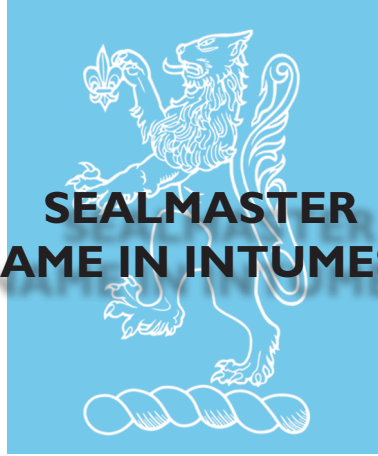


Sealmaster[®]



Intumescent Seals for Fire Doors & Compartments
the leading edge of intumescent technology

SEALMASTER THE FIRST NAME IN INTUMESCENT SEALS



Intumescent seals are a practical, well-established method of achieving Fire Resistance in designated Fire Doors. Heat from a fire causes the intumescent material to foam and swell, thus filling the gap between the door and frame and preventing the flow of hot gases and smoke.

However, not all such seals are equal, and as

concern over litigation grows, the thoughtful specifier must examine all the options to ensure that the seal chosen for each project really is the most appropriate. As the recognised leader in intumescent seal technology, Sealmaster offers products of proven performance and demonstrable cost-effectiveness, which can be specified with absolute confidence.

1

FIRE PERFORMANCE

Sealmaster manufactures intumescent fire and smoke seals which are compatible with all types of fire-resisting door assemblies. Although the principal seals are intended for 30 or 60 minute rated doors, their design and performance characteristics indicate far longer endurance potential.



3

ALUMINIUM HOLDER

The heat-treated aluminium holder is attractive in appearance, easy to install, and retains the intumescent material securely and correctly positioned in the rebate but without weakening either the frame or door. Robust and durable in use, it offers excellent vandal and damage-resistance, plus good heat conductivity to assist early intumescence.

4

THE INTUMESCENT COMPOUND

Sealmaster's specially-formulated intumescent material is based on mono-ammonium phosphate, and is compounded to resist degradation by moisture or carbon dioxide. When triggered by heat it produces a low-pressure, high volume foam. A high-pressure exfoliated graphite foam is combined with Sealmaster's traditional material to produce the unique Sealmaster Ultima seal, giving the benefits of high expansion with high pressure to restrict leaf movement in a fire.

5

ELASTOMERIC BLADE SEAL

The flexible and easy-to-replace flame-retarding elastomeric blade seal, acts as a draught seal in normal

2

AUTHORITY

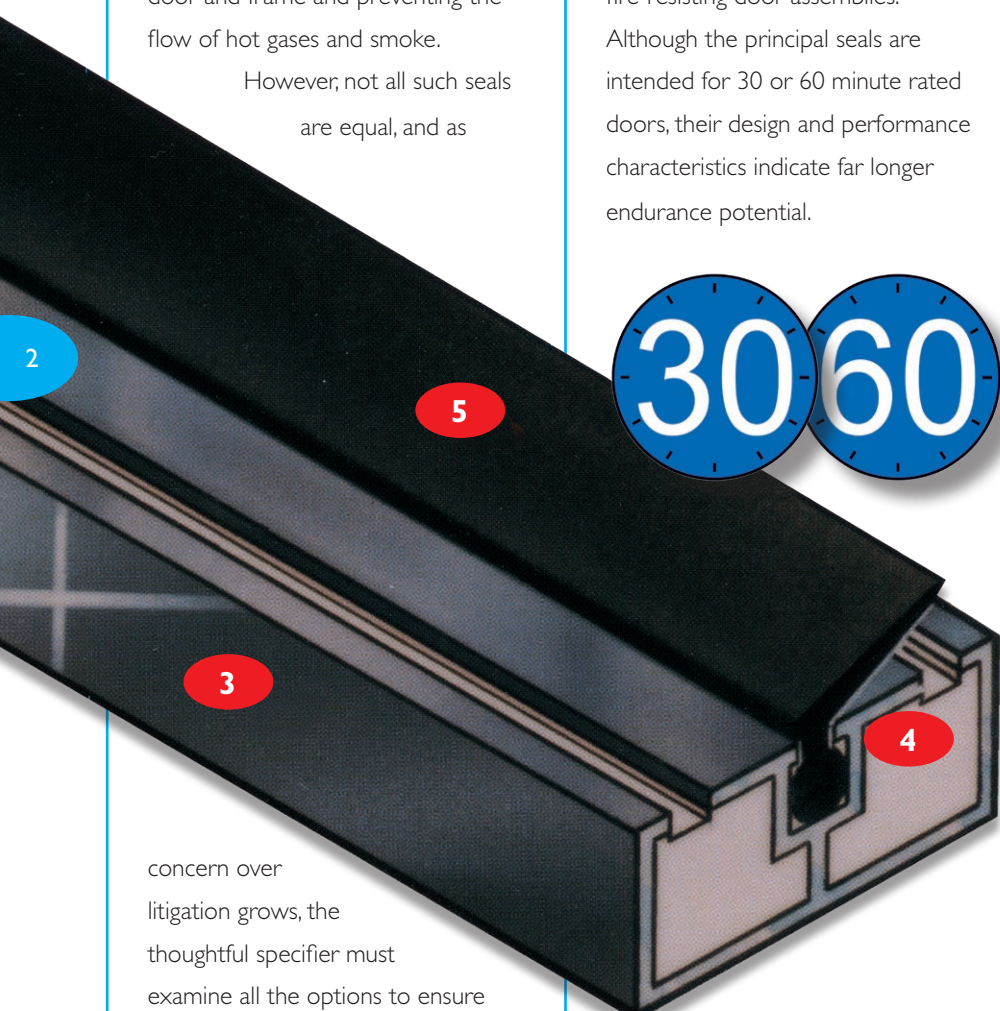
Sealmaster intumescent fire and smoke seals comply with all relevant British Standards, and conform to the requirements of the Building Regulations.

3

4

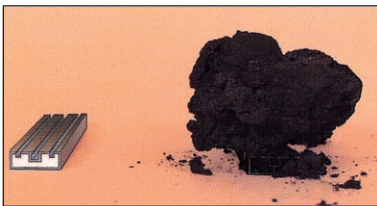
2

5





use and prevents the passage of hot or cold smoke, noxious gases and flames during fire, thereby keeping escape routes open.



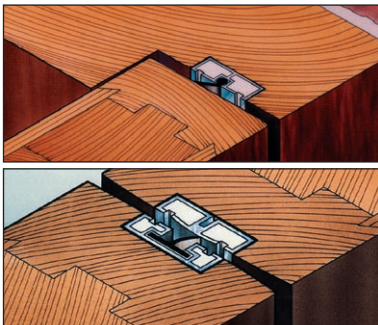
6

THE INTUMESCENT EFFECT

Although the intumescent material remains hard under normal conditions, it intumesces rapidly at approximately 140°C, and achieves a 40-fold volume expansion ratio. All seals contain sufficient intumescent material to ensure that the designed integrity ratings of both 30 and 60 minutes are achieved with comfortable margins.

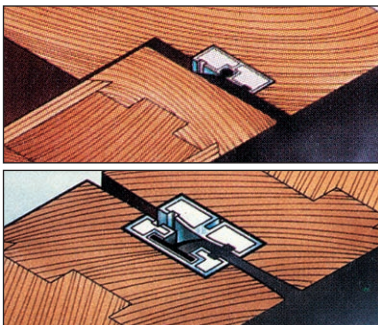
HOW SEALMASTER FIRE AND SMOKE SEALS WORK

AS A DRAUGHT SEAL



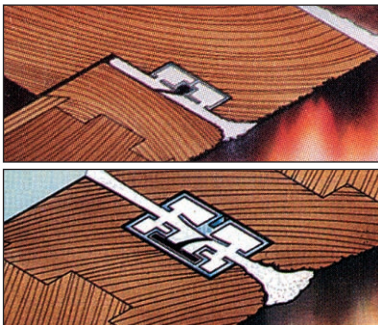
The elastomeric blade forms an efficient draught seal without affecting the normal door operation.

AS A SMOKE SEAL



In the early stages, before heat can activate the intumescent, the elastomeric blade acts as a barrier to smoke penetration.

AS A FIRE SEAL



Heat from the fire activates the intumescent which swells to close the gaps, resisting flame penetration*.

* Sealmaster Intumescent Plaster between the door jamb and the wall is also activated and swells to prevent fire penetration at this point.

INDEX

GENERAL INTRODUCTION

How Sealmaster Intumescent Fire and Smoke Seals Work	3
The Benefits of Sealmaster Systems	4/5
Specification Guide	6
Specification Notes	7

PRODUCT INFORMATION

IF30	8
IF60	9
N30	10
IMN/IMP	12
N60S/IMP	13
Ultima	14/15
Intumescent Seals in 2.1m Coloured Finishes	16
Brush Smoke Seals	17
A Complete Range of Fire Protection Products	18/19
Fireglaze	20
G30/GB15	21
Fireface	22
Ventilators	23
Intumescent Plugs	23
Gap Sealing Intumescent Products	24
Firefoam	25
Intumescent Plaster	25

PROTECT-A-DOOR Ironmongery

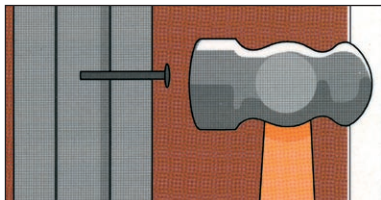
Continuous Geared Aluminium Hinges	26-29
Trapguard / Finger Protector	30/31
Door Edge Protectors	32/33
Door Frame Guards	34/35
Service and Technical Support	36
Ageing Performance	37
Authority and Legislation	38
Ordering Detail	39

SEALMASTER SYSTEMS HAVE NO EQUAL



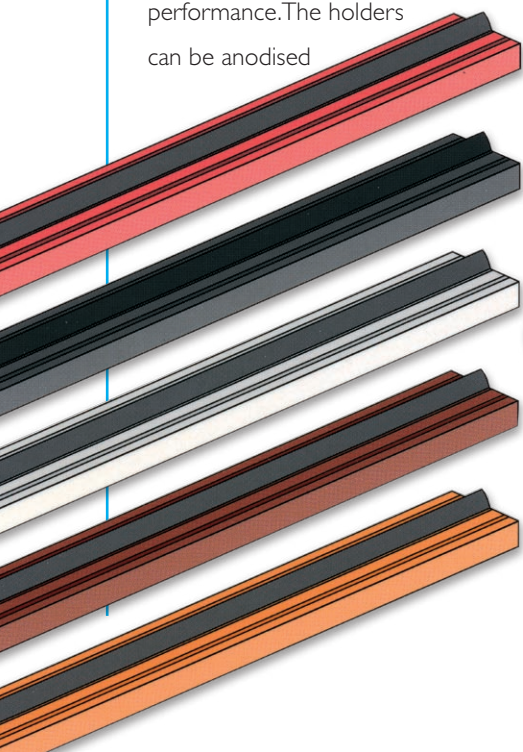
EASY TO INSTALL

The aluminium holder is easily fitted into rebates, and, unlike some glued or friction-held plastic holders, is firmly pinned in place to resist accidental or intentional pull-out.

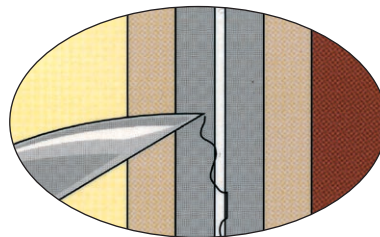


ATTRACTIVE APPEARANCE

The holders can be anodised or powder-coated in a range of colours to match or complement fittings, furniture or other materials in both new-build and refurbishment projects. Unlike some cheaper plastic sections, they do not suffer from cracking or bending which can result in poor appearance and inferior performance. The holders can be anodised



VANDAL & DAMAGE RESISTANCE

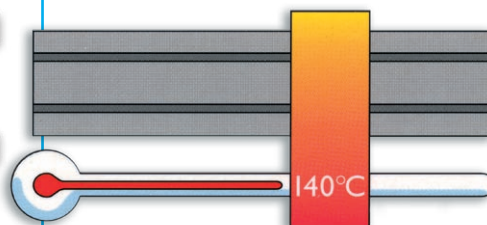


The holders are designed to withstand considerable rough treatment, yet remain in good condition. Special features help protect the intumescent material from damage by vandals.

MAINTENANCE-FREE

To retain their performance, many other seals are coated with epoxy resin which must be repaired if damaged - such repairs are rarely carried out in practice - posing a threat to fire-performance. Sealmaster seals need no such coating, and on-site treatment is therefore avoided.

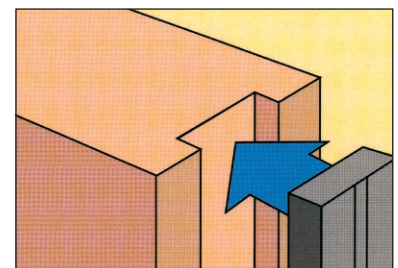
EXCELLENT HEAT CONDUCTIVITY ASSISTS EARLY INTUMESCENCE



The excellent heat conductivity of the aluminium holder assists in the early activation of the intumescent foam at temperatures as low as 140°C.

DOORS CAN BE EASILY UPGRADED

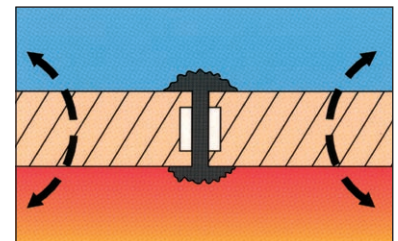
Existing doors can often be upgraded, in consultation with the local Fire Prevention Officer, simply by fitting Sealmaster intumescent fire and smoke seals into grooves cut into the sides and head of the door.



N.B. Sealmaster intumescent fire and smoke seals are designed to cope with future legislation for hot smoke control, an important factor when dealing with the future upgrading of existing doorsets.

LOW-PRESSURE FOAM WON'T WARP OR PUSH OPEN DOORS

Unlike many other seals, the intumescent material in Sealmaster seals does not expand forcefully



enough to open doors. Furthermore, if doors begin to warp, the foam reservoir is more than adequate to re-seal the joint. Alternatively, Sealmaster Ultima high-pressure graphite seals can restrict movement of a door leaf where desirable.

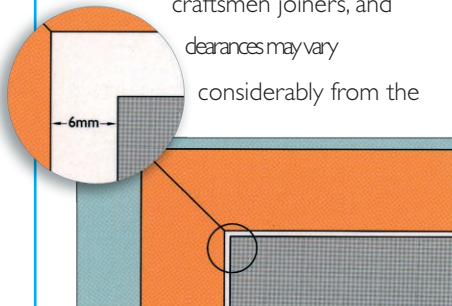


DOOR STILL FUNCTIONS

The soft foam of a Sealmaster seal allows doors to be opened and does not inhibit attempts to clear an escape route or tackle a blaze. Yet the ample reserves of intumescent material will effectively re-seal the joint if the door is closed again - an extra safety measure not provided by some other seals.

CLOSES EVEN BIG GAPS

Doors are not always installed by craftsmen joiners, and clearances may vary considerably from the



stipulated $3\text{mm} \pm 1\text{mm}$. With sufficient intumescent to close gaps of up to 6mm, Sealmaster seals maintain integrity without compromising Building Regulations.

RESISTS BOTH HOT AND COLD SMOKE

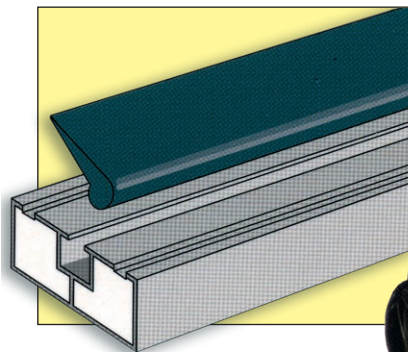
Sealmaster smoke seals are made from vulcanised rubber so they can withstand hot, as well as cold smoke - something thermoplastic blades or pile cannot claim. Likewise, they do not suffer from the premature heat degradation and breakdown which

can lead to smoke passing the seal before the intumescent is activated.

N.B. The advantages of intumescent seals have been recognised in Buildings Regulations approved document B: Fire Spread. This document identifies Smoke Control Doors with the suffix 'S' and requires them to be fitted with a flexible seal. Firedoors without cold smoke control are identified by the prefix 'FD'.

DURABLE SMOKE SEALS ARE EASY TO REPLACE

Sealmaster smoke seals can easily be replaced if the frame gap expands or contracts due to atmospheric effects on the timber. Other seals cannot always be replaced, necessitating an expensive and disruptive door upgrade to restore integrity. Sealmaster seals are very resistant to mechanical wear and degradation, so when properly fitted a life in excess of 20 years can be expected.



PROVEN LONGEVITY IN USE

Sealmaster seals have been removed periodically from Wembley Conference Centre and fire tested



by TRADA and have always achieved a fire-resistance rating well in excess of the required sixty minutes. In the most recent test, Sealmaster intumescent seals taken out of service after 22 years achieved over 70 minutes fire resistance in an FD60S fire door.

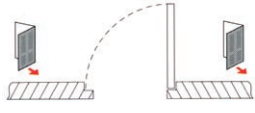

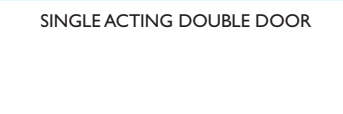


RESISTS ENVIRONMENTAL ATTACK

Sealmaster seals have demonstrated proved resistance to CO_2 and moisture, both in independently run long-term exposure test programmes and in actual installations dating as far back as 1977.



SPECIFICATION GUIDE

Always refer to this specification guide to identify the correct seal or seal combination to use.

FIRE ONLY			FIRE AND SMOKE	
30 MINUTE PROTECTION	60 MINUTE PROTECTION		30 MINUTE PROTECTION	60 MINUTE PROTECTION
FD30	FD60	SINGLE ACTING SINGLE DOOR	FD30S	FD30S
SEAL TYPE: TO JAMBS AND HEAD			SEAL TYPE: TO JAMBS AND HEAD	
IF30 SEE PAGE 8	IF60 SEE PAGE 9		N30 SEE PAGE 10	N60 SEE PAGE 11
SEAL TYPE: TO JAMBS AND HEAD		DOUBLE ACTING SINGLE DOOR	SEAL TYPE: TO JAMBS AND HEAD	
IF30 SEE PAGE 8	IF60 SEE PAGE 9		IMN SEE PAGE 12	N60S SEE PAGE 13
SEAL TYPE: TO STRIKING EDGE OF FRAME			SEAL TYPE: TO STRIKING EDGE OF FRAME	
IMP SEE PAGE 12	IMP SEE PAGE 13		IMP SEE PAGE 12	IMP SEE PAGE 13
SEAL TYPE: TO JAMBS AND HEAD		SINGLE ACTING DOUBLE DOOR	SEAL TYPE: TO JAMBS AND HEAD	
IF30 SEE PAGE 8	IF60 SEE PAGE 9		N30 SEE PAGE 10	N60 SEE PAGE 11
SEAL TYPE: FLUSH MEETING STILES IF ONE DOOR BOLTED TO ONE LEAF ONLY			SEAL TYPE: FLUSH MEETING STILES IF ONE DOOR BOLTED TO ONE LEAF ONLY	
IF30 SEE PAGE 8	IF60 SEE PAGE 9		N30 SEE PAGE 10	N60 SEE PAGE 11
SEAL TYPE: FLUSH MEETING STILES IF BOTH DOORS OPERATIONAL			SEAL TYPE: FLUSH MEETING STILES IF BOTH DOORS OPERATIONAL	
IF30/IMP SEE PAGE 8 / 13	IF60/IMP SEE PAGE 9 / 13		IMN/IMP SEE PAGE 12	N60S/IMP SEE PAGE 13
SEAL TYPE: IF REBATED MEETING STILES TO EACH LEAF			SEAL TYPE: IF REBATED MEETING STILES TO EACH LEAF	
IF30 SEE PAGE 8	IF30 SEE PAGE 8		N30 SEE PAGE 10	IF30 SEE PAGE 10
SEAL TYPE: TO JAMBS AND HEAD		DOUBLE ACTING DOUBLE DOOR	SEAL TYPE: TO JAMBS AND HEAD	
IF30 SEE PAGE 8	IF60 SEE PAGE 9		IMN SEE PAGE 12	N60S SEE PAGE 13
SEAL TYPE: MEETING STILES			SEAL TYPE: MEETING STILES	
IF30/IMP SEE PAGE 8 / 12	IF60/IMP SEE PAGE 9 / 13		IMN/IMP SEE PAGE 12	N60S/IMP SEE PAGE 13

NOTES

On untested doorsets or those of unknown behaviour Sealmaster Ultima seals may be able to offer protection above and beyond that available from a single type of intumescent strip. Please contact Sealmaster technical services for advice where there are any doubts about suitability (see page 2). On all 60 minute doors additional protection is required at all ironmongery

positions. Sealmaster recommend the use of their intumescent plugs to fulfil this role (see page 21). Seals can be fitted into either door or frame. Sealmaster recommend that, wherever possible, they should be fitted into the frame to enable doors to be hung with an accurate and constant gap between the door and the frame.

FITTING SEALMASTER INTUMESCENT SEALS INTO GROOVES

It is most important that the correct size of groove is cut, as remedial work can be costly in time and money. The seal should be a light press fit in the timber, finishing flush with the surface before being finally secured with pins (supplied) at 200mm centres.

SEAL	EXTRUSION WIDTH	EXTRUSION DEPTH
IF30	9mm	6mm
IF60	21mm	7.5mm
N30	9.5mm	7.5mm
N60	21mm	7.5mm
IMN	20.5mm	6mm
IMP	20.5mm	6mm
N60S	21mm	7.5mm

The recommended door-to-door and door-to-frame gap is 3mm.

SPECIFICATION NOTES

The Specification Guide opposite may be used to specify intumescent seal requirements on single and double STANDARD doors of 30 minute rating, in accordance with BS476: Part 22. For non-standard doors and/or doors of unknown performance use Ultima fire seals.

DEFINITIONS:

STANDARD DOOR OF KNOWN PERFORMANCE

A door conforming to the testing standard of BS476: part 22, of known and certified fire rating:

Fire resistance rating to BS 476: Part 22	Intumescent necessary in door or frame (Red Core)	Intumescent not necessary in door or frame (Green Core)
FD 20 (white background)		
FD 30 (yellow background)		
FD 60 (blue background)		
FD 30 with specified intumescent in door or frame and otherwise FD20	Blue Core	White Background
* NB: Only half hour door constructions that satisfy both FD 20 without intumescent and FD 30 with intumescent performance criteria are marked with this plug.		

NON-STANDARD DOOR OR DOOR OF UNKNOWN PERFORMANCE:

Such doors are most likely to be encountered when refurbishing or upgrading existing buildings.

They might include the following:

- **Old doors, not containing a colour-coded plug (BS476: part 22).**
- **Doors of unknown material or properties.**
- **Oversized doors.**
- **Distorted doors.**
- **Double doors with unequal rebates in the meeting stiles.**
- **Doors with distorted or oversized gaps (>6mm) between stiles and/or frame.**

If any of the above criteria apply please refer to our technical advisory service for advice on the most appropriate product.

MEETING STILES AND RAILS

The type and configuration of the meeting stile, on both single and double acting doors, can affect the correct choice of intumescent seal in order to meet the appropriate fire resistance.

Ensure that the configuration of each door is known and specified before selecting the appropriate combination of Sealmaster seals from the Product Selector overleaf.

The following options are referred to in this brochure:

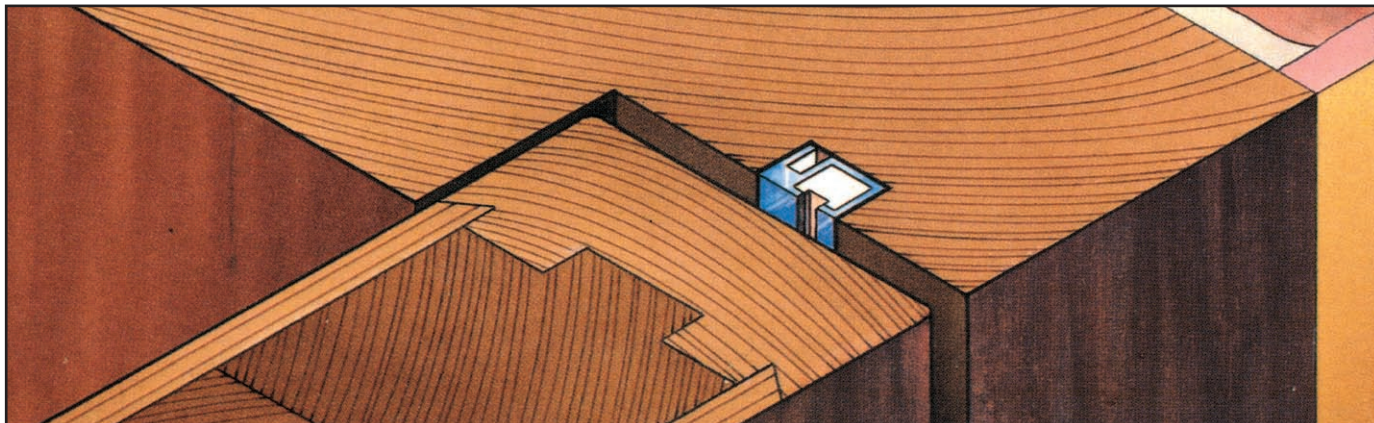
- **Plain meeting stiles.**
- **Rebated meeting stiles (unequal rebate).**
- **Rebated meeting stiles (equal rebate).**

SPECIFIER CHECKLIST

Intumescent fire seals from different manufacturers vary significantly in their performance, quality of manufacture and component materials. Use the checklist below to confirm that an intumescent seal meets with your specific requirements, or conforms to the quality of specification and performance that you have intended to achieve.

REQUIREMENT	ACTION	RELEVANCE
Certification:	Obtain manufacturer verification that the seal is independently tested to BS476: Part 22.	BS476: Part 23 is a supplementary test to Part 22, and is far less comprehensive - specifically excluding many common door constructions. However, some seals in the UK are supplied as 'tested to BS476: Part 23' without having been tested to Part 22. This is a contravention. Certification to BS476: Part 23 is not adequate in a very wide range of applications and should be considered with extreme caution.
Intumescent Capacity	Check the intumescent capability of the intumescent used, and obtain written manufacturer verification.	When tested to BS476: Part 22, the door is fitted with a 3mm gap between door and frame. In practice, it is sensible to assume that even using the most skilled joiner, this gap is likely to show some variation. Sealmaster intumescents expand 40-fold, maintaining the fire integrity of gaps up to 6mm - greater than any other intumescent seals available - so maintaining the integrity where doors have 'dropped' or been poorly fitted leaving gaps up to 6mm.
Type of Carrier	Verify and compare the carrier material and affixing method.	Is the carrier aluminium or plastic - and is it pinned into place or just glued/friction fitted? Sealmaster seals are housed in a durable, vandal-resistant aluminium section and are pinned into position. The metal carrier also encourages early uniform intumescence (180°C).
High or low pressure seals	If not otherwise stated, request manufacturer confirmation that the seal uses a low pressure intumescent.	Some seals generate pressure as the intumescent material expands. In some cases this may force 'warping' of the door, compromising the integrity. High pressure seals will also 'jam' the door against intentional entry (Fire Services). Most Sealmaster seals are made from totally inert, low pressure material.
Hot or cold smoke	Ascertain whether smoke seals are tested in hot smoke and ensure written manufacturer verification.	The British Standard test for smoke seals uses cold smoke. It is often the case, in real fires, that the smoke temperature is intense prior to the actual outbreak of flames (so activating the intumescent). Many approved smoke seals would melt or otherwise fail in a hot smoke situation, allowing the passage of smoke/ noxious gases. All Sealmaster smoke seals are designed to withstand hot smoke upto 250°C.
Replaceable smoke blades	Obtain confirmation that the blade component in the fire & smoke seal can be replaced.	Smoke seals in daily use act as draught seals, and are subject to considerable wear and tear and, in addition, door timbers may naturally expand/contract, affecting the normal 3mm gap allowed between frame and door. The blades in many smoke seals are not replaceable, meaning removal of the door and replacement of the entire seal - a disruptive and expensive operation. The elastomeric blades in all Sealmaster seals may be easily and inexpensively replaced if necessary.

SEAL TYPE
IF30



INTRODUCTION

IF30 is the basic intumescent fire seal in the Sealmaster range. It is used where primary protection is needed, to single and double leaves and single and double acting doorsets, and is specified for use on FD30 fire doors.

DESCRIPTION

The seal consists of an extruded aluminium alloy profile with a single reservoir of Sealmaster Intumescent material.

APPLICATION

In new doorsets, the seal is rebated into the head and jambs of the door frame, and is aligned with the centre of the door edge.

Where IF30 is fitted to an existing door assembly, the top rail and stiles of the door are easily rebated. The seal is interrupted at the hinges and lock/latch plate positions, and

protection at these points is normally not essential for FD30 doors, see BS 8214.

FIRE PERFORMANCE

As the fire develops and reaches the IF30 seal, the intumescent material foams, swells and fills the gaps between the door and the frame. Since the foam remains soft during the period of intumescent action, it does not prevent the door from being opened by firefighters and the copious reserves ensure that the gap will be re-sealed should the door distort for any reason.

AUTHORITY

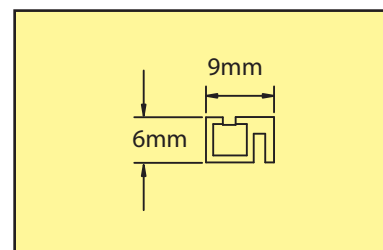
IF30 Intumescent Fire Seal has been tested by TRADA. A 30 minute fire-resistance rating was achieved, when used in conjunction with a 30 minute fire door.

Copies of test reports are available on request.

IF30 fire seals have been tested and approved by Certifire to conform to BS476 part 22. This is the most demanding 3rd party certification scheme in the industry.

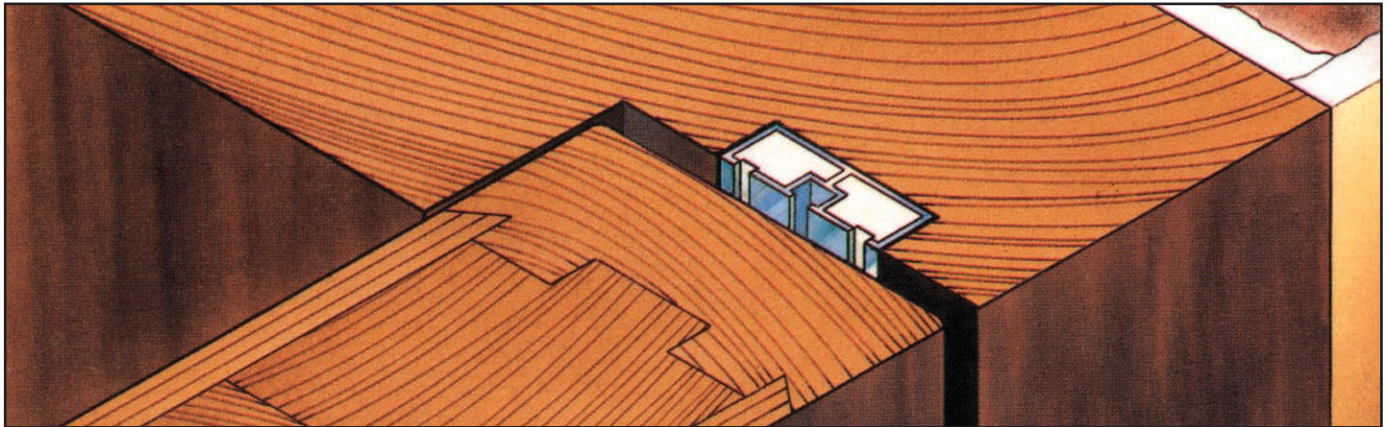


APPROVED PRODUCT
No. CF142



ALWAYS REFER TO
THE PRODUCT SELECTOR
MATRIX ON PAGE 6 BEFORE
SPECIFYING THIS PRODUCT

SEAL TYPE
IF60



INTRODUCTION

IF60 is a 60 minute fire seal, which provides primary protection for single and double leaf, single and double acting fire doors. It is also used in conjunction with IMP seals at the meeting stiles on double doors (see page 12).

DESCRIPTION

The seal is extruded from aluminium alloy and contains two reservoirs, each having substantial reserves of Sealmaster intumescent material.

APPLICATION

In new doorsets, the seal is rebated into the head and jambs of the door frame, and is aligned with the centre of the door edge. The seal is interrupted at the hinges and lock/latch plate positions, and protection at these points is provided by Sealmaster intumescent plugs. (see page 23).

FIRE PERFORMANCE

When heat from the fire reaches the IF60 seal, the intumescent material foams, swells and fills the gaps around the door and door frame. As the foam remains soft during the period of intumescent action, it has the ability to re-seal the gap, should the door warp or be moved for any reason.

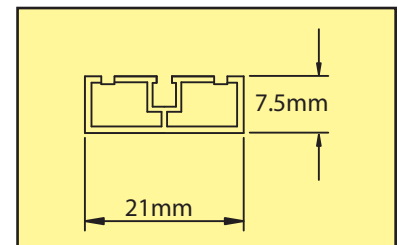
AUTHORITY

IF60 was tested by TRADA. It was fitted to a 60 minute door assembly and achieved an integrity rating of 71 minutes.

IF30 fire seals have been tested and approved by Certifire to conform to BS476 part 22. This is the most demanding 3rd party certification scheme in the industry.



APPROVED PRODUCT
No. CF142



ALWAYS REFER TO
THE PRODUCT SELECTOR
MATRIX ON PAGE 6 BEFORE
SPECIFYING THIS PRODUCT

SEAL TYPE
N30



INTRODUCTION

N30 is a combined fire and smoke seal. It is recommended for single action FD30S fire and smoke-resistant doorsets.

DESCRIPTION

The extruded aluminium alloy profile contains substantial reserves of Sealmaster intumescent material in a single reservoir. An angled, self-extinguishing elastomeric blade gives maximum efficiency with minimum drag.

APPLICATION

In new doorsets, the seal is rebated into the head and jambs of the door frame, and is aligned with the centre of the door edge. Where N30 has to be fitted to an existing door assembly, the top rail and stiles of the door are easily rebated.

NORMAL USE

In normal use, the elastomeric blade seals the gaps between the door and the frame, and acts as an efficient draught seal. The seal is broken at the hinges and lock/latch striker plate, and protection at these points is not essential for FD30S doors, see BS 8214.

FIRE PERFORMANCE

As the fire develops and reaches the N30 seal, the intumescent material foams, swells and fills the gap between the door and the frame. Since the foam remains soft during the period of intumescent action, it has the ability to re-seal the gap, should the door warp or be moved for any reason.

AUTHORITY

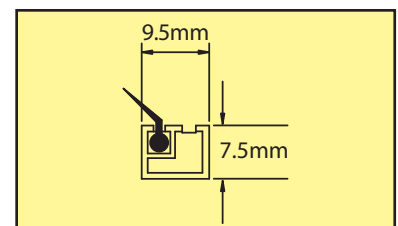
N30, fitted to a 30 minute fire door, was tested by TRADA. It retained stability, integrity and insulation well in excess of the 30 minute rating. Copies of test reports are available on request.

N30 fire and smoke seals have been tested and approved by Certifire to conform to BS476 part 22.

This is the most demanding 3rd party certification scheme in the industry.



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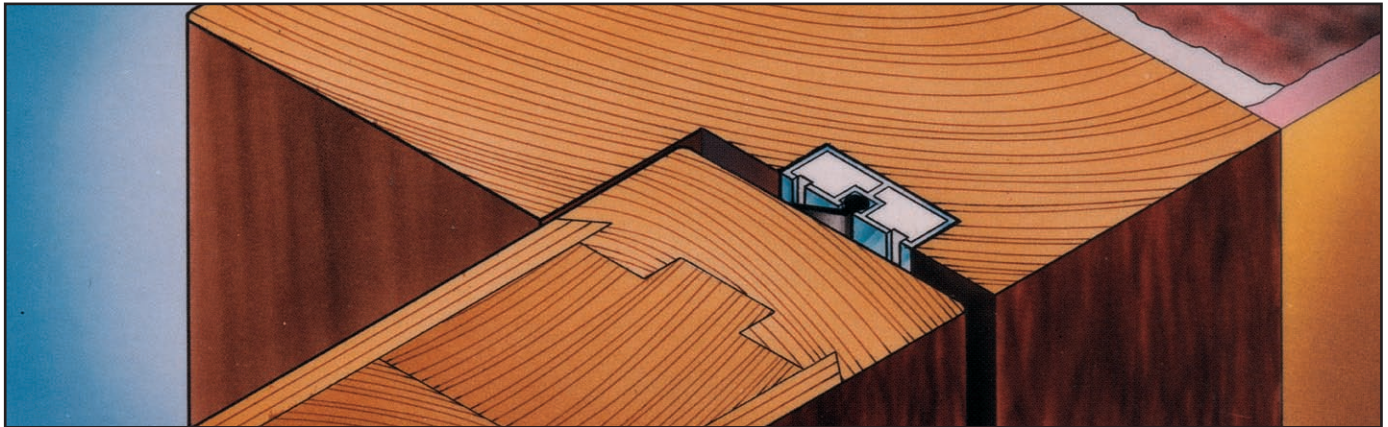
SEAL TYPE
N60



FIRE & SMOKE SEAL



60 MINUTES



INTRODUCTION

N60 is a combined fire and smoke seal for 60 minute, single-action, fire-resisting doorsets.

DESCRIPTION

The seal consists of an aluminium alloy extruded profile, having two reservoirs of Sealmaster intumescent material, and a self-extinguishing, flame-retardant, elastomeric blade.

APPLICATION

In new doorsets, the seal is rebated into the head and jambs of the door frame, and is aligned with the centre of the door edge. Where N60 has to be fitted to an existing door assembly, the top rail and stiles of the door are easily rebated.

NORMAL USE

In normal use, the elastomeric blade seals the gaps between the door and frame, and acts as an efficient draught seal. The seal is interrupted at the hinges and lock/latch striker plate, and protection at these points is obtained with Sealmaster intumescent plugs. (see page 23).

FIRE PERFORMANCE

In the early stages of a fire, when smoke is prevalent, the elastomeric blade provides a barrier to the passage of smoke and hot gases. As the fire develops and reaches the N60 seal, the intumescent material foams, swells and fills the gaps between the door and frame. Since the foam remains soft during the period of intumescent action, it has the ability to re-seal the gap, should the door warp or be moved.

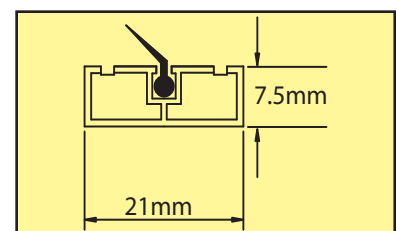
AUTHORITY

N60, with flame-retardant elastomeric draught/smoke blade insert, was tested by TRADA, in conjunction with 60 minute assembly. Stability and integrity were retained for 71 minutes. Copies of test reports are available on request.

N60 Fire and smoke seals have been tested and approved by Certifire to conform to BS476 part 22. This is the most demanding 3rd party certification scheme in the industry.



APPROVED PRODUCT
No. CF142



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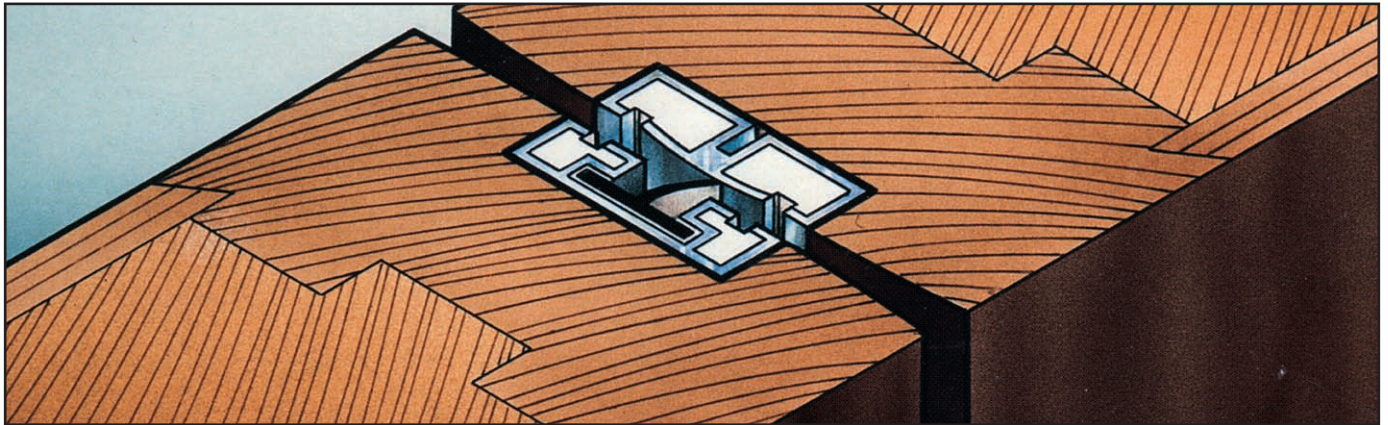
SEAL TYPE
IMN/IMP



FIRE & SMOKE SEALS



30 MINUTES



INTRODUCTION

IMN/IMP is a two-part combined intumescent fire and smoke seal, specifically designed for the meeting stiles of FD30S fire-resisting, double door assemblies.

DESCRIPTION

At the meeting stiles the seal consists of two opposing extruded aluminium alloy profiles - IMN and IMP - each with twin reservoirs which contain intumescent material. IMN also holds a self-extinguishing elastomeric blade, which rests against IMP when the doors are closed. At the head and hanging stiles IMN is used on its own with the smoke seal making contact with the door or frame.

APPLICATION

In new doorsets, both profiles are rebated into the centre of opposing door edges at meeting stiles. door edges at meeting stiles. Where IMN/IMP seal is required in existing doorsets, the stiles of the doors are

easily rebated. The seal is broken at the lock/latch striker plate and pivot positions, and protection at these points is normally not essential for FD30S doors, see BS 8214.

NORMAL USE

In normal use, the elastomeric blade seals the gap between the doors, and acts as an efficient draught seal.

FIRE PERFORMANCE

As the fire develops, the elastomeric blade provides a barrier to the passage of cold smoke and hot gases. Once the fire reaches the IMN/IMP seal, the intumescent material foams, swells and fills the gap between the doors. As this foam remains soft during the period of intumescence, it exerts minimal pressure, allowing the doors to remain in their original positions.

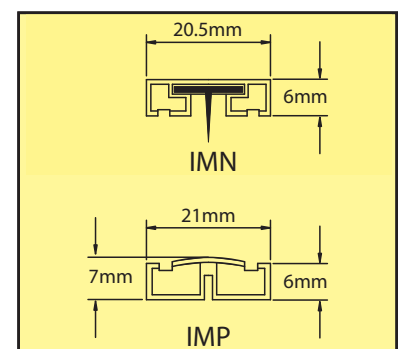
AUTHORITY

An IMN/IMP combination seal with elastomeric blade insert, has been tested on a double leaf, timber door assembly, by TRADA. A fire resistance in excess of 60 minutes was achieved. Copies of test reports are available on request.

IMN/IMP fire and smoke seals have been tested and approved by Certifire to conform to BS476 part 22. This is the most demanding 3rd party certification scheme in the industry.



APPROVED PRODUCT
No. CF142



**ALWAYS REFER TO
THE PRODUCT SELECTOR
MATRIX ON PAGE 6 BEFORE
SPECIFYING THIS PRODUCT**

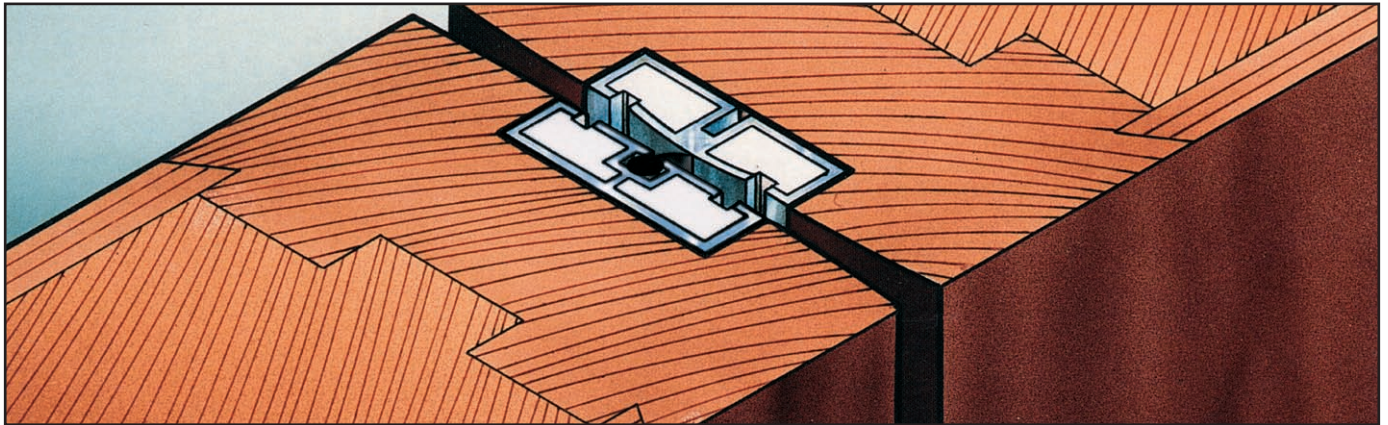
SEAL TYPE
N60S/IMP



FIRE & SMOKE SEALS



60 MINUTES



INTRODUCTION

N60S/IMP is a two part combined fire and smoke seal, which is specifically designed for FD60S fire-resisting double doors.

DESCRIPTION

The seal comprises two opposing aluminium alloy profiles - N60S and IMP - each having twin reservoirs which contain Sealmaster intumescent material. At the head and hanging stiles N60S is used on its own. The flame-retardant elastomeric blade in N60S provides the smoke-control function required of all doors designated by the suffix 'S' in Building Regulations Approved Document B.

APPLICATION

In new doorsets, both profiles are rebated into the centre of opposing door edges at meeting stiles. Where N60S/IMP seal is required in existing doorsets, the stiles of the doors are easily rebated. The seal is broken at

the lock/latch striker plate and pivot positions, and protection at these points is provided by Sealmaster Intumescent Plugs for 60 minute doors (see page 23).

NORMAL USE

In normal use, the elastomeric blade seals the gap between the doors, and acts as an effective draught seal.

FIRE PERFORMANCE

As the fire develops, the elastomeric blade acts as a barrier to the passage of cold smoke and hot gases. Once the fire reaches the N60S/IMP seal, the intumescent material foams, swells and fills the gap between the doors. As this foam remains soft during the period of intumescence, it exerts minimal pressure, allowing the doors to remain in their original positions.

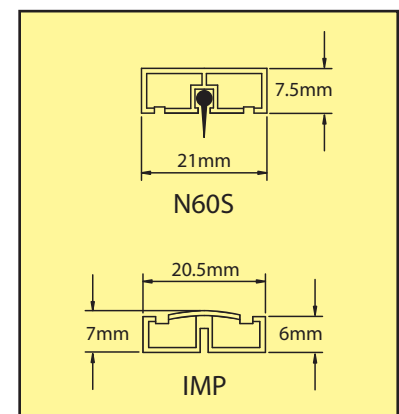
AUTHORITY

The N60S seal, has been assessed by TRADA, as being capable of providing 60 minutes integrity when used in conjunction with the IMP seal.

N60/IMP fire and smoke seals have been tested and approved by Certifire to conform to BS476 part 22. This is the most demanding 3rd party certification scheme in the industry.




APPROVED PRODUCT
No. CF142




**ALWAYS REFER TO
THE PRODUCT SELECTOR
MATRIX ON PAGE 6 BEFORE
SPECIFYING THIS PRODUCT**

SEAL TYPE


ULTIMA 30(S) ULTIMA 60(S)



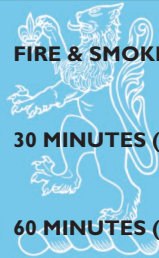
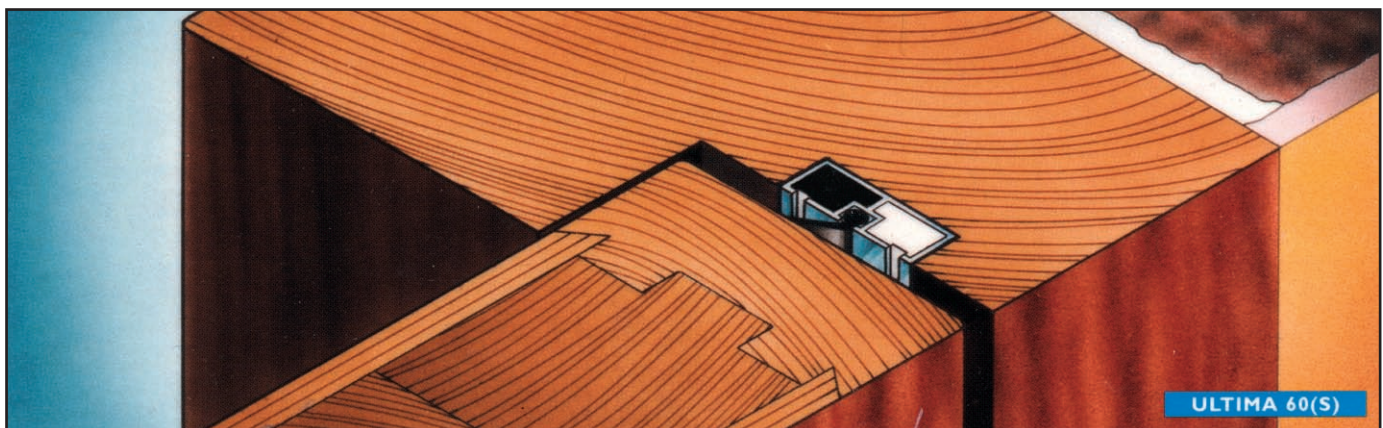
FIRE & SMOKE SEALS



30 MINUTES (30(S))



60 MINUTES (60(S))

INTRODUCTION

ULTIMA is a seal which combines gap-filling properties with a high expansion pressure seal, to improve the stability of a door assembly during a fire. Using two distinctly different types of intumescent material and an elastomeric smoke blade, Ultima's triple action provides fire and smoke protection for 30 and 60 minute door assemblies.

DESCRIPTION

The seal consists of an easily-fitted aluminium holder, with two reservoirs and a self-extinguishing, elastomeric smoke blade.

The first reservoir contains an expandable graphite compound, which combines high pressure with a multi-directional foam, designed to restrict door movement.

The second reservoir contains a mono-ammonium phosphate-based formula, which produces continual

foaming, up to 40 times its original volume. This is especially valuable when sealing large and moving gaps. The elastomeric smoke blade acts as a draught seal in normal use and resists the passage of smoke, thus meeting the needs of BS 5588: Parts 1 and 2.

APPLICATION

Ultima is the perfect solution for refurbishment projects, where the behaviour of the door is an unknown quantity. It is recommended however, that advice should be sought from the Sealmaster Technical Services Department, before installation into existing doorsets. There are two versions of the Ultima sections. Those with angled blade smoke seals, designated for use in single action doors, are designated as Ultima 30 and Ultima 60.

Those straight blade inserts, for pairs of doors and double action doors, are designated as Ultima 30(S) and Ultima 60(S).

INSTALLATION

Ultima fire and smoke seals are normally rebated into the head and jambs of the door frame, and are aligned with the centre of the door edge. For existing doorsets, grooves are required in the edge of the door or frame as follows:

- *Ultima 30(S)*
5mm deep x 21mm wide.
- *Ultima 60(S)*
7.5mm deep x 21mm wide.

The aluminium section is positioned within a groove in the door or frame. After the elastomeric blade is inserted, the door is opened and closed to check the ease of action, and the profile position adjusted

**ALWAYS REFER TO
THE PRODUCT SELECTOR
MATRIX ON PAGE 6 BEFORE
SPECIFYING THIS PRODUCT**

SEAL TYPE
ULTIMA 30(S)
ULTIMA 60(S)



FIRE & SMOKE SEALS



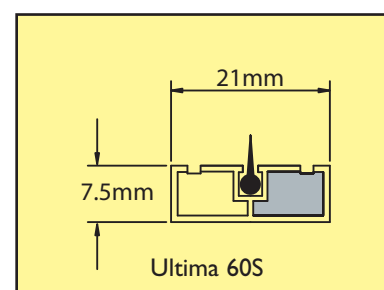
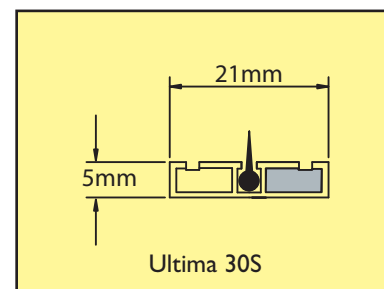
30 MINUTES (30(S))



60 MINUTES (60(S))

AUTHORITY

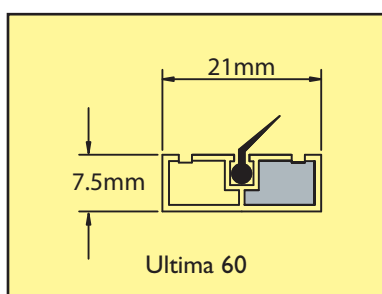
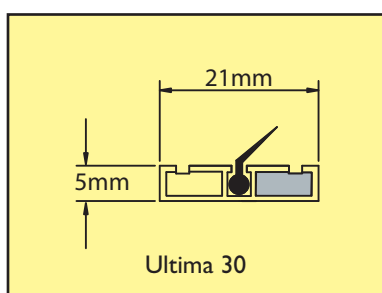
The Ultima intumescent fire and smoke seal, has been tested by TRADA. The criteria covering evidence of performance across variable fire-resisting doorsets are wide ranging. The following examples describe independent fire tests for both 30 and 60 minutes fire door assemblies:



as necessary. Once adjustments have been made, the profile is pinned fully into position. Where the seal is interrupted at the hinges/lock striker plates, protection is provided by fitting Sealmaster Intumescent Plugs as shown on page 21.

LONGEVITY

Ultima intumescent compounds are inherently resistant to atmospheric carbon dioxide and moisture, so that additional protective coatings are unnecessary. These claims are substantiated by laboratory controlled tests and, in the case of the mono-ammonium phosphate formula, by actual case histories.



FOR 30 MINUTES (FD30S)

Door size:	2040mm x 926mm.
Door:	Shadbolt Shadmaster fitted with 500mm overpanel.
Frame:	Soft wood 90mm x 37mm with 12mm planted stops.
Door types:	Single-action unlatched opening towards furnace. Result (when tested to BS 476 Part 22 1987)
Integrity:	50 minutes.
Insulation:	50 minutes.

FOR 60 MINUTES (FD60S)

Door size:	2040mm x 826mm.
Door:	Noberne Series I
Frame:	92mm x 57mm UTILE hardwood frame with 19mm deep integral doorstop.
Door types:	Single-action unlatched opening towards furnace. Result (when tested to BS 476 Part 8 1972)
Integrity:	76 minutes.
Insulation:	76 minutes.

Date of test: 20 March 1987.

Other examples of performance are available on request from Sealmaster.

PRODUCT NAME
**INTUMESCENT SEALS
 IN 2.1M COLOURED
 FINISHES**



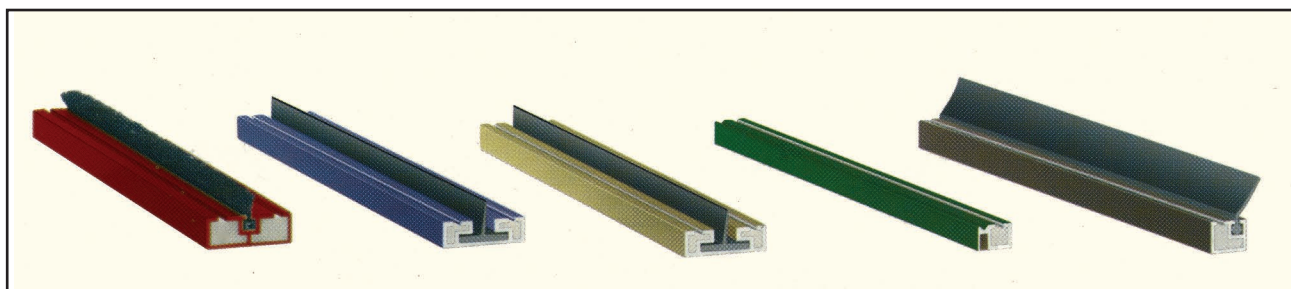
FIRE & SMOKE SEALS



30 MINUTES



60 MINUTES



INTRODUCTION

The original length of Sealmaster's intumescent seals, 1050m, was adopted after consultation with door manufacturers and calculations to determine the best length of seal in order to minimise wastage on site. Over the course of time, practice and techniques in the industry have changed and it has become evident that there now exists a need for intumescent seals in a length able to cover the full height of a door leaf in one piece. We are pleased, therefore to include 2.1m lengths of the fire and combined fire and smoke seals within our range.

SPECIFICATION

The selection of the intumescent seal is made in accordance with the product selector on Page 6 of our brochure entitled "Intumescent Fire & Smoke Protection" but with the addition of the designation 21 to the code (eg. N30-21) to detail the 2.1m length.

COLOURS

These full length and our standard 1050mm seals are supplied with a brushed, mill finish to the aluminium, as standard. Seals are also available (to order) in highly polished aluminium finish, a range of satin and polished anodised colours as well as polyester powder coated in any RAL colour. Please contact our sales office for prices and delivery times.

APPLICATION

The seal is rebated flush with the timber, on the centre line of the doorset, in either the leaf or frame. There is no preference to the position, but ironmongery size and position, plus practicality of installation should be considered.

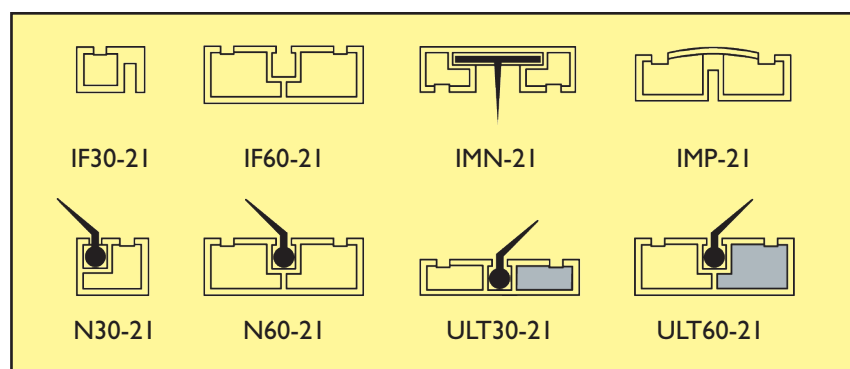
AUTHORITY

Sealmaster's intumescent seals have been independently tested at Chiltern International Fire, Warrington Fire Research and the Loss Prevention Council. Additionally, they have been assessed and approved by Certifire for use in all qualifying door constructions (CFI 42).

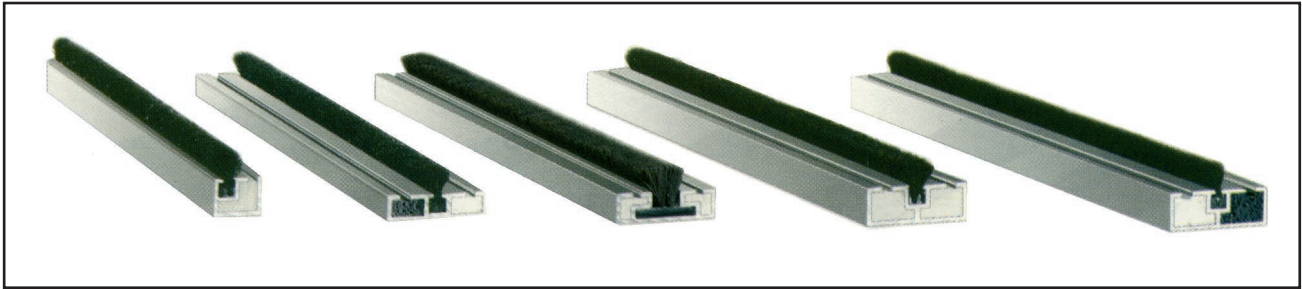


APPROVED PRODUCT
 No. CFI42

**PLEASE REFER TO PAGE 6 OF
 OUR BROCHURE BEFORE
 SPECIFYING THESE PRODUCTS.**



PRODUCT NAME
BRUSH SMOKE SEALS



INTRODUCTION

Since our introduction of the first fire and smoke seals in the 1970s, we have used elastomeric smoke seals because they are self-extinguishing and deliver higher performance in smoke and air leakage tests. Correctly fitted, elastomeric blades also offer low pressure operation and a long working life. Partly because brush seals are more tolerant of gap sizes, there has been a demand for alternatives using brush or pile. In order to meet this demand with the minimum compromise on performance, Sealmaster has recently completed a substantial programme of research. The result is a range of specially designed brush seals with performance levels approaching those of Sealmaster's traditional elastomeric seals.

DESCRIPTION

Two types of brush seal are available, dependent upon the intumescent strip being used; for the N30/60 and Ultima profiles, a black density controlled woven pile, set in a custom base provides a striking contrast to the brushed aluminium carrier. In the IMN intumescent strip, a similar brush but with an integral

PVC fin for enhanced performance at meeting stiles, is supplied. The brush seals are fully interchangeable with elastomeric inserts and may be used as replacements, if required.

SPECIFICATION

Intumescent seals should be selected by following the guide on Page 6 of our brochure entitled "Intumescent Fire & Smoke Protection". To specify brush smoke seals, simply add 'br' to the end of the standard product code (eg. N30br).

APPLICATION

The seals are designed to operate in all cases, in gaps of 3mm. The smoke seal can be inserted into the carrier before or after it is fixed into the groove, the carrier ends are pinched to lock the seal in position and finally, the white stitch running along the length of the pile removed to allow the pile to spread. (This process may be enhanced by brushing with the fingers).

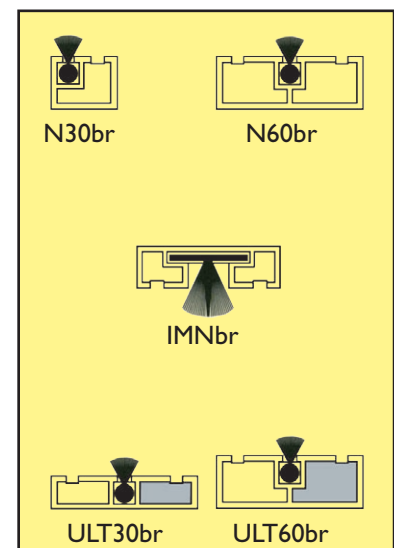
PERFORMANCE

The seal will provide excellent sealing performance in terms of draught in

daily use and in the event of a blaze, sealing smoke during the early stages of a fire. As the fire progresses, the intumescent material contained in the aluminium holder will activate and take over from the brush seal to provide fire sealing for periods of 30 or 60 minutes, according to the seal chosen.

AUTHORITY

These brush smoke seal elements have been tested to BS476 Part 31.1 for use in single and double doors and all meet the requirements of BS5588. Test evidence is available on request.



A COMPLETE RANGE OF FIRE PROTECTION PRODUCTS



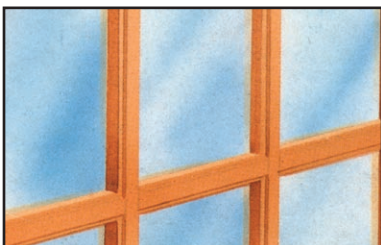
INTRODUCTION

In addition to intumescent seals for fire and fire-and-smoke doors, Sealmaster manufacture a comprehensive range of intumescent products, offering all of the additional protection necessary to secure the appropriate 30 or 60 minute rating in a fire compartment. It is important to recognise that door protection alone is quite insufficient, and that any joint or penetration in a fire wall will require an appropriate intumescent seal. Sealmaster's range includes glazing compounds, plugs for hinge protection, intumescent compounds joint fillers and plasters, intumescent veneers for upgrading doors as well as a range of fire door ventilators.



1

GLAZING COMPOUNDS & SYSTEMS



Timber-framed screens using even the largest sizes of fire-resistant glass can now be protected for up to 60 minutes using Sealmaster's intumescent glazing compounds.

SEE PAGE 20

2

UPGRADING PANELLED DOORS

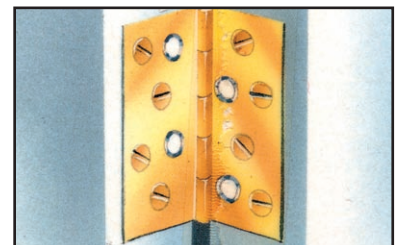


Fireface is an intumescent veneer that is easily-applied to the existing surface of period doors to give 30 minute fire resistance without affecting appearance.

SEE PAGE 22

3

INTUMESCENT PLUGS



Intumescent plugs give protection against the property of metal hinges and latch striker plates to transfer heat.

SEE PAGE 23



4

VENTILATORS

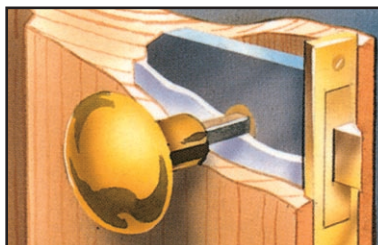


A range of ventilators for 30 or 60 minute fire doors or walls permitting free air flow, yet giving protection against fire, or fire and smoke.

SEE PAGE 23

5

INTUMESCENT COMPOUNDS

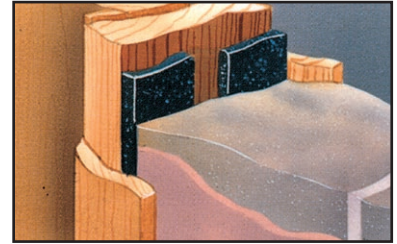


Intumescent compounds offer flexible or hard-setting seals for gaps between walls and door frames, and around latches in morticed areas.

SEE PAGE 24

6

JOINT FILLERS



Firefoam is an intumescent, dry foam joint filler; easily installed and ideal for sealing large gaps between wall and door frame.

SEE PAGE 25

7

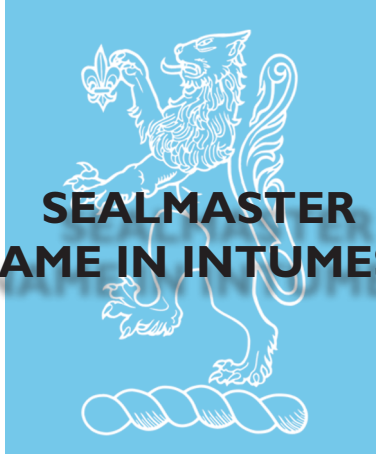
JOINT FILLERS



Small gaps or cracks in existing plaster; or over-large latch recesses in doors, may be filled using intumescent plaster.

SEE PAGE 25

SEALMASTER THE FIRST NAME IN INTUMESCENT SEALS



PRODUCT NAME

FIREGLAZE



**FIRE & SMOKE
GLAZING SEAL**



30 OR 60 MINUTES

INTRODUCTION

Glazing, when used in timber fire doors or screens, is a potential cause of failure in the integrity of the fire compartment when not properly sealed. It is insufficient to simply use fire-resistant glass, protection must also be provided between the door core or screen frame, the timber beading and the glazing elements. Without this, early failure is a certainty.

Fireglaze is a unique system which offers proven, independently tested protection for timber-framed glazing screens, using even the very largest sizes of fire-resistant glass available. It comprises an intumescent compound positioned between the glass and beading to give 30 minutes protection, which can be further extended to 60 minutes by using GL60 Fireglaze Liner to provide additional protection between the bead and the frame.

When used with Pyran glass, Fireglaze Intumescent Compound eliminates the need for mullions, so providing 30 minute protection with a simple butt joint.

DESCRIPTION

Fireglaze Compound is a high-performance, water-based, flexible sealant for bedding timber beading onto fire-resistant glass. It is supplied in cartridges for use with a sealant gun in five standard colours - Brown, Light Oak, Grey, Black and White. Fireglaze GL60 Liner is a low expansion, erosion-resistant strip which is used to line the apertures of glazed timber doors and screens prior to the fitting of beads and glass.

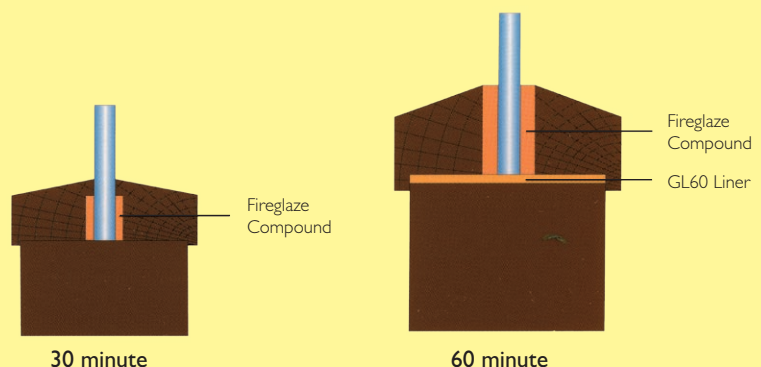
APPLICATION

30 MINUTES - Doors with rectangular or more unusual shapes of glass pane can be fully protected with Fireglaze Compound using hardwood or softwood beads. The bead may be rebated so that the Fireglaze compound is completely hidden. Screens may be protected with any combination of mullions and/or transoms up to the largest sizes of fire-resistant glass available.

Fixings may be with screws in all cases or pins in certain applications. 60 MINUTES - Fireglaze compound together with Fireglaze liner ensures that all FD60 fire doors can be glazed up to 600x650mm without compromising their fire rating. Circular panes and other non-rectangular shapes can be accommodated. Fixings may be with screws in all cases or pins in some applications.

Hardwood screens using a shared mullion design are now possible using timber with a density of $>650\text{kg/m}^3$. Bead depth is important and should be optimised for the type of fire-resistant glass used, i.e. Georgian wired (Pyroshield), borosilicate (Pyran) and ceramic (Firelite). Some glasses are more sensitive to edge cover than others, so advice should be sought from our Technical dept. or the glass manufacturer to ensure the correct edge cover.

FIREGLAZE - TIMBER DOOR APPLICATIONS





GLASS-TO GLASS BUTT JOINTS

A 30-minute rating can be achieved using Fireglaze Compound between adjacent panels of Pyran glass to form a butt joint. This means that large modular glazed constructions are now possible within fire compartments, giving much wider design freedom.

FIRE PERFORMANCE

The function of the intumescent seals is to form an impermeable barrier to the passage of hot gases, and securely hold the glass in position as the beads burn away. The Fireglaze system is the most advanced available, giving unprecedented margins of safety and a standard of performance and protection superior to all other current products. The largest piece of Pyroshield ever tested achieved 45 minutes in a 30 minute system, and two panes of Pyran 2.1m x 1.2m with a mullion achieved 80 minutes in a 60 minute system. A Pyroshield screen consisting of two panes 2.9m x 1.4m with a mullion achieved 64 minutes.

AUTHORITY

Extensive in-house indicative testing and full scale independent testing has been carried out. Test results are available for all of the constructions detailed.

PRODUCT NAME

G30

GLAZING STRIPS

INTRODUCTION

Where an intumescent strip is preferred to a gun-applied sealant for protecting the beading-glass interface Sealmaster G30 Glazing Strip can be used as an alternative to Fireglaze Compound to achieve a 30-minute rating.

DESCRIPTION

G30 is a low pressure phosphate-based material with excellent ageing resistance. This flexible white strip measures 10mm x 2mm and is supplied in 2.1 metre lengths.

APPLICATION

G30 is cut to size on site, and fixed with a self-adhesive film to the timber beads prior to installation. It can be over-painted without affecting performance or can be rebated into the beading for an invisible finish.

AUTHORITY

G30 has achieved a 30 minute rating in a fire door with a 650mm x 600mm pane and in a screen using Pyroshield safety glass up to 2800mm x 1000mm.

PRODUCT NAME

GB15

GEORGIAN GLAZING BARS

INTRODUCTION

GB15 permits a true Georgian appearance, using the slim glazing bar typical of this period affixed to a larger, fire-rated single pane without compromising the performance and integrity of the glass.

DESCRIPTION

It is a high-pressure graphite-based material with excellent ageing characteristics, is supplied in 2.1m lengths with self-adhesive tape on both sides.

APPLICATION

GB15 self-adhesive strips are cut to size and affixed to the mounting surface of the glazing bars. These are fixed in position onto the single piece of fire-resistant glass, correctly protected at the frame and beads, using the appropriate system for the required fire resistance period.

FIRE PERFORMANCE

In the event of fire, the GB15 reacts by forcing off the mock glazing bars, but leaving intact the larger pane, which then performs to its full 30 or 60 minute rating as specified.

UPGRADING AND PROTECTING DOORS



PRODUCT NAME

FIREFACE



**FIRE RESISTANT
FACING**



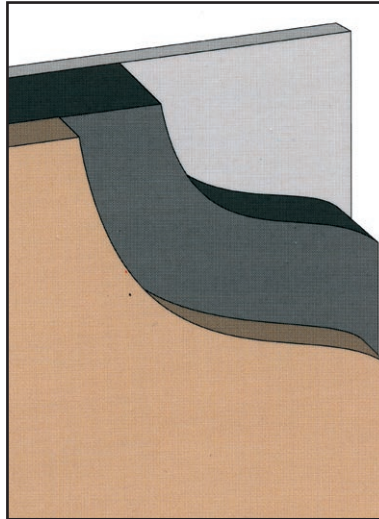
30 MINUTES

INTRODUCTION

Fireface can be used to upgrade the fire-resistance of panels within doors without affecting their authentic appearance. It is simple to apply over existing surfaces without preparation, and involves minimal structural change to the door itself. Once applied, Fireface provides a full 30 minutes protection if both sides of the panel are treated and can be varnished, painted or veneered to match perfectly with the original finish.

DESCRIPTION

Fireface is a modified three-layer product comprising a bonded layer to prevent tearing, an intumescent layer and a surface layer to accept the paint or veneer. Fireface Plus has an additional decorative plywood facing that gives a natural wood finish which can be decorated or stained to provide a surface that is indistinguishable from the original.



Fireface is a proven modified 3 layer product.

APPLICATION

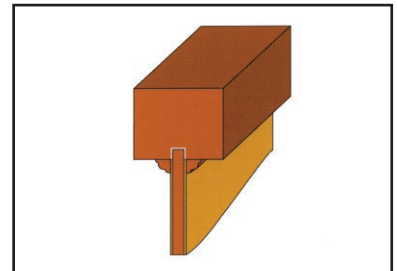
Fireface is surface-applied, using Fireface adhesive, to flat or raised and fielded panels in doors in which the fundamental door structure is known to offer 20 or 30 minutes protection. It can be retained using existing mouldings, or can be cut to fit precisely within the mouldings. Tests show that both methods are equally successful in achieving improved resistance.

FIRE PERFORMANCE

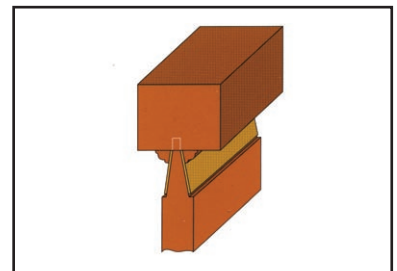
When activated the intumescent layer expands to resist the passage of flames or smoke, whilst the bonded layer retains the integrity of the panel to neutralise the effects of shrinking and splitting of the wood. The fire resistance increases from an unprotected 10 - 12 minutes to 30 minutes.

AUTHORITY

Fireface is widely specified by English Heritage. It conforms to the strict conventions detailed in the ICOMOS Venice and Burra Charters. Applications of Fireface on different panelled doors have achieved 30 minute ratings in independent test certification from the Warrington Fire Test Centre and International Fire Consultants. Test evidence and full details are available from our Technical Department.



Fireface on flat panels.



Fireface on raised/fielded panels.



PRODUCT NAME

VENTILATORS



FIRE & SMOKE VENTILATORS



30 OR 60 MINUTES

INTRODUCTION

Fire door ventilators permit a free flow of air up to 160m³/hour, and can be fitted within 30 and 60 minute fire doors and walls, whilst maintaining the integrity of the fire compartment. Two models are available, offering a choice of fire or fire and smoke protection and both are easily installed with minimal restrictions on siting.

DESCRIPTION

Both ventilators are manufactured from galvanised steel sheets, with louvre plates on each face. Standard finish is satin aluminium, with coloured finishes to special order.

APPLICATION

Ventilators can be used in new or existing fire doors and can be mounted in a high or low position. An opening of 260mm x 135mm is required and once the ventilator is in position any gaps should be sealed with Intumescent Compound. Ventilators can also be fitted into walls using special extender units.



Model VH60/FS

OPERATION

The intumescent seal in both units is activated by the high temperatures experienced in a fire. In model VH60/FS a cold smoke shutter which is powered by the fire alarm circuit is

triggered on activation of the fire or smoke alarm system. A warning light indicates when the shutter is closed and the power is reinstated.

OPTIONAL MODELS

Model VH60/F provides 60 minute protection against fire and is maintenance-free once fitted. It is ideal where fire, rather than cold smoke is perceived to be the predominant risk. Where there is a risk of cold smoke, the model VH60/FS, which incorporates a magnetically-operated cold smoke shutter, should be specified.

AUTHORITY

Both models have been tested in 60 minute fire doors by TRADA, the VH60/FS model is also subject to an assessment by international Fire Consultants (IFC).

PRODUCT NAME

INTUMESCENT PLUGS



FIRE RESISTANT PLUGS

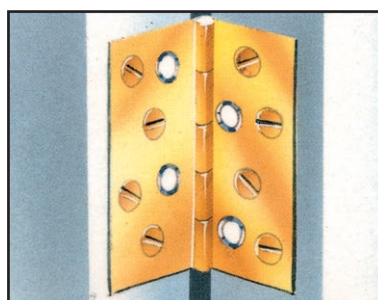


30 MINUTES

INTRODUCTION

Fire doors may be vulnerable to the intense heat transferred through the

mass of metal that door hinges and latch plates represent. This can cause charring and ignition. Intumescent plugs, comprising a short length of



metal tubing filled with intumescent material, are used to protect these areas by preventing the passage of flaming or hot gases by smothering the surrounding areas on activation.

DESCRIPTION

The plugs are located in holes drilled through hinges, striker plates and pivot mechanisms (as shown).

GAP SEALING INTUMESCENT PRODUCTS



PRODUCT NAME
**INTUMESCENT
COMPOUND**



**FIRE RESISTANT
FILLER**



30 OR 60 MINUTES

INTRODUCTION

Intumescent Compound protects the gaps which typically arise during the finishing of a building.

DESCRIPTION

A white, multi-purpose sealing material which forms a firm, fire-resisting seal. Gun-applied, it comes in 10 inch cartridges giving approximately 12 metres of 6mm bead.

APPLICATION

Designed for use in and around fire-resisting doorsets protecting ironmongery and, in particular, the joints between the doorset frame and masonry. It is also used between glazed screens and their supporting structures, as well as other timber-to-timber and timber-to-masonry joints.

FIRE PERFORMANCE

On activation produces a low-pressure, medium volume expansion.

AUTHORITY

Intumescent Compound has achieved a 60 minute rating in tests by various test houses.

PRODUCT NAME
MASTERSEAL



**FIRE RESISTANT
SEALANT**



60 MINUTES

INTRODUCTION

Masterseal is one of a number of specially formulated compounds with intumescent properties for use in a range of gap sealing applications.

DESCRIPTION

Masterseal is a fire-resisting seal with intumescent and erosion-resistant properties that is semi-flexible when set. Only a small amount of material is needed to give considerable periods of fire resistance. Gun applied, it comes in 300ml 10 inch cartridges.

APPLICATION

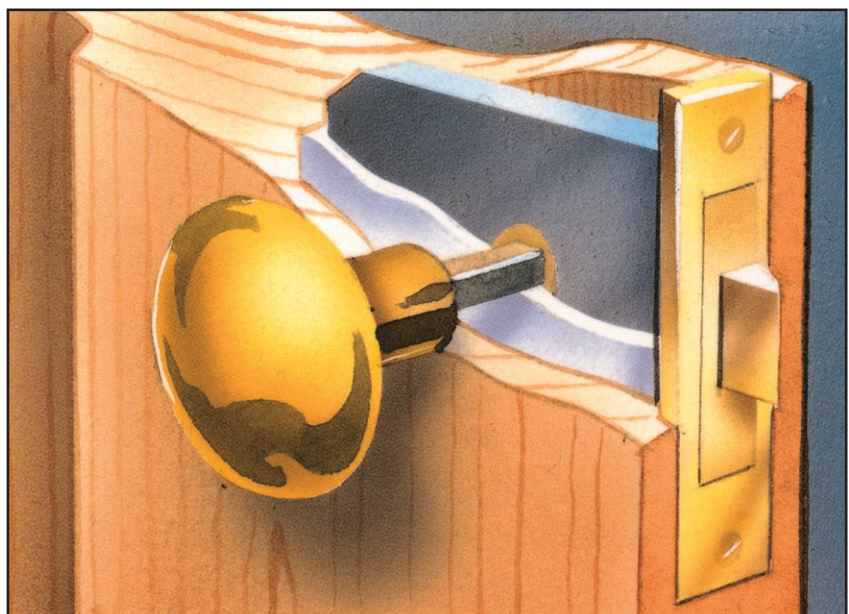
A general purpose hole and gap filling sealant for use in masonry or plasterboard constructions and for areas around door ironmongery where excess timber has been removed prior to fitting. It can also be used for gaps in ceilings and walls up to 25mm. When gaps are filled from both sides, the fire resistance is generally doubled. Non-toxic, it can be overpainted and gives an easily tooled smooth finish.

FIRE PERFORMANCE

Masterseal produces a low pressure, erosion-resistant low volume expansion when activated by heat.

AUTHORITY

Masterseal has achieved a 60 minute rating in test by various test houses.





PRODUCT NAME
FIREFOAM



FIRE RESISTANT FILLER



UPTO 4 HOURS

INTRODUCTION

Where large gaps exist between the doorframe and wall construction, conventional intumescent sealants may not always be appropriate. In such cases Sealmaster Firefoam can be used to maintain the integrity of a fire compartment.

DESCRIPTION

Firefoam is an intumescent, dry foam joint filler which is quickly and easily fitted, requiring no adhesive or

surface preparation prior to use. It is flexible and will accommodate movement, yet is durable and resistant to extreme environmental variations.

APPLICATIONS

Firefoam has three main areas of application:

- *Expansion joints and other linear joints.*
- *Around ducts or service penetrations.*
- *Between door frames and structural openings.*



FIRE PERFORMANCE

On activation the fire resistant foam degrades and the volume is replaced by an expanding mass of intumescent graphite which prevents the passage of smoke, flames or hot gases.

AUTHORITY

Independently tested to BS 476: Part 20: 1987 to give up to 4 hours depending on width of gap and depth of Firefoam.

FOR 30 MINUTES (FD30S)

Gap width	Firefoam Fill
10-20mm	25mm
30-40mm	30mm
50-60mm	35mm
70-80mm	40mm
100mm	50mm

PRODUCT NAME
INTUMESCENT PLASTER



FIRE & SMOKE RESISTANT



60 MINUTES

INTRODUCTION

Small gaps and cracks around doorways incorporating fire doors create a weakness in the integrity of the fire compartment which can be protected by using Sealmaster Intumescent Plaster.

DESCRIPTION

Intumescent Plaster is a chemically modified surface coating and space filler, which is supplied as a two-part powder for mixing prior to application. It can be trowel-applied like other fillers and sets hard in 12 hours. It has excellent non-shrink characteristics and can be over-painted once set.

APPLICATION

Intumescent plaster may be used to fill over-large lock or latch recesses in timber doors. It is a versatile gap

filler also used to seal small holes around pipes, etc. where Intumescent Compound may not be applicable.

FIRE PERFORMANCE

It is resistant to atmospheric moisture and provides a durable barrier between masonry and timber frames. On activation under intense heat the plaster carbonises and the intumescent action prevents the passage of flames and smoke.

AUTHORITY

60 minute rating tested by TRADA.

PROTECTA-DOOR



PRODUCT NAME
CONTINUOUS GEARED ALUMINIUM HINGES

 **INTUMESCENT SEALS**

 **30 OR 60 MINUTES**

THE PROBLEM

Typical (Knuckle) Hinge Problem

Weight and stress is concentrated in three hinge locations, causing downward weight overload of bottom hinge and pulling away of top hinge, damaging floor and frame components.

THE SOLUTION

Sealmaster continuous geared aluminium hinges, incorporating unique intumescent seals, meet the Technical Fire Resistance requirements of Approved Document B to the Building Regulations 1991, Appendix B.B5 and have been tested to BS476 Pt 22 for 30 and 60 minutes.

They also provide commercially viable solutions to maintaining the alignment of fire resisting doorsets which are subjected to excessive impact and stress. In many high traffic areas of a building, doorsets more than any other structural element, are subjected to unacceptable levels of punishing treatment. The Sealmaster Continuous Geared Hinge is now a proven and obvious answer to maintaining the functional aspect of such doors in their daily use.



BENEFITS

- *Designed to absorb impact and stress along the full length of the door and frame for the life time of the structural opening.*
- *Ensures alignment of door with no drop or binding after 1.5 million cycles on 75 kg doors, dramatically exceeding requirements of BS7352: 1990.*
- *Gearing avoids the need for force to open heavy doors, of construction up to 245 kg.*
- *Eliminates repetitive maintenance of hinges, lipping and frame arising from hinge failure.*

FEATURES

- *Tested and approved for use on FD30S and FD60S doors to BS476 Part 20 & 22.*
- *Eliminates need to repeatedly replace conventional hinges, frames, lippings during the life span of the opening.*
- *Intumescent protected Sealmaster continuous geared hinges are cost effective solutions for maintaining stress free doors.*
- *Meets the Fire Resistance requirements of Approved Document B to the Building Regulations 1991, Appendix B:B5.*
- *Eliminates dropping of door, thus maintaining lock or latch alignment and security.*
- *The Sealmaster hinge is maintenance free and requires no lubrication.*

THE PROBLEM

Traditional (Knuckle) Hinges

Weight and stress is concentrated solely at the hinge locations. The "downward" weight of the door over loads the bottom hinge resulting in knuckle and pin failure. The lateral "top heavy pull away" stress tears out the top hinge



PRODUCT NAME
**CONTINUOUS GEARED
ALUMINIUM HINGES**



30 MINUTES



60 MINUTES

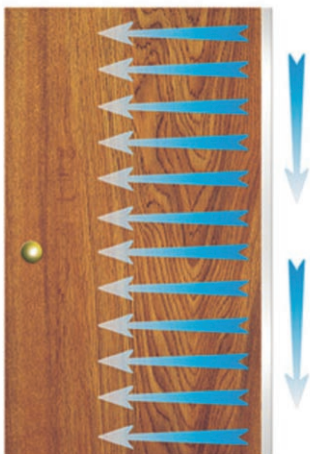
splitting both door and frame allowing the door to drop out of alignment, resulting in binding at frame and threshold with resultant damage to floor surfaces. Lock/latch misalignment affects security and safety. Greatly increased stress on the door closer leads to premature failure. All components - door, frame and hardware - are all subject to on going expensive repair and maintenance.

THE SOLUTION

Sealmaster (Continuous Geared Hinge)

Weight and stress is dissipated down the entire hinge and evenly 'absorbed' throughout the entire door and frame length. There are no pins to wear or lift. Hinge gearing and multi Delrin bearings maintain 'true' alignment providing effortless opening and maintenance free operation for door weights to 245Kg - over FOUR TIMES the weight of an average one hour door!

Sealmaster Continuous Geared Hinges are a maintenance free and cost effective solution.



WHY THE NEED FOR A CONTINUOUS HINGE?

A recent survey into building maintenance costs revealed an unacceptable level of expenditure to maintaining and repairing fire resisting doorsets and associated hardware, which are subjected to excessive impact and stress.

Whilst a drain on financial resources, the problems were compounded by rejection by the Fire Officer of the fire door's efficiency and ability to hold back fire and smoke. Failure of these doors directly compromised the building's safety as they were installed to maintain the integrity of means of escape routes.

Incorrect Specification remains the prime cause of hinge and doorset failure associated with excessive impact and stress. Repairs involve hinge and split frame or lipping replacement plus realignment of the door and the closing mechanisms. Often the same doorsets may be repaired 3 or 4 times per year at considerable expense.

The survey embraced hospitals, universities, schools, care homes and high occupancy commercial buildings. Conventional butt hinges do not solve the problem of absorbing high impact levels and stress.

WHAT IS A SEALMASTER CONTINUOUS HINGE?

Sealmaster have spent the last two years developing and testing a continuous geared hinge which incorporates a unique method of intumescent fire seal protection. Unlike conventional continuous hinges, the Sealmaster hinge is a pinless assembly, there are therefore no pins to wear out.

Sealmaster hinge consists of two full height, paired and geared leaves. Each leaf rotates evenly from top to bottom, riding on multi Delrin bearings which provide an extremely low co-efficient of friction.

The geared leaves and bearings are embraced by a full length protective channel cap and include specially formulated intumescent strips which protect the entire length of the hinge and are discreetly fitted.

Sealmaster Continuous Hinges are designed to ensure:

- *Ease of opening, even on heavy weight doors.*
- *Elimination of warping on hinge side of door or door drop.*
- *Maintenance of lock / latch alignment and subsequent security.*
- *Distribution of weight and impact down the entire door and frame length.*
- *Integrity of the door in a fire is maintained.*
- *Sealmaster continuous geared hinges take no longer to fit than conventional hinges and when used for upgrading existing doors, they usually cover existing mortice points.*

PRODUCT NAME
**CONTINUOUS GEARED
 ALUMINIUM HINGES**



INTUMESCENT SEALS



30 MINUTES

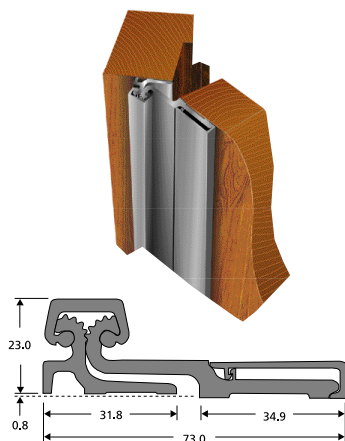


60 MINUTES

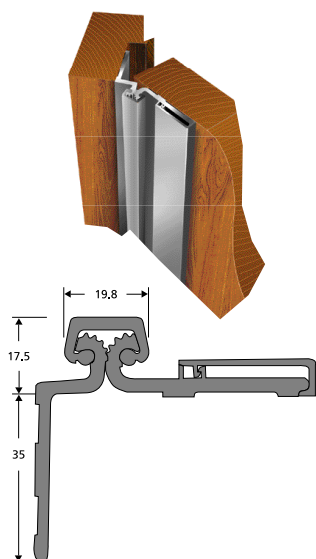
**AVAILABILITY OF THE
 SEALMASTER HINGE**

The Sealmaster Continuous Geared hinge is available in four versions for use on upgrading existing doorsets as well as new doorsets.

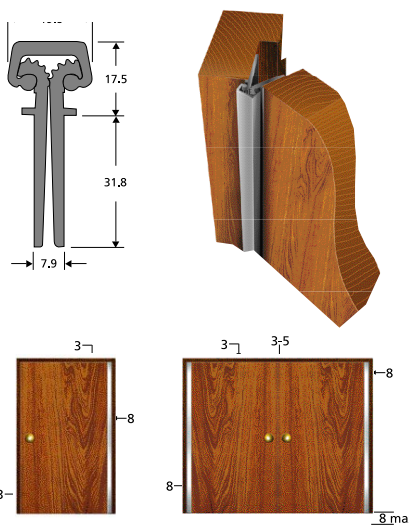
- **Sealmaster Full Surface Hinge (type FS)** designed mainly for upgrading existing doorsets and applied to the exposed surface of the door and frame;



- **Sealmaster Half Surface Hinge (type HS)** designed mainly for upgrading existing doorsets. One hinge leaf is applied to the exposed surface of the door and the frame leaf is applied to the concealed surface of the frame jamb.



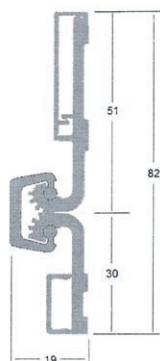
- **Sealmaster Full Mortice Hinge (type FM)**
 This hinge can only be used on new doorsets because it requires an 8mm gap at the hanging stile to accommodate both leaves, this is more satisfactorily achieved when the new door can be produced to fit the frame.



DOOR CLEARANCES

All measurements are in millimeters

- **Sealmaster Full Surface Centre Pivot Hinge (type FSCP)**
 The Centre Pivot variant of the Sealmaster Full Surface hinge has a smaller 'foot print' and is suitable for use with a wide range of frame details including narrower frames (29mm min) or frame set close to an adjacent wall reveal.



- The Full Surface Pivot design enables the hinge knuckle to rotate within the hinge dimensions. This may help avoid the fouling of any decorative frame mouldings or architraves*
- Additionally, the Centre Pivot maintains the original butt hinge knuckle alignment avoiding the need to reposition the closer or closer arm configuration.
- The centre pivot hinge (FSCP), gives increased flexibility in the positioning of the door leaf, relative to the frame. This enables a door to be positioned so that the gap between the door edge and frame reveal is much more even.

This is an important consideration on fire doors to ensure the gap does not exceed the 3-4mm required by BS8214. The use of this hinge may prevent the need for re-lipping of a door leaf or other major remedial work.

FEATURES

The Full Surface Centre Pivot hinge, as with other hinges in the range, enables doors to be opened through a full 180° which may have significant benefits in some applications.

AVAILABILITY

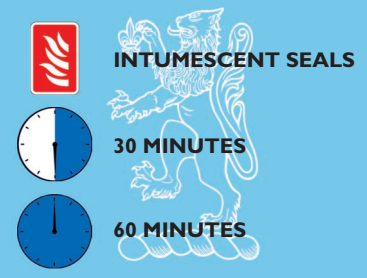
Each hinge is available in standard or heavy duty version according to the weight of door, extent of expected impact and stress. Standard hinges contain 14 bearings distributed down the height of the door which absorb weight, impact and stress and are suitable for doors up to 125 kg in weight. Heavy duty hinges contain 27 bearings and are suitable for doors up to 245 kg in weight.

Example of order code:

HS HD - Half surface heavy duty hinge for high load, high impact stress.

*Note: Where ornate frame mouldings are an obstruction, or need to be retained for historical or visual aesthetic reasons, consideration should be given to using the Half Surface (HS) Hinge.

PRODUCT NAME
**CONTINUOUS GEARED
 ALUMINIUM HINGES**



FMS - Full mortice, average load and impact stress.

All hinges are produced from extruded aluminium alloy to extrusion grade 6063 - T6 comprising three interlocking sections in a pinless assembly. Standard finish is natural anodised with dark bronze or gold anodised finishes available to order.

All hinges are supplied in 2.1 metre lengths but can be cut to suit door height (see fitting instructions). Longer length hinges for commercial doors up to 3 metres in height and 350 kg weight are also available on request.

INTUMESCENT SEAL PROTECTION

- **Sealmaster full surface hinge (FS)**
For existing door sets, no additional intumescent seal to those already installed is required with this hinge. For new fire resisting doorsets, intumescent protection should be specified as normal practice.
- **Sealmaster half surface hinge (HS)**
On existing doorsets intumescent seals fitted into the frame will be covered by the hinge leaf, additional intumescent protection is necessary by the simple installation of a surface mounted composite intumescent fire and smoke seal located along side the hinge leaf on the frame, as supplied by Sealmaster.
- **Sealmaster full mortice hinge (FM)**
 This hinge is only recommended on new fire resisting doorsets. A surface mounted composite intumescent fire and smoke seal is located along side the hinge leaf on the frame, as supplied by Sealmaster. Intumescent fire and smoke seals to be installed in other styles and head as manufacturers normal practice.

■ **Sealmaster full surface centre pivot hinge (FS)**

- **Making good old hinge mortice's**
Where the Sealmaster hinge does not conceal the mortice exposed after the old hinge is removed such areas are reinstated with Sealmaster intumescent pads which are simply surface fixed and over finished as necessary.

NB: See technical and fitting instructions for more precise details and intumescent / smoke seal dimensions which are dependant upon required fire resistant ratings.

MEETING THE REQUIREMENTS

In addition to extensive fire testing at Sealmaster's Fire Testing facility at Pampisford, successful independent fire testing has been undertaken at Warrington Fire Test Centre on single acting pairs of double doors, the most onerous form of test devised.

WARRES Test No. 106217	Dated 11.2.1999	FD30S 39 Minutes
WARRES Test No. 110251	Dated 6.10.1999	FD60S 82 Minutes
WFRC Assesment No. C113604	Dated 6.6.2000	FD30S & FD60S Doorsets

Sealmaster Continuous Geared Hinges meet the Technical Fire Resistance requirements of Approved Document B to the Building Regulations 1991, Appendix B.B5. **Sealmaster hinges exceed BS requirements by 300%**

The cyclical requirements of doors is often grossly underestimated, failure to assess frequency of operations linked to inadequate specification of hinge,

tolerance and quality, leads to early functional failure of the door. Existing British Standards show that class 7 hinges, capable of operating on doors of 60 kg should be tested to 500,000 cycles, Sealmaster hinges on 75 kg doors, have been tested to 1,500,000 cycles, a three fold increase in operational efficiency. (Standard FD60 Firedoor 54Kg)

NON FIRE DOOR APPLICATIONS

available without intumescent doorsets. They are eminently suitable for any door which is subject to high levels of impact or stress, whether they be timber, aluminium or steel. Additional features of the full length protective channel cap provides the ability to ensure privacy in areas such as lavatories, executive offices and examination rooms.

Smoke leakage is equally successfully contained due to the features of the geared hinge cap; independent tests at Warrington Fire Research Centre to BS476: 31.1 confirm this. Full details are available on request. Heavy reinforced doors as used in X-ray rooms, typically 100 kg, can be easily operated without force, reducing wear resistance to closing devices.

WHY SPECIFYING SEALMASTER HINGES MAKES GOOD SENSE

- *Sealmaster is the only company to guarantee hinge efficiency for the life time of the structural opening against defects in material or workmanship. This in itself gives the specifier and user confidence and peace of mind for the foreseeable future, it also brings:*

PROTECTA-DOOR



PRODUCT NAME

TRAPGUARD / FINGER PROTECTOR



DESCRIPTION

In many high traffic areas of a building, doorsets more than any other structural element, are subjected to unacceptable levels of punishing treatment.

A high quality, resilient blind that prevents fingers entering the cavity formed between the edge of the door and door frame. The blind is mounted in a robust aluminium housing unlike a concertina style blind, which is constantly exposed, and can suffer damage as a result, a robust housing protects Trapguard when not in use.

BENEFITS

- Prevents fingers being trapped in gap between frame and rear edge of door.
- Acts as a light door closing mechanism.
- Particularly suited to buildings used by the very young.
- Extremely durable and maintenance free.
- Provides privacy down hinge side.
- Greater longevity, by design.

FEATURES

- Available in aluminium.
- Easy to fit.
- More robust than concertina types.
- Suitable for use on standard door configurations.
- Standard stock length is 2 meters.

Order Code	Length	Standard Finish
TGAI	2000mm	SAA Aluminium

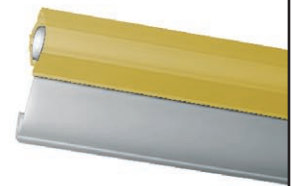
Colour coating to any RAL number



Wood grain



Gold



Bronze



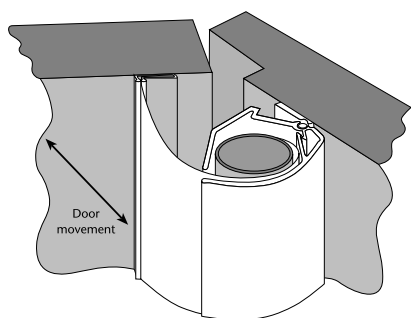
SAA



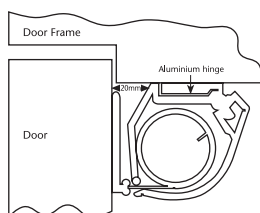
STYLES AND COLOURS

Colours shown are representative only and may vary. Samples are available on request.

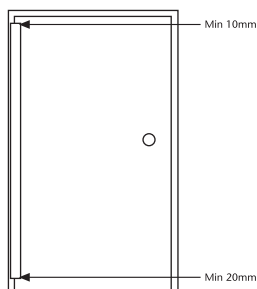
PRODUCT NAME
**TRAPGUARD / FINGER
PROTECTOR**



TRAPGUARD / FINGER PROTECTOR



FITTING INSTRUCTIONS



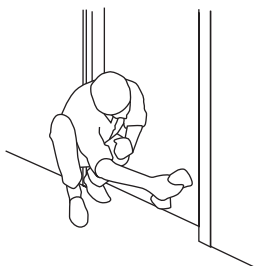
1.

If necessary, using a hacksaw, cut the assembly to suit the door height.

Allow at least 10mm clearance at the top of the door and 20mm at the bottom.

Two nylon retaining pins are located at the top and bottom of the pivot joint between the housing and bracket to prevent the Trapguard from moving up or down the door once fixed in place.

If the Trapguard is to be cut to size, ensure that these nylon retaining pins are replaced.



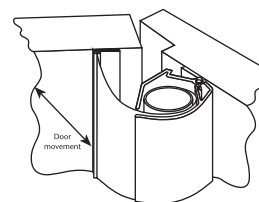
2.

Thoroughly clean both the door face and frame, ensuring all dust, grease etc. is removed.

3.

Remove the backing from the adhesive tape and fix the finger protector in place.

Ensure the face with the aluminium hinge section is attached to the door frame.



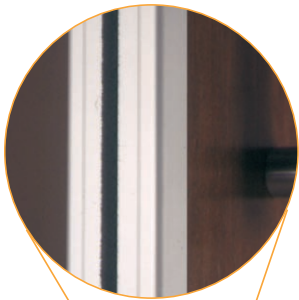
4.

Test the door operation several times to ensure the unit is working satisfactorily.

PROTECTA-DOOR



PRODUCT NAME
DOOR EDGE PROTECTORS



DESCRIPTION

In many high traffic areas of a building, doorsets more than any other structural element, are subjected to unacceptable levels of punishing treatment.

Sealmaster door edge protectors are designed to eliminate maintenance costs usually associated with lipping repair when doorsets are subjected to excessive impact and stress. Specially designed profiles contain intumescent fire and smoke seals and have been tested to BS 476 Part 22 for 30 and 60 minutes.

BENEFITS

- Eliminates repetitive maintenance costs associated with door edge repairs.
- Refurbishes damaged door edges cost effectively.
- Rounded protector profiles deflect traffic likely to impact against door edges.
- Easy to fit.
- Successfully tested to BS 476 Part 22 for 30 and 60 minutes fire resistance.

FEATURES

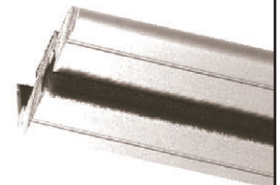
- Flat protector profiles accommodate cut outs for locks and other fittings.
- Plain non-fire rated profiles protect non-fire doors and frames and accommodate lock cut outs.
- Suitable for hinge and lock stiles, also meeting stiles of pairs of doors.
- Available in a range of styles finishes and colours.
- Specially designed profiles facilitate smoke seal replacement.

TEST EVIDENCE

Successful independent fire testing has been undertaken at TRADA on single acting fire resisting door sets. Details available on request.

TRADA test report	FD30s	39 minutes
TRADA test report	FD60s	61 minutes

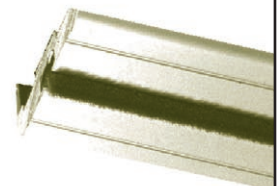
Colour coating to any RAL number



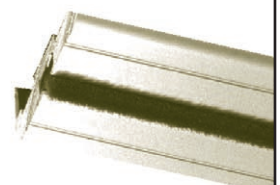
Wood grain



Gold



Bronze



SAA

STYLES AND COLOURS

SAA (Satin anodised aluminium) finish is standard. Other anodised finish or colour coating to any RAL colour is available. Colours shown are representative only and may vary slightly between batches. Samples available on request.

PRODUCT NAME
**DOOR EDGE
 PROTECTORS**



AVAILABILITY

Rounded Protector Profiles

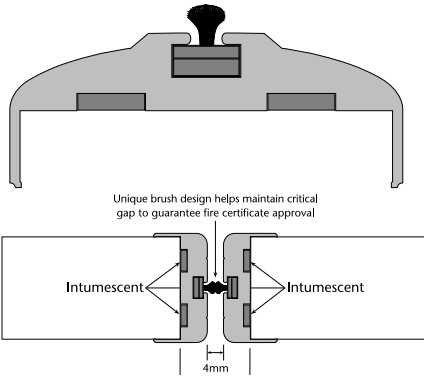
Order Code	Length	Door Width
SRPA44	2100mm	44mm
SRPA55	2100mm	55mm

Flat Protector Profiles

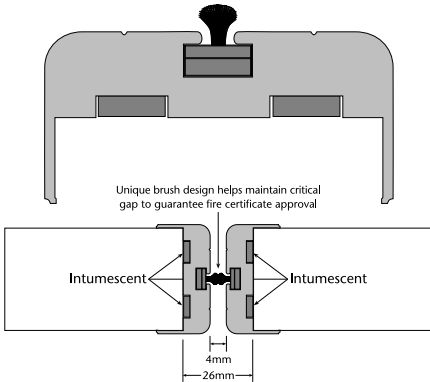
Order Code	Length	Door Width
SFPB44	2100mm	44mm
SFPB55	2100mm	55mm

Plain Non-Fire rated Protectors

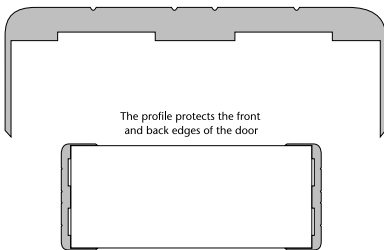
Order Code	Length	Door Width
SPPC44	2100mm	44mm
SPPC55	2100mm	55mm



SRP - ROUNDED PROTECTOR
 PROFILES



SFP - FLAT PROTECTOR PROFILES



SPP - PLAIN NON-FIRE RATED
 PROTECTORS

PROTECTA-DOOR



PRODUCT NAME DOOR FRAME GUARDS



RIGID DOOR FRAME GUARD



ROTARY DOOR FRAME GUARD

DESCRIPTION

In many high traffic areas of a building, doorsets more than any other structural element, are subjected to unacceptable levels of punishing treatment.

Sealmaster's rotary door frame guard and the rigid door frame guards are designed to counteract wear and tear on door frames and exposed wall corners by deflecting objects and traffic away from the vulnerable area.

BENEFITS

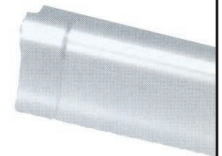
- *Protects door frame and door edge which are subject to excessive impact.*
- *Eliminates repetitive maintenance and replacement of frame and door lippings.*
- *Helps maintain correct alignment of door.*



FEATURES

- *Rotary units full impact tested to 500Kg at 2 m.p.h.*
- *Variable location of the rigid unit allows for most door frame sections to be accommodated.*
- *Easy to fit and maintenance free.*

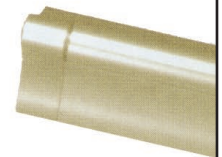
Colour coating to any RAL number



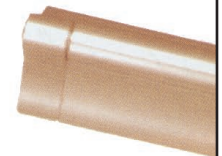
Wood grain



Gold



Bronze



SAA



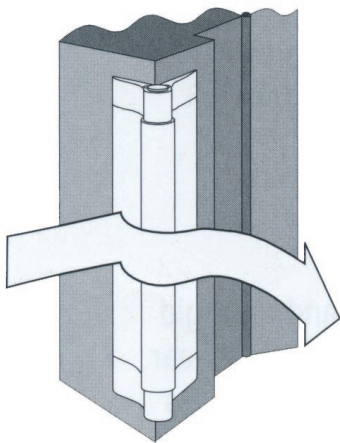
STYLES AND COLOURS

SAA (Satin anodised aluminium) finish is standard. Other anodised finish or colour coating to any RAL colour is available. Colours shown are representative only and may vary slightly between batches. Samples available on request.

PRODUCT NAME
**DOOR FRAME
 GUARDS**

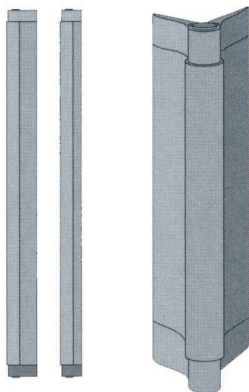


ROTARY DOOR FRAME GUARD

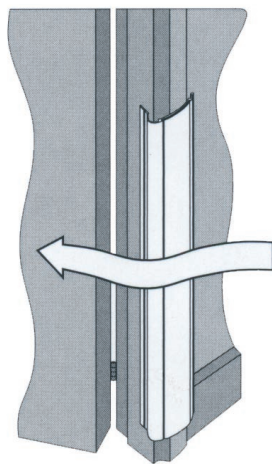


The rotating drum protects the door frame and deflects objects away from the vulnerable edge of the door.

Height (see table)
 Leg size 50mm / 25mm

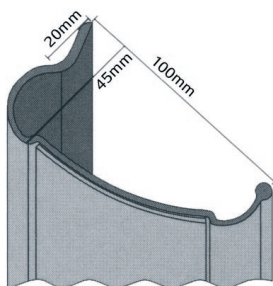


RIGID DOOR FRAME GUARD



The Rigid Frame Guard deflects objects away from the vulnerable rear edge of the door.

Choice of:
 2500mm or specified cut size.



AVAILABILITY

Rotary Door Frame Guard

Order Code	Leg Size	Length
DFG/B/25/600	25mm	600mm
DFG/B/25/800	25mm	800mm
DFG/B/50/600	50mm	600mm
DFG/B/50/800	50mm	800mm

Rigid Door Frame Guard

Order Code	Length
DFG/A/FULL	2.5mm
DFG/A/CUT	Cut to size - cost proportionate to number of lengths extracted from 2.5m

Standard finish natural satin anodised aluminium. Optional extras: coloured PVC centre panel with matching or variable aluminium colour finishes.

LEADING THE WAY IN FIRE PROTECTION TECHNOLOGY



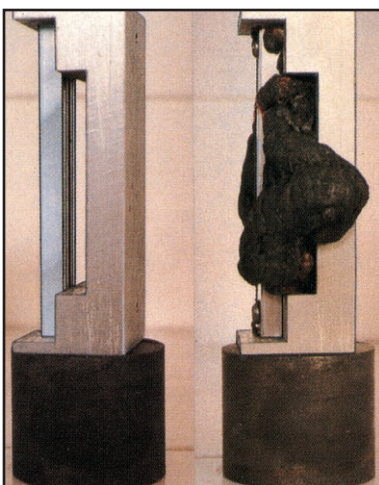
Sealmaster pioneered research and development into intumescent technology, originating a string of innovative and revolutionary products to meet the increasingly stringent needs of the fire protection industry.

FULLY TESTED

The excellence and dependability of Sealmaster intumescent materials is the result of exhaustive testing and quality control, at all stages of development, backed by authoritative testing at leading independent test centres.

RESEARCH AND PRODUCT DEVELOPMENT

The Sealmaster Research and Development testing laboratory



Two photographs of the same sample of intumescent material, before and after being exposed to heat. The test equipment, which has a 10mm gap, is used to measure the outstanding gap-filling capability of Sealmaster intumescent material.

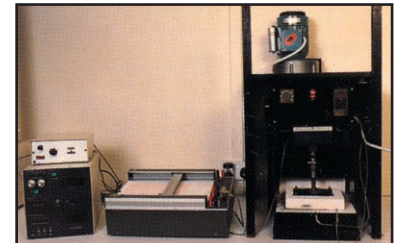


This tensile testing machine measures the effects of a force applied to a fixed test specimen and is also used in a compression mode for testing conventional door and window seals, as well as intumescent seals.

has sophisticated equipment capable of solving the many and varied problems of intumescent fire protection. For example, various indicative fire tests are conducted on a wide range of products and trial formulations, ensuring total accuracy and reliability. Tests cover fire and smoke resistance, airflow, pressure resistance, prevention of water penetration, resistance to CO₂ and noise reduction.

COMPREHENSIVE TECHNICAL SUPPORT

The correct specification and application of intumescent products can involve specialised knowledge and experience, and Sealmaster's



The Sealmaster intumescent recording apparatus makes automatic recording of the pressure exerted during intumescence as a function of temperature. It enables intumescent pressure to be measured at any temperature up to 800°C.

technical staff are available to give advice on particularly difficult problems. The Sealmaster Advisory Service covers the total spectrum of before and after sales service, for example, giving advice at the design stage to guide the specifier on the selection of the right type of product.

ON-SITE SUPPORT

At contract award stage, Sealmaster offers an on-site service to ensure that the products are correctly installed with minimum effort. This service is extended to site visits both during and after the contract, thus ensuring that a high level of efficiency is maintained throughout the working life of the products.

SEALMASTER INTUMESCENT SEALS STAND THE TEST OF TIME



The ageing characteristics and long term performance of Sealmaster fire and smoke seals can be relied upon with total confidence. For the use of superior intumescent materials, the high build quality and the low maintenance requirements of door seals and carriers provides unequalled performance and protection.

Traditionally, the long term performance of a product is measured by accelerated ageing tests. Such testing is routinely undertaken on the full range of Sealmaster products, including long term aggressive environment tests simulating high humidity and temperature.

Accelerated ageing tests do, of course, only indicate likely performance when subjected to predictable control parameters. To provide even greater reassurance, Sealmaster is the only manufacturer to have test evidence to support actual product behaviour over the long term. Typical of this are the fire door seals used in the Wembley Conference Centre, which were originally fitted in 1977. In conjunction with TRADA, who undertook the independent product tests, a sample of actual door seals were removed for laboratory testing



after eight years of daily use in the Conference Centre.

These original seals were re-fitted to test door sets, in accordance with BS476: 1972, and were subjected to a full fire test. The results showed an actual performance in excess of the required 60 minutes, convincingly demonstrating the reliability of the Sealmaster seal to conform. Similar tests have been repeatedly performed since then, with every sample having exceeded the minimum 60 minutes. The latest conducted on 22 year old samples achieved over 70 minutes.

These results have an important bearing on the selection of building materials as required under the Building Regulations for, in addition to existing product certification, it provides supporting evidence to show that specifiers, in choosing Sealmaster intumescent seals, have intended full compliance with Regulations.



AUTHORITY AND LEGISLATION

MEETING THE REQUIREMENTS OF FIRE SAFETY IN BUILDINGS

Current provisions for safety in case of fire, in the majority of buildings, rely upon separating the whole building up into smaller areas by using fire resisting barriers, in the form of walls and ceilings. This separation is required to protect different occupancies, or to provide safe 'means of escape' for either occupants or the public.

Under current Building Regulations, as well as all other relevant regulations, the ability of the walls, ceilings etc. to act as effective barriers is referred to as their 'fire resistance'. This is quantified in 'minutes', i.e. the time that barrier would last if tested to the British Standard fire resistance test method (currently BS476: Part 22: 1987).

For most buildings the fire resistance requirements for the doorsets will be stated in the appropriate national building regulations (for instance, in England and Wales, the Building Regulations Approved Document B) although in certain cases other regulations or requirements may apply. Examples of additional requirements would be the BS5588 series of 'Codes of Practice'. Health Authority guidelines, etc.

THE FIRE-RESISTING DOORSET

All fire doors are tested as 'doorsets', a term used to include the door leaf, door frame and all the essential ironmongery - usually hinges, door closer and possibly a latch.

It is important to realise that a fire door leaf on its own - no matter how well made - cannot be expected to provide its full fire resistance performance unless it is properly installed. This will usually require it being hung on hinges sufficient to provide full support, that will not melt or transmit too much heat through the leaf; for it to be installed in a frame of appropriate quality timber; and finally the leaf should have adequate protection in the form of intumescent strips. These strips must themselves be appropriate to the type and configuration of door leaf that they are being fitted to. Sealmaster recommends that anyone regularly involved in the design, specification or

installation of fire resisting doorsets should obtain a copy of BS8214: 1990, the 'Code of Practice for the fire door assemblies with non-metallic leaves'. The fire resistance performance of fire doors is a complex subject, where each part of the doorset must work in harmony to contribute to the whole. Details matter; and this code of practice gives much useful information on what to consider when combining different products to make effective fire resisting doorsets.

In addition to resistance to fire, many doors are also required to restrict the speed of cold smoke. This is designated by the suffix 'S' after the fire door rating of 30 or 60 minutes. Such doorsets must not allow an air leakage of more than 3m³/hr/m run of leaf perimeter (excluding the bottom edge) through the door assembly, if tested to BS476: Part 31.1.1. If all other gaps are well sealed (e.g. glazing, letter plates and other openings), then it is generally accepted that the fitting of a tested smoke seal is adequate.

INTUMESCENT SEALS - CRITICAL COMPONENTS

To the specifier, presented with the myriad of intumescent strips available from numerous manufacturers, it is often difficult to recognise essential differences from a purely visual appraisal. Sealmaster's intumescent strips are unique, for they alone use a high volume, low pressure intumescent material (known as mono-ammonium phosphate) in a robust aluminium carrier. This particular intumescent material has the virtues of producing very large quantities of resilient foam, which has expansion and gap-filling properties that are superior to all others.

Traditionally, this material has been very difficult to use in a suitably robust and reliable seal, however the use of an aluminium carrier has changed this. The carrier not only retains the intumescent, it also conducts heat to the intumescent very efficiently and quickly. This accelerates activation, so leading to a further reduction in smoke leakage. Many Sealmaster seals also have the facility to allow smoke-sealing blades to be mounted on the carrier; so reducing the

purchase and installation costs of additional 'cold smoke' seals for 'S' rated doorsets. The strips are easily cut to length, and are simply pinned into place using the fixings provided. Once in place, they are robust and vandal resistant. Sealmaster has its own fire test and laboratory facility that is used to run both research and quality control tests on their wide range of products. This helps to ensure that their performance in a real-fire situation can be relied upon with total confidence.

Certain intumescent materials produce high pressure on activation. Whilst these materials do have some desirable characteristics, great care must be taken when specifying them, for in certain applications a pressure-forming intumescent can be quite dangerous, forcing doors open or creating additional stress on door components at a time when they are most vulnerable. Given this disadvantage, the recognised benefit of such high-pressure intumescents is their high 'gripping' property, which in some circumstances is necessary. Where this characteristic is required, Sealmaster recommend their 'Ultima' seals (see page 14) which combine both high and low pressure intumescents in carefully specified proportions, producing a strong yet flexible seal.

FURTHER INFORMATION

BS8214: 1990 "Code of Practice for fire door assemblies with non-metallic leaves". Available from BSI, Chiswick, London, (020 8996 9001).

FRGGSA/IFSA - "Role of intumescent in timber and metal based fire resisting glazing systems". Available from FRGGSA/IFSA, 20 Park Street, Princes Risborough (01844 275500).

The Building Regulations Approved Document B (Fire Safety) 2000 (as amended 2002). Published by ODPM. Available from TSO (0870 600 5522).

The Guild of Architectural Ironmongers "Code of Practice for architectural ironmongery suitable for use of fire resisting self-closing timber and emergency exit doors". All available from the GAI (020 7790 3431).

A PRODUCT AND SERVICE YOU CAN RELY ON



CERTIFIRE
APPROVED
PRODUCT
No. CF142

CERTIFIRE

The most demanding third party certification scheme within the industry is

Certifire, set up jointly

by Warrington Fire Research and British Standards Institution. It is the acknowledged certification authority for passive fire protection products.

Specifiers choosing materials from the Certifire Register of Approved Products can be secure in the knowledge that these have been subjected to the most rigorous independent testing, and have worldwide recognition. All Sealmaster intumescent fire seals have been tested and approved by Certifire to BS476 part 22 on full-sized doorsets. The testing was carried out on doorsets manufactured to the guidelines of HTM 58 which

enables performance assessments to be made independently of the variations that can occur due to fire door set designs and configurations.

The smoke sealing elements of Sealmaster's fire and smoke seals have been tested and approved by Certifire for smoke leakage to BS476 part 31.1 as well as an additional Certifire requirement of 100,000 door operation cycles that ensures performance is not degraded by daily use. These certifications apply to latched or unlatched doors or single and double leaf design and with a single or double action.



Quality Management System certified by SGS Yarsley.

All products are manufactured under a ISO 9001



CPD-ACCREDITED SEMINAR PROGRAMME

Sealmaster provides a regular annual programme of CPD-qualifying seminars for those involved in the design or monitoring of fire safety in buildings. The topics include requirements and responsibilities under the Building Regulations as well as a full review of changing technology and methods of achieving statutory requirements for passive fire resistance. These seminars are held regionally and on Sealmaster's own premises in Cambridge. Further information can be obtained by contacting our Technical Department on 01223 832851.

ORDERING SEALMASTER FIRE PROTECTION PRODUCTS

All goods are sold ex-factory and include the following:-

- Sealmaster intumescent fire and smoke seals are all supplied in lengths of 1050mm and 2100mm with standard pins for fixing.
- Sealmaster intumescent fire protection products are all supplied as illustrated in this catalogue.
- Orders can be sent direct to Sealmaster or, alternatively, telephone for details of your nearest stockist.

TERMS AND CONDITIONS OF SALE

Our terms and conditions of sale are displayed on quotations. Copies are available on request.

The information given in this brochure, and otherwise supplied to users, is based upon general experience, plus the results of tests on samples of typical manufacture. This, together with Certifire approval, demonstrates Sealmaster's commitment to providing products which, if properly installed in sound constructions, will achieve the ratings claimed. Although every effort is made to ensure that the data and information in this brochure is correct, it does not form part of a Contract. Sealmaster Limited reserves the right to change any product or specification without notice. The information in this brochure is the copyright of Sealmaster and no part of it may be reproduced by any means without prior written permission.

Sealmaster[®]

Seals for

Fire Door Sets
Fire Door Ironmongery
Apertures in Fire Compartments
Cables, Pipes & Services
Ventilation
Upgrading Period & Historic Doors
Risk Assessment Service
Installation Service



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