions 15 mm wide by 4 mm thick (but also includes seals of increased dimensions) in all variations of finish, both with and without integral smoke seals.

These seals, of minimum dimensions 15 mm wide by 4 mm thick, are suitable to be used with:

These seals are suitable to be used with:

**CERTIFIRE** approved FD30 single-acting, single leaf, latched or unlatched doorsets of maximum leaf dimensions 2040 mm high by 926 mm wide and of minimum thickness 42 mm. The doorset assemblies shall consist of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames.

The approval additionally certifies that the described integral smoke seal variants are suitable for use with door assemblies required to restrict smoke leakage at ambient temperatures as defined in BS 476: Part 31.1: 1983 and Appendix B of Approved B 'Fire Safety to the Building Regulations 1991'. The described integral smoke seals are applicable for use within door assemblies. The seals shall be uninterrupted around the head and vertical edges and may be installed either in the frame or the leaf.

When the fire seals include smoke seals SS5 and Flexfin 5 seals shall be fixed continuously around the head and vertical edges of the frame along the centre line of the door frame rebate bypassing any hinge and latch items. When the seals include Twinfin 5 seals they be interrupted at the hinge and latch positions by a total length of 321 mm, they also shall be fixed around the head and vertical edges of the frame along the centre of the door frame rebate.

**Test Methods:**

BS 476: Part 22: 1987  
BS 476: Part 31.1: 1993

✉ **FIRESTOP MANUFACTURING LIMITED**  
4 Wyvern Buildings, Grove Trading Estate,  
Dorchester, Dorset DT1 1ST

☎ 01305 257428  
📄 01305 260176

**Introduction:**

Firestop intumescent seals comprise a range of PVC-encased, graphite based, intumescent seals with or without integral smoke seals.

**Scope of Approval:**

This approval applies to the described seals of nominal dimensions 10 mm wide by 4 mm thick (but also includes seals of modified dimensions) in all variations of finish, both with and without integral smoke seals. The following table gives examples, however they are not absolute.

Table 1		
Product Reference	Type	Profile Dimensions
8979	Fire Only	10 mm x 2.5 mm
8989	Fire Only	10 mm x 4 mm
8980	Fire Only	15 mm x 2.5 mm
30014	Fire Only	11 mm x 2.5 mm
8500	Fire Only	10 mm x 4 mm
8510	Fire and smoke	10 mm x 4 mm
8512	Fire and smoke	10 mm x 4 mm
8524	Fire and smoke	10 mm x 4 mm
8523	Fire and smoke	10 mm x 4 mm
8923	Fire and smoke	10 mm x 4 mm
30032	Fire Only	12 mm x 4 mm
8700	Fire Only	15 mm x 4 mm
8710	Fire and smoke	15 mm x 4 mm
8712	Fire and smoke	15 mm x 4 mm
8724	Fire and smoke	15 mm x 4 mm
8723	Fire and smoke	15 mm x 4 mm
8924	Fire and smoke	15 mm x 4 mm
8507	Fire only	10 mm x 2.5 mm
8490	Fire only	15 mm x 2.5 mm

These seals are suitable to be used with:

CERTIFIRE approved FD30 single-acting, single leaf, latched or unlatched doorsets of maximum leaf dimensions 2040 mm high by 926 mm wide and of minimum thickness 42 mm.

The doorset assemblies shall consist of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames.

The approval additionally certifies that the described integral smoke seal variants are suitable for use with door assemblies required to restrict smoke leakage at ambient temperatures as defined in BS 476 Part 31.1: 1983. The described integral smoke seals are applicable for use within single-acting, single-leaf FD20S and FD30S assemblies as detailed in the paragraph within section 3 above. The seals shall be uninterrupted around the head and vertical edges and maybe installed either in the frame of the leaf.

The seals shall be installed in accordance with the manufacturer's instructions.

**Test Methods:**

BS 476: Par22: 1987  
BS 476: Part 31.1: 1993

✉ **MANN MCGOWAN FABRICATIONS LIMITED**  
Unit 4 Brook Trading Estate, Deadbrook Lane,  
Aldershot, Hampshire, GU12 4XB

☎ 01252 333601  
📄 01252 322724

**Introduction:**

Pyrostrip 100P intumescent seals comprise a range of PVC-encased Palusol, Sodium Silicate based, intumescent seals with or without integral smoke seals

**Scope of Approval:**

This approval applies to the describes seals of nominal dimensions 10 mm wide by 4 mm thick (but also includes seals of modified dimensions) in all variations of finish both with and without integral smoke seals.

The approved Pyrostrip 100P seals shall have nominal widths and cross-sectional areas of intumescent at least equal to those in the tested/approved door assembly and shall be similarly positioned.

These seals are suitable to be used with:

CERTIFIRE approved FD30 single-acting, single leaf, latched or unlatched doorsets of maximum leaf dimensions 2040 mm high by 926 mm wide and of minimum thickness 42 mm. The doorset assemblies shall consist of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames.

The approval additionally certifies that the described integral smoke seal variants are suitable for use with door assemblies required to restrict smoke leakage at ambient temperatures as defined in BS 476: Part 31.1: 1983 and Appendix B of Approved Document B 'Fire Safety to the Building Regulations 1991. The described integral smoke seals are applicable for use within door assemblies. The seals shall be uninterrupted around the head and vertical edges and maybe installed either in the frame or the leaf.

The seals shall be installed in accordance with the manufacturers instructions.

**Test Methods:**

BS 476: Part 22: 1987  
BS 476: Part 31.1: 1983



## Approval CF 387 – Therm-A-Flex, Therm-A-Seal, Therm-A-Blade and Therm-A-Stop Intumescent Door Seals, Therm-A-Smoke, Therm-A-Blade and Therm-A-Stop Cold Smoke Seals

✉ **INTUMESCENT SEALS LIMITED**  
Pampisford, Cambridge, CB2 4HG

☎ 01223 832851

📠 01223 837215

### ✓ Introduction:

Therm-A-Flex, Therm-A-Seal, Therm-A-Blade and Therm-A-Stop intumescent door seals comprise of a range of PVC-encased, Graphite based, intumescent seals with or without integral smoke seals.

### ✓ Scope of Approval:

This approval applies to the described seals of nominal dimensions 10 mm wide by 4 mm thick (but also includes seals of modified dimensions) in all variations of finish, both with and without integral smoke seals.

These seals, of minimum dimensions 10 mm wide by 4 mm thick, are suitable to be used with CERTIFIRE approved doorsets which are currently specifically approved for use in conjunction with Therm-A-Flex, Therm-A-Seal, Therm-A-Blade and Therm-A-Stop intumescent door seals. The Therm-A-Flex, Therm-A-Seal, Therm-A-Blade and Therm-A-Stop seals cannot be used in place of a previously tested seal of any other specification.

The approved Therm-A-Flex, Therm-A-Seal, Therm-A-Blade and Therm-A-Stop seals shall have nominal widths and cross-sectional areas of intumescent at least equal to those in the tested/approved door assembly and shall be similarly positioned.

When the fire seals include smoke seals, (i.e Therm-A-Smoke, Therm-A-Blade and Therm-A-Stop) the seals shall be fixed continuously around the head and vertical edges of the frame along the centre line of the door frame rebate, with a maximum interruption (at hardware positions) of 73 mm per metre length.

The approval additionally certifies that the described integral smoke seal variants are suitable for use with door assemblies required to restrict smoke leakage at ambient temperatures as defined in BS 476: Part 31.1: 1983. The described integral smoke seals are applicable for use within door assemblies as detailed in Section 3 above. The seals shall be uninterrupted around the head and vertical edges and may be installed either in the frame or the leaf.

The seals shall be installed in accordance with the manufacturers instructions

### ✓ Test Methods:

BS 476: Part 22: 1987

BS 476: Part 31.1: 1983



## Approval CF 397 – Mann McGowan Pyrostrip 500F Intumescent Fire Seals with SS5, Flexfin 5 and Twinfin 5 smoke seals

✉ **MANN MCGOWAN FABRICATIONS LIMITED**  
Unit 4 Brook Trading Estate, Deadbrook Lane,  
Aldershot, Hampshire GU12 4XB

☎ 01252 333601

📠 01252 322724

### ✓ Introduction:

Pyrostrip 500F intumescent seals comprise a range of PVC-encased graphite based, intumescent seals with or without integral smoke seals.

This approval applies to the described seals of minimum dimensions 10 mm wide by 4 mm thick (but also includes seals of modified dimensions) in all variations of finish, both with and without integral smoke seals.

### ✓ Scope of Approval:

These seals are suitable to be used with:

CERTIFIRE approved FD30 single-acting, single leaf, latched or unlatched doorsets of maximum leaf dimensions 2040 mm high by 926 mm wide and of minimum thickness 42 mm. The doorset assemblies shall consist of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames.

The approved Pyrostrip 500F seals shall have nominal widths and cross-sectional areas of intumescent at least equal to those in the tested/approved door assembly and shall be similarly positioned.

When the fire seals include smoke seals, the SS5 and Flexifin 5 seals shall be fixed continuously around the head and vertical edges of the frame along the centre line of the door frame rebate bypassing any hinge and latch items. When the seals include Twinfin 5 seals they may be interrupted at the hinge and latch positions by a total length of 321 mm, they also shall be fixed around the head and vertical edges of the frame along the centre line of the door frame rebate.

The approval additionally certifies that the described integral smoke seal variants are suitable for use with door assemblies required to restrict smoke leakage at ambient temperatures as defined in BS 476: Part 31.1: 1983. The described integral smoke seals are applicable for use within door assemblies as detailed in Section 3 above. The seals shall be uninterrupted around the head and vertical edges and may be installed either in the frame or the leaf.

The seals shall be installed in accordance with the manufacturer's instructions.

### ✓ Test Methods:

BS 476: Part 22: 1987

BS 476: Part 31.1: 1983

✉ **INTUMESCENT SEALS LIMITED**  
Pampisford, Cambridge, CB2 4HG

☎ 01223 832851

📠 01223 837215

✓ **Introduction:**

Sealmaster Intumescent Fire and Smoke Seals comprise a range of aluminium-encased, monoammonium phosphate based, door edge seals of the low pressure intumescent type. This certification applies to variants IF30, IF60 and IMP (without integral smoke seals) and variants N30, N60, N60S and IMN (with integral smoke seals).

✓ **Scope of Approval:**

These seals are suitable to be used with CERTIFIRE approved doorsets which are currently specifically approved for use in conjunction with Sealmaster Intumescent Fire and Smoke Seals referenced IF30, IF60 and IMP (without integral smoke seals) and variants N30, N60, N60S and IMN (with integral smoke seals). The seals cannot be used in place of a previously tested seal of any other specification.

The approved IF30, IF60 and IMP (without integral smoke seals) and variants N30, N60, N60S and IMN (with integral smoke seals) seals shall have nominal widths and cross-sectional areas of intumescent at least equal to those in the tested/approved door assembly and shall be similarly positioned.

When the fire seals include smoke seals they may only be interrupted at latch (maximum 100 mm) and hinge positions. They shall otherwise be continuous around the head and vertical edges of the door.

The approval additionally certifies that the described integral smoke seal variants are suitable for use with door assemblies required to restrict smoke leakage at ambient temperatures as defined in BS 476: Part 31.1: 1983. The described integral smoke seals are applicable for use within door assemblies as detailed in Section 3 above. The seals shall be uninterrupted around the head and vertical edges and may be installed either in the frame or the leaf.

The seals shall be installed in accordance with the manufacturer's instructions.

✓ **Test Methods:**

BS 476: Part 22: 1987

BS 476: Part 31.1: 1983

✉ **ASTROFLAME (FIRESEALS) LIMITED**  
Unit 8, The I O Centre, Stephenson Road,  
Segensworth, Fareham, Hampshire, PO15 5RU

☎ 01329 844500

📠 01329 844600

✓ **Introduction:**

Astroflame ‘Astrostrip X’ and ‘Astrostrip Quad Seal X’ seals comprise a range of pvc-encased, graphite based, intumescent seals of the high pressure type with or without integral smoke and or acoustic seals. The seals include integral smoke and or acoustic seal variants of the wiping type, and comprise either a gasket of Aquamac qlon thermal, smoke and acoustic seal or a brush smoke seal pile. The seals contain nominally 2 mm thick intumescent strip, 2 mm less in width than the nominal overall seal width.

✓ **Scope of Approval:**

This approval applies to the described seals of minimum dimensions 10 mm wide by 4 mm thick (but also includes seals of increased dimensions) in all variations of finish, both with and without integral smoke and or acoustic seals. The following table gives examples, however they are not absolute

Product Reference	Type	Profile Dimensions
AF1004 FOX	Fire Only	10 mm x 4 mm
AF1204 FOX	Fire Only	12 mm x 4 mm
AF1504 FOX	Fire Only	15 mm x 4 mm
AF1004 FSX	Fire / Smoke	10 mm x 4 mm
AF1204 FSX	Fire / Smoke	12 mm x 4 mm
AF1504 FSX	Fire / Smoke	15 mm x 4 mm
AF1004QX	Fire/Smoke/ Acoustic/Thermal	10 mm x 4 mm
AF1204QX	Fire/Smoke/ Acoustic/Thermal	12 mm x 4 mm
AF1504QX	Fire/Smoke/ Acoustic/Thermal	15 mm x 4 mm

The suitability of the seals in door assemblies not certificated by CERTIFIRE should be established by reference to the certification, test reports or assessments relating to the particular door assembly.

These seals are suitable to be used with:

CERTIFIRE approved FD30 single-acting, single leaf, latched or unlatched doorsets of maximum leaf dimensions 2040 mm high by 926 mm wide and of minimum thickness 42 mm. The doorset assemblies shall consist of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames.


The approval additionally certifies that the described integral smoke seal variants are suitable for use with door assemblies required to restrict smoke leakage at ambient temperatures as defined in BS476: Part 31.1: 1983 and Appendix B of Approved Document B ‘Fire Safety’ to the Building Regulations 1991. It is applicable for use within single acting, single-leaf FD20S and FD30S assemblies as detailed in paragraph 3 above. ‘Astrostrip Quad Seal X’ seals may be interrupted around the hinges and at the latch position and may be installed either in the frame or the leaf. ‘Astrostrip X’ seals must not be interrupted and shall be fitted such that they bypass any door hardware e.g. around the hinges and at the latch position. The seals shall be installed in the door frame.



The seals shall be installed in accordance with the manufacturer's instructions.

✓ **Test Method:**

BS 476: Part 22: 1987

BS 476: Part 31.1: 1983

 **REDDIPLEX LIMITED**  
The Furlong, Droitwich,  
Worcestershire, WR9 9BG

 01905 795432  
 01905 795757

 **Introduction:**

Reddiplex 9945 & 9946 smoke and acoustic sealing systems are of the compression/deflection (C/D) type. They are used for sealing door assemblies against leakage of ambient temperature smoke, as defined in BS 476: Part 31.1: 1983. They do not contain intumescent material.

 **Scope of Approval:**

This approval certifies that the above seals are suitable for use with single-acting door assemblies required to restrict smoke leakage at ambient temperatures. It is applicable to latched and unlatched, single-leaf assemblies consisting of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames with or without intumescent edge seals (Code ITT and TT respectively)

These seals are suitable to be used with:

CERTIFIRE approved FD30 single-acting, single leaf, latched or unlatched doorsets of maximum leaf dimensions 2040 mm high by 926 mm wide and of minimum thickness 42 mm. The doorset assemblies shall consist of timber faced and edged leaves with timber, cellulosic or mineral cores in timber frames.

 **Test Method:**

BS 476: Part 31.1: 1983

TS00	General Requirements	TS54	External walls including sandwich panels
TS03	Penetration Seals (BS)	TS55	Ceilings
TS10	Timber Fire Doors	TS56	Lift Landing Doors (BS)
TS12	Steel Fire Doors	TS57	Intumescent Coated Structural Members
TS14	Board/Spray Protection for Steelwork (BS)	TS58	Fire Protection Systems for Tunnel Linings
TS15	Intumescent Coatings for Steelwork (BS)	TS59	Penetration Sealing Systems (EN)
TS16	Smoke Vents	TS60	Lift Landing Doors (EN)
TS19	Class 0 / Class 1	TS61	FR Preservative Treated Timbers
TS20	Products of Restricted Combustibility	TS62	Material used to clad scaffolding
TS21	Smoke Door Seals	TS63	Material used as temporary protective covering
TS23	Locks and Latches	TS64	Smoke Seals (EN)
TS24	Hinges		
TS25	Glass and Glazing (BS)		
TS26	Panic Exit Devices		
TS30	Vertical Rolling Shutter Doors		
TS31	Emergency Exit Devices		
TS32	Letterplates		
TS33	Door Coordinator Devices		
TS34	Door Closing Devices and Accessories		
TS35	Intumescent Seals		
TS36	Framing Systems for Glass and Glazing		
TS37	Glazing Systems (EN)		
TS38	Glass (EN)		
TS39	Cavity Barriers		
TS40	Linear Gap Seals (BS)		
TS41	Signal-activated uncontrolled door closers		
TS42	Fire Resisting Doorsets (EN)		
TS43	Reactive Coatings		
TS44	Renderings		
TS45	Boards		
TS46	Class 0 / Class 1 (EN)		
TS47	Air Transfer Grilles		
TS48	Smoke Control & Fire Resisting Ductwork Systems		
TS49	Separating Elements		
TS50	Smoke and Toxicity		
TS51	Smoke and Fire Dampers		
TS52	Powered heat and smoke exhaust ventilators		
TS53	Natural heat and smoke exhaust ventilators		

**List of CERTIFIRE certificated Fire and Smoke Seals**

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543	ASTROFLAME LIMITED	Astroflame, Astrostrip, Intumescent Fire and Smoke Seals, Astroflame, Astrostrip Quad Seal, Intumescent Fire, Smoke Acoustic and Thermal Seals	25
358	FIRESTOP MANUFACTURING LIMITED	Firestop Intumescent Seals (with optional smoke seals)	20
462	INTUMESCENT SEALS (A DIVISION OF THE DIXON INTERNATIONAL GROUP LIMITED)	Sealmaster Intumescent Fire and Smoke Seals	24
387	INTUMESCENT SEALS LIMITED	Therm-a-Flex, Therm-a-Seal, Therm-a-Blade and Therm-a-Stop, Intumescent Door Seals, Therm-a-Smoke, Therm-a-Blade, and Therm-a-Stop Cold Smoke Seals	22
330	LORIENT POLYPRODUCTS LTD	Lorient Palusol of 100P Intumescent Seals with optional SS/AS/TS/FS/DS Smoke Seals)	16
341	LORIENT POLYPRODUCTS LTD	Lorient Palusol of 100P Intumescent Seals with optional SS/AS/TS/FS/DS Smoke Seals)	17
356	MANN MCGOWAN FABRICATIONS LIMITED	ID30 & ID30S Intumescent Seals(with optional SS5, Flexin and Twinfin 5 Smoke Seals	19
367	MANN MCGOWAN FABRICATIONS LIMITED	Mann McGowan Pyrostrip 100P Intumescent Fire Seals with SS5 Flexin 5 and Twinfin 5 smoke seals	21
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**List of CERTIFIRE certificated Smoke Seals Only**

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280	MANN MCGOWAN FABRICATIONS LIMITED	Mann McGowan Enviroseal SS5, Flexfin 5 and Twinfin Smoke Seals	15
599	REDDIPLEX LIMITED	Reddiplex 9945 & 9946 Smoke and Acoustic Sealing Systems	26



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