

Sealmaster®

MILLENNIUM
PRODUCTS

FireGlaze

New Visions for
Fire-rated Glazing



Revolutionary New Intumescent Glazing Systems

Introduction

An invisible revolution is under way in fire safety glazing and partitioning - with Sealmaster's new FireGlaze intumescent glazing systems at the forefront. Continuous runs of glazing no longer need to be broken by masonry fire walls or lobbies. FireGlaze systems enable fire partitions to be matched-in seamlessly with ordinary timber-framed glazing - uncluttered by metal or heavily coated hardwood frames.

FireGlaze systems are the first to offer a rating of 60 minutes (BS 476: Part 22) on floor-to-ceiling height panes in any untreated timber frame - including softwoods. They are also the first to make butt-jointed fire safety glazing an option (30 minutes, BS 476: Part 22) - eliminating the need for mullions altogether (see front cover and below). FireGlaze systems are so effective they make it possible to take advantage of fully-glazed fire doors in buildings - single or double leaf and 30 or 60 minutes - rated to BS 476: Part 22.

FireGlaze systems offer an improved flow of natural light through buildings giving a crisper, cleaner and more open environment. They help to reduce the energy costs of artificial lighting and the effect of computer screens. They also offer savings in materials and installation time. Their benefits are transparent - setting new standards in fire safety glazing.

How FireGlaze Systems Work

Fireglaze systems include specialised intumescent compound and dry liner strips (depending on the application). These form a gasket around each pane of fire safety glass.

During a fire, the intumescent seals activate to insulate and support the edges of the glass - enabling even full-sized panes to hold back a fire for up to 30 minutes after reaching the glass's softening point.

Excellent References

FireGlaze systems are unique in being recommended by leading fire safety glass manufacturers Schott and Pilkington.



Installation

FireGlaze systems are easy to install, requiring a one-time operation and come with illustrated instructions. Sealmaster can recommend experienced contractors and trains interested contractors - without charge.

Free Technical Support

It is important to note that components used in different fire tests cannot be 'mixed and matched'. Different types of fire safety glass and joinery configurations behave in markedly different ways during a fire. However, a wide range of options is available based on an extensive programme of fire tests. We strongly recommend that specifiers take advantage of our free advice at an early stage.



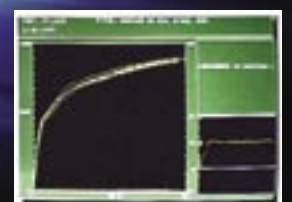
Further Information

Sealmaster runs a programme of free Fire Safety Days at its Cambridge site (or by arrangement, at yours). These are CPD approved by the RIBA and include a module on fire safety glazing. Those held at our site include the opportunity to view one of the ongoing fire tests.

Sealmaster is always pleased to make copies of test reports and product approvals available for scrutiny and also maintains a video library of fire tests.

For further (free) advice, please contact Sealmaster's Technical Department.

The time - temperature curve in a BS 476: Part 22 test mimics a standardised 'flash-over' in a real fire.



The World's First Butt-Jointed Fire Glazing System

Benefits

Fully-glazed partition walls.
Unlimited runs of fire safety glass.
No mullions or heavy frames.



Features

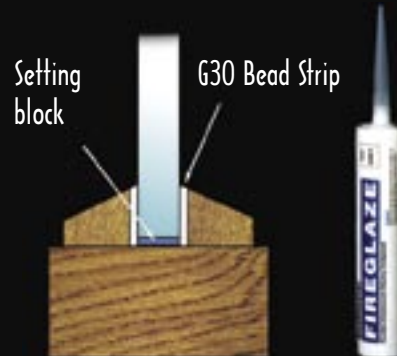
The butt-jointed system has a 30 minute fire integrity rating (BS 476: Part 22) using panels in any size up to 3 by 1.6 metres. Unlimited runs can be fixed into untreated timber (or steel) perimeter frame. Quick and easy to install, the FireGlaze Compound and G30 bead strip are water-based and erosion-resistant. They contain no toxic or hazardous materials. Upon activation under the heat of fire, a very high bond strength is produced - without generating noxious fumes or smoke.

Options

FireGlaze Compound is available in grey, white, light oak and brown colours for a seamless match with glass and perimeter frame.

Components

The butt-joints are pointed with FireGlaze Compound. These may be covered with an optional trim (max 25mm x 3mm). Sealmaster self-adhesive G30 bead strip (white) is used around the perimeter frame, between the beads and glass. Alternatively, FireGlaze Compound (white, grey, light oak or brown) may be used.



Installation

FireGlaze Compound is applied by skeleton gun to form discrete vertical butt joints. It is supplied in 310 ml cartridges providing, for example, approximately 12 linear metres of 6mm bead.

Easy to follow, illustrated instructions are provided. Sealmaster can recommend experienced installers and trains interested contractors - without charge.



Test Evidence

FireGlaze Compound and G30 bead strip have been proven in independent BS 476: Part 22 tests and the butt-jointed system has also been assessed by the Warrington Fire Research Centre. Test reports and product approvals are available for inspection on request.

Important Note

No substitution of materials may be permitted. For further information and advice, please contact Sealmaster.



The butt-jointed system passing its BS 476: Part 22 tests at the Warrington Fire Research Centre (with flying colours).

The World's First fully Glazed Fire Doors



Benefits

Optimal flow of natural light Includes draught, fire & smoke seals. Mimics style of toughened glass doors.

Features

Fully-glazed fire doors can be seamlessly integrated into steel and partitioned systems. The example illustrated above shows a 30 minute fire door as part of a faceted butt-jointed fire screen in the Heathrow Hilton Hotel. Even though the door stiles can be as slim as 22mm, the doors incorporate Sealmaster Ultima seals which seal draughts in daily use plus fire and smoke during a blaze.

Options

Single and double leaf doorsets are available with a 30 or 60 minute fire integrity rating (BS476: Part 22). The doors may be operated manually or automatically and the glass can be drilled for bolt-through handles. An acid etching effect may be used to create varied levels of obscurity. The slim steel frames are available in a variety of finishes.

Installation

The construction and installation of glass fire doors is generally carried out by specialist fabricators. Sealmaster's technical engineers are available to advise on the use of FireGlaze intumescent protection.

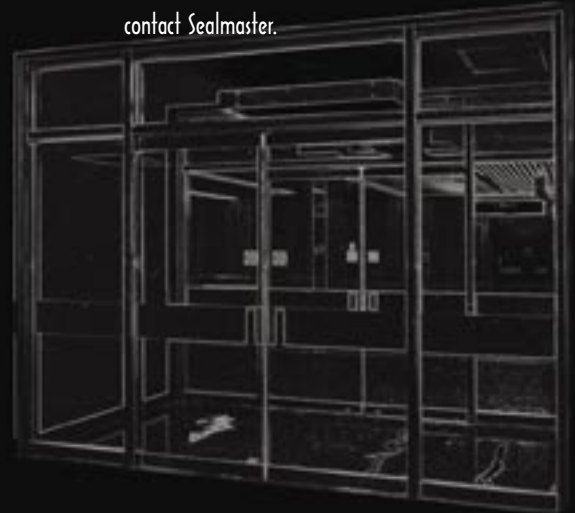
Test Evidence

The doors have been independently proven to meet BS476: Part 22. Copies of Test reports and product approvals are available for inspection.



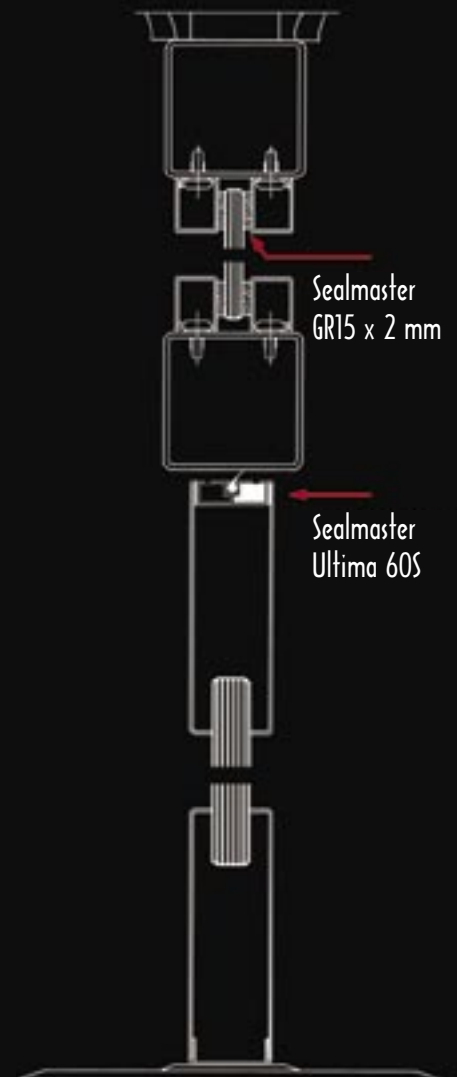
Important Note

No substitution of materials may be permitted. For further information and advice, please



Components

The FireGlaze intumescent seals used in glass doors typically include three key components - FireGlaze Compound, FireGlaze GR15 dry bead strip and Ultima fire and smoke seals.



The World's First 60 Minute Glazed Screen - in any timber

Benefits

- Frame in any timber (including softwoods).
- No treatments to timber required.
- Choice of types of fire safety glass.
- Unlimited runs and up to 3m x 3m panes.
- Fire doorsets may be incorporated.

Features

The only glazing system to offer 30 and 60 minutes fire integrity (BS476: Part 22) using any untreated timber frames - even softwoods.

Quick and easy to install, the intumescent seals deliver a very high bond strength and are erosion resistant. The compounds are water-based and contain no toxic or hazardous materials. Activation takes place during a fire without noxious fumes or smoke being given off.

Options

Any timber may be used for the frame (above a minimum density of 500Kg/m³). The seals have been assessed for use with Pyran S, Pyroshield, Pyrodur, Pyrabel and Pyrostop types of fire safety glass.

Options such as the maximum pane size vary, depending upon the type of glass etc. For comprehensive details, diagrams and model specifications, please contact the Technical Department at Sealmaster.

Installation

Fitting the intumescent seals is a simple 'one time' procedure. Fully illustrated instructions are provided. Sealmaster can recommend experienced installers and also train interested contractors - without charge.



Test Evidence



FireGlaze Compound, GL60 dry liner and FireGlaze 2000 dry bead strip have been proven in independent BS 476: Part 22 tests and assessed by the Warrington Fire Research Centre. Test reports and product approvals are available for inspection on request.

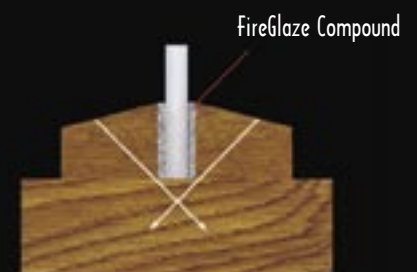
Important Note

For 30 minute screens, the frame and beads should be 510 Kg/m³ density minimum. For 60 minute screens, they should be at least 600 Kg/m³. For complete details of permitted variations in glass types, frame and bead sizes etc., please contact Sealmaster. No substitution of materials may be permitted.

Components

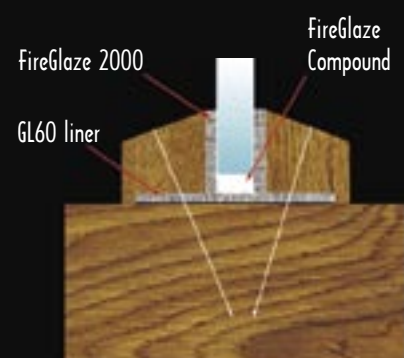
30 minutes - model specification

- Pyroshield 1.8m x 3.0m.
- 25mm x 15mm high hardwood bead with 15° chamfer.
- 38mm No.8 wood screws @ 150mm centres.
- 80mm x 25mm timber frame.
- 15mm x 2mm FireGlaze compound.



60 minutes - model specification

- Pyran S 1.4m x 3.0m.
- 28mm x 20mm high hardwood bead with 25° chamfer.
- 75mm No.8 wood screws @ 180mm centres.
- 90mm x 45mm timber frame.
- FireGlaze 2000 bead strip @ 20mm x 5mm.
- FireGlaze GL60 liner @ 63mm x 2mm.
- FireGlaze Compound to suit glass thickness.



Discrete Glazing Seals for Fire Doors



Benefits

- Seals are hidden from view.
- No treatments or coatings to the timber.
- For glass panes up to 800 by 650mm.
- Ultra slim beads.
- Suitable for angular and curved apertures.

Features

On 30 minute doors, beads may be fixed with steel pins in place of screws. The intumescent seals produce a very high bond strength under heat. They utilise water-based compounds which contain no toxic or hazardous materials and when activated by fire, they produce no noxious fumes or other by-products.

Options

A 30 or 60 minute rating is available (BS476: Part 22). Any fire safety glass with a 30 or 60 minute performance (to BS 476) may be used - such as Pyran 5 or Pyroshield. Any timber may be used for the beads (if 600 Kg/m³ or greater in density). FireGlaze Compound comes in white, grey, light oak and brown for a seamless match with the beads. A neo-Georgian or french door style is also possible using Sealmaster mock glazing bars - see opposite.

Installation

Fitting the intumescent seals is easy, involving a 'one time' procedure. Fully illustrated instructions are provided. Sealmaster can recommend experienced contractors and train interested contractors - without charge.

Test Evidence

FireGlaze Compound and GL60 dry liner have been independently proven in BS476: Part 22 tests carried out by TRADA and also assessed for a variety of applications.

Test reports and product approvals are available for inspection on request.

Components

FD30



Pyroshield glass 650mm (w) x 800mm (h)
25mm x 15mm high beads with 20° chamfer in hardwood timber.
38mm steel pins @ 150mm centres.
2mm FireGlaze compound to bead height.

FD60



Pyroshield glass 650mm (w) x 800mm (h)
24mm x 28mm high beads with 20° chamfer in hardwood timber.
50mm No.8 wood screws @ 150mm centres.
4mm FireGlaze compound to bead height.
FireGlaze GL60 liner @ 54mm x 2mm.

Important Note

No substitution of materials may be permitted. For further information and advice, please contact Sealmaster.



Period Style Glazing Bars - 30 & 60 Minute Fire Doors

Benefits

- Attractive period effect.
- 30 or 60 minute fire rating.
- Quick and simple to fit.
- Rectangular, fan vent & other patterns.

Introduction

When Georgian and other period buildings undergo refurbishment or a formal change of use, the level of fire safety protection must frequently be improved to meet modern fire safety standards. Unfortunately it is not possible to fire rate the small panes of glass fixed into thin glazing bars characteristic of the Georgian style because these are consumed so rapidly during a fire. Sealmaster GB15 intumescent strips avoid this problem, giving glazed doors or partitions a Georgian appearance - with a fire rating of 30 or 60 minutes.

The glazing bars are fixed to each face of larger panes of Pyran S glass in a lattice framework. To prevent the heat radiated by a fire from igniting the beads on the unexposed side, the bars automatically detach in the first few minutes of a fire- forced away from the glass by the GB15 intumescent strips which swell under heat to produce the required pressure. The large pane then reverts to provide 30 or 60 minute protection (depending on the FireGlaze system used to protect it).

Options

Suitable for glazed fire doors and fire rated glazed screens where 30 or 60 minutes protection is required. For details of the edging detail, see the pages on glazed screens and fire doors in this leaflet.



Features

- Automatically self-detaching during a fire.
- High pressure graphite-based intumescent strips.
- Excellent longevity characteristics.
- Hardwood bars may be decorated or stained.

Installation

GB15 intumescent strips, incorporated into the glazing bars are cut to form a lattice and glued together with PVA adhesive. The lattice is attached to each face of a pane of Pyran S fire safety glass with self-adhesive tape, stopping just short of the perimeter frame.

Fully illustrated instructions are provided. Sealmaster can recommend experienced contractors and train interested contractors - without charge.

Test Evidence

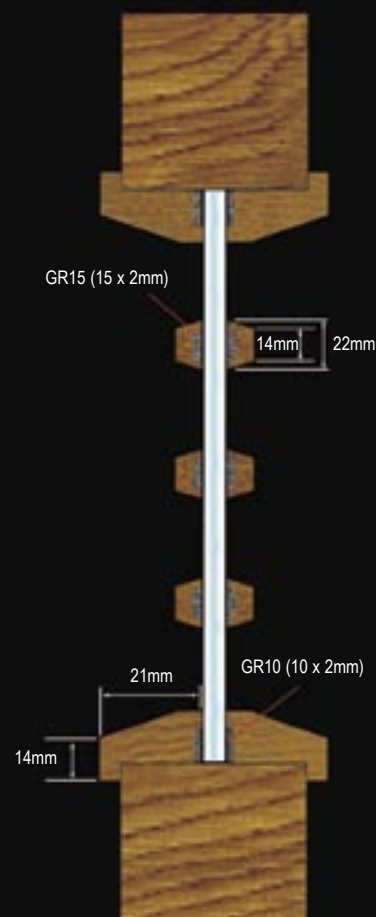
Complete details of the performance of GB15, GR10 etc. under test are available for scrutiny from Sealmaster's Technical Department.

Important Note

No substitution of materials may be permitted. For further information and advice, please contact Sealmaster.

Components

GB15 intumescent strips are supplied at 15mm x 2mm in 2.1m lengths with double sided tape on each side. Suitable hardwood beads, as shown below, are 21mm deep and 22mm wide tapering to 14mm.



General Information



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Save Time Specifying

This leaflet outlines the general applications for FireGlaze seals and provides some basic model specifications. The full range of possibilities is considerably wider - depending for instance, on the type of glass, its size and its height-to-width ratio. With some applications, there is a trade-off between the density of timber frame or beads and their minimum dimensions.

It is vital to ensure that proposed designs meet the parameters established by BS476: Part 22 tests and independent assessments based on them. This is why we strongly recommend that specifiers take advantage of our free technical support.

Projects featured

Atrium House, London (front cover & page 2, right).
Sheffield United FC Stadium (page 2, centre).
Huddersfield Town Stadium (pages 2 & 3, bottom).
Tottenham Hotspur FC Stadium (page 3, left).
National Centre for Popular Music, Sheffield
(page 3, right & rear cover, bottom).
Hilton Hotel, Heathrow (page 4, left).
Sony (UK) HQ, Surrey (page 5, bottom).
Cathay Pacific HQ, Hong Kong (page 6, top).
Leeds Grammar School (page 6, bottom).

Credits

Sealmaster is grateful to the following organisations for their help in producing this leaflet:

Cathay Pacific, Hong Kong
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