



**LORIENT**

## Fire Resistant Glazing System incorporating Flexible Figure 1

- FF1 is an effective seal for half-hour glazed apertures in 30 minute door leaves
- Flexible, quick and easy to install
- Suitable for a variety of fire resistant glass types Ranging from 5mm to 7.2mm



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## Fire and Smoke – Life Threatening Forces

Every year in the UK alone, some 600 people are killed and 18,000 injured in fires, many of the casualties being attributable to breathing the toxic products of combustion from a remote fire. Fire and smoke also cause extensive damage to building fabric and contents. It has been estimated that the total value of fire related losses is some £2.2 billion per annum. The majority of these deaths, injuries and losses occur in buildings where fire and smoke protection measures have been inadequate.

### Design Needs

The Building Regulations require large buildings to be sub-divided into smaller volumes or areas bounded by building elements which resist the spread of fire and smoke. Building a fire resistant wall is a relatively simple task. More complex is how to deal with glazed apertures. Gaps, joints and interfaces between dissimilar materials invariably form points of weakness. Provision needs to be made to seal these effectively and glazed apertures form an important part of this construction.

### The Solution

The Lorient solution is to fit a fire resistant glass secured using Lorient's fire resistant glazing systems. These hold the glass firmly in place during normal use, but in the event of a fire the intumescent material expands, securing the glass and insulating and protecting the surrounding timber.

There are no specific test procedures to determine the performance of a glazed aperture in relation to smoke.

Lorient systems are designed to minimize smoke transfer yet fit tightly on the perimeter of the glass and eliminate undesirable rattle at the same time.

### Regulatory Requirements

The requirements for fire and smoke containment with respect to 'means of escape' are contained in Approved Document B to the Building Regulations (England and Wales), Part E of the Scottish Technical Standards and Part E to the Building Regulations (Northern Ireland).

Document N to the Building Regulations and Technical Booklet V to the Building Regulations (Northern Ireland) give guidance and requirements affecting safety in use, particularly impact resistance. A distinction is drawn between glass which is fixed and that which moves (as in doors). Document N needs to be considered in conjunction with Document B.

## Relevant Standards

There are several British Standards which relate to glazing; they include:

BS 476: Pt. 22: 1987: Methods for determination of the fire resistance of non-loadbearing elements of construction

BS 5588: Fire precautions in the design and construction of buildings. (An Approved Document for compliance with Building Regulations).

## Fire Protecting Glazed Apertures

In door assemblies, especially those on circulation routes, glazed apertures allow people to see others approaching from the opposite direction: they also allow fire and smoke to be seen without opening the door thereby making a real contribution to safety.

When forming a glazed aperture in a fire resisting door it is essential that fire resistant glass is used. The most commonly specified is Georgian wired glass but other glass types have been tested too.

A Lorient glazing system is designed to prevent or delay possible modes of failure in either the glass or its surroundings.

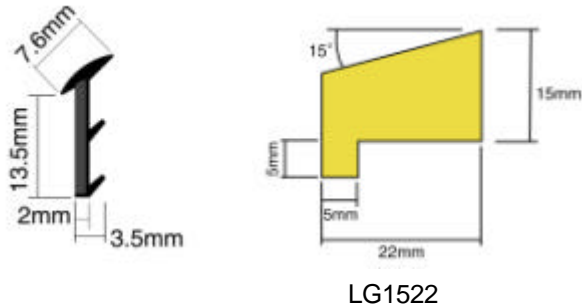
### Flexible Figure 1



## Description

Lorient Flexible Figure One, when incorporated with an appropriate bead detail, is an effective intumescent seal, providing a solution for 30 minute fire resistant glazed doors.

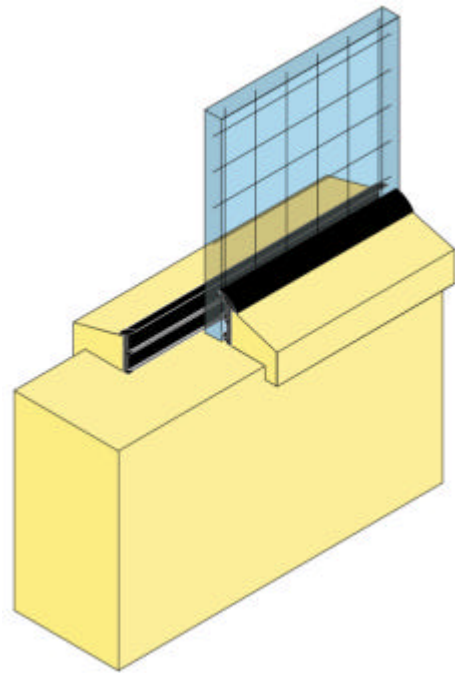
- Unique design which enables tolerances between door, bead and glass thicknesses to be accommodated, minimises glass rattle and is good for acoustic containment
- Special cap gives neat aesthetics and provides the locating point for fixing to the glazing bead for ease of application
- Seal has a self-adhesive backing for ease of fitting
- Hardwood or softwood beads can be used (min density  $550\text{kg/m}^3$ ) depending on door core
- Seal and bead can be mitred at the same time, saving labour costs
- Available in black as standard but white and light brown can be offered to special order
- Available in 50 metre coils. Minimum order quantity: 1 box (250 metres)



*NB: Bead dimension could vary depending on glass type and door thickness.*

## Operation

In every day use, Lorient Flexible Figure One offers firm support with a degree of flexibility which absorbs shocks and minimises glass rattle. When exposed to fire, the intumescent material expands forming a stable insulating seal which prevents the retaining beads from ignition on the non-fire side of the door.



## Fixing

Beads are retained using 40mm long steel pins at 150mm nom. centres or steel screws 40mm long (No. 8) at 150mm nom. centres.

## Performance

Provides 30 minutes fire resistance when used with:

- Door Cores:
- Solid laminated timber e.g. Softwood lamel
  - Solid chipboard (GDC)
  - Flaxcore – in conjunction with either 20mm hardwood liner (min density  $640\text{ kg/m}^3$ ), Intumescent liner LX4402 or saddle bead (min density  $640\text{ kg/m}^3$ )

- Glass Types:
- GWPP
  - Pyroshield<sup>®</sup> 6mm
  - Pyran S<sup>®</sup> 6mm
  - Firelite<sup>®</sup> 5mm
  - Pyrodur Plus<sup>®</sup> 7mm
  - Pyroguard<sup>®</sup> 7.2mm
  - Pyrostem<sup>®</sup> 7mm
  - Pyrobelite<sup>®</sup> 7mm

Aperture size: 875mm high x 750mm wide



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