KEEP THE FIRE FROM SPREADING
Importance of Fire Protection Systems

A small spark is enough to cause a huge incident. By establishing a fire prevention plan for your building, you can avoid fatalities and costly damages. Fire-prevention systems can broadly be classified into two categories: Active Fire Protection and Passive Fire Protection.

**Active Fire Protection (AFP)** systems require a certain motion and response to combat fire and can be either automatic or manual. These systems require periodic maintenance and audits to verify their workability and response to fire.

**Passive Fire Protection (PFP)** systems prevent the spread of fire by creating barriers to its passage for a limited time, enabling occupants to move to a safe environment.

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<th>Passive Fire Protection System</th>
<th>Active Fire Protection System</th>
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**Regulations around the World for Passive Fire Protection**

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<th>Country</th>
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<th>Germany</th>
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<tr>
<td>Standards</td>
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<td>BS 476</td>
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<td>Test</td>
<td>Impact and Fire Test</td>
<td>Hose Stream Test</td>
<td>Impact, Fire and Hose Stream Test</td>
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</table>
PFP is an essential fire safety strategy for any building. If proper planning, installation and maintenance are implemented, passive fire protection can save lives and the building itself. While PFP may not provide a complete fire-safety solution, when combined with AFP, it can make a big difference in case of an emergency.

### Types of Regulated Openings

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<th>Rated Doors</th>
<th>Rated Windows</th>
<th>Rated Glazing</th>
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<td>Access doors</td>
<td>Casement windows</td>
<td>Clear ceramics</td>
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<td>Accordion / Folding doors</td>
<td>Double-hung windows</td>
<td>Insulated glass</td>
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<td>Bi-parting doors</td>
<td>Glass Block windows</td>
<td>Laminated glass</td>
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<tr>
<td>Conveying system doors</td>
<td>Hinged windows</td>
<td>Light-diffusing plastic</td>
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<tr>
<td>Chute doors</td>
<td>Pivot windows</td>
<td>Light-transmitting plastic</td>
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<td>Dutch doors</td>
<td>Sidelight windows</td>
<td>Fire-rated glazing</td>
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<td>Floor fire doors</td>
<td>Stationary windows</td>
<td>Tempered glass</td>
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<td>Hoist-way doors</td>
<td>Tilting windows</td>
<td>Transparent ceramics</td>
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<tr>
<td>Horizontal doors</td>
<td>Transom windows</td>
<td>Wire glass</td>
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  - Wire glass
AIS PYROBEL

AIS Pyrobel is a high-end, fire-resistant glass range, specially engineered to withstand extreme levels of heat, restrict heat transfer and prevent smoke and flames from spreading.

HOW IT WORKS

AIS Pyrobel is a multi-laminated glass assembled with clear intumescent interlayers. In case of fire, these interlayers expand at around 120°C and transform into a rigid and opaque shield.

PYROBEL: FROM AGC TO AIS

Pyrobel is a proven and tested world-class product from our partner AGC. With huge strides being made in design and safety standards of buildings in India, the need for quality fire-resistant glass products has become critical. This is why Pyrobel is now brought to you by AIS.
Provides safety against fire, heat and smoke for extended periods

Ensures protection against radiation and conductive heat transfer

Double-sided fire-resistant glass - thus provides protection at both the sides

Rated EW 30, EW 60, EW 120, EI 30, EI 60, EI 90, EI 120 and EI 180

Safety glass according to EN 12600 (3B3, 2B2 or 1B1 according to product type)

Approved in wooden, steel and aluminium framing systems

Approved in frameless systems named PYROBEL VISION LINE

Available as single internal glazing and single external glazing with a UV filter (EG type), and double-glazing unit (DGU) in combination with any other AIS glass product

**Additional Benefits**

Provides excellent noise reduction of up to 49 decibels*

Resists high loads of pressure, making it almost unbreakable

Inspires architects and designers to create a safe and aesthetically pleasing environment

*Conditions apply
Pyrobel is available in all resistance classes: Integrity (E), Radiation Resistance (EW) and Heat Insulation (EI).

1. **E Class – Integrity**: They provide only integrity. These are special tempered glasses and they prevent the spread of flames to the non-fire side. They are normally used for internal applications.

2. **EW Class – Integrity & Low Radiation**: These are tempered and laminated glasses. They prevent the flames and also control the radiation on the non-fire side to a maximum of 15 kW per sq.m. They offer integrity and provide for low heat radiation. They are used for both interior as well as exterior applications.

3. **EI Class – Integrity & Insulation**: This type of glass offers integrity and insulation. The maximum temperature on the non-fire side does not exceed an average of 140°C.
Choose your AIS Pyrobel

(1) For more information about the approved framing systems and sizes, please contact the sales representative
(2) PYROBELite in IGU structure can be either 6 - air - PYROBELite EG or Laminated glass 33.2 - air - PYROBELite, all combined with or without all types of coatings
All PYROBELite EG structures can be combined with Stratobel approved Anti-bandit (EN 356) or Anti-bullet (EN 1063) glasses
The pictures shown below are taken from a test which was conducted in a controlled environment. They showcase the unparalleled fire-resistance capacity of AIS Pyrobel Glass.

Product: Pyrobel T EW 120-16
Glass integrity → 120 mins and insulation → 20 mins
Product: Pyrobel T EW 120-16
Glass integrity → 120 mins and insulation → 20 mins
AIS Pyrobel Glass walls are safer alternatives to brick walls with wooden or metal fire doors. This aesthetically appealing glass solution enables a brighter and modern look, along with a spacious and airy feel.

Notice how the use of glass in Fig 2 makes a space look so much more bright and airy.
Maximum Size: As per glass type, frame system & valid test report.

ADVANTAGES
• AIS Pyrobel fire-resistant glass complies with all integrity and insulation criteria
• Clear glass provides distortion-free vision
• It does not incorporate any wire and its light transmission is comparable to clear float glass
• Safety glass that meets the requirements of BS 6206
• Excellent sound reduction properties
• Available in large sizes, up to 290 cm height
• Can be customised to incorporate other products such as solar-control, low emissivity, patterned or tinted glass
• Available in rectangular, rectilinear or curvilinear shapes
• Can be easily fitted into most fire screens and doors
• Available in sizes, ranging from 300 mm x 450 mm up to 2,900 mm height for Pyrobel-T
• Pyrobel T provides double-sided protection
Fire resistance glass products are only part of overall fire-resistant elements. It is the responsibility of the installer to ensure that the fire-resistant element as a whole satisfies the regulations and / or to obtain the approval from the competent authorities. AIS does not accept any liability should the fire-resistant glass be installed in systems that do not comply with regulations.

A visible stamp should be placed on the glass in order to identify the product with its classification and position in the structure. AIS Pyrobel is a two-sided fire-resistant glass. For correct installation in case of UV radiation, the stamp must be readable from the inside of the building.

### Compliance

- On racks, Fire-Resistant Glass Products must be stored slightly inclined (6° to 10° from the vertical) and fully supported.
- A soft spacer must be placed between each glazing.
- Do not pile up more than 20 sheets per rack.
- Must be stored in dry and ventilated conditions, at temperatures ranging between -40°C and +50°C.
Installation and Glazing Instructions

- AIS Pyrobel cannot be cut on site and the edge protection tape must not be removed nor damaged.
- Before installation, AIS Pyrobel must be checked to ensure that it is not damaged, especially along the edges.
- Do not allow any contact of the glazing’s edges with water.
- Avoid all glass-to-metal contact.
- Do not exercise any restraint on the glazing.
- Do not install AIS Pyrobel in locations where the temperature might exceed +50°C.
- Always refer to the fire test report details.
- For external applications, or in case of direct solar radiation on the glazing, AIS Pyrobel is available as an external grade (EG), with a UV filter.
- Pyrobel External Grade must be correctly oriented with its stamp readable from the UV opposite surface side.

Uncompromising Quality

The quality and performance of the AIS Pyrobel range is carefully controlled at each stage of production. However, due to the nature of the special intumescent interlayers, they may exhibit or develop some minor imperfections such as small inclusions and bubbles, a slight distortion and a light haze.

These features do not affect the free vision nor shall the fire resistance of the glazing be considered defective, provided the variation of haze and light transmission does not exceed 5%.
AIS Pyrobel can be used in all applications where building regulations stipulate a specific level of fire resistance and where natural light and clear visibility are required, such as:

- Hospitals
- Schools
- Hotels, restaurants
- Stores, shopping centres, malls
- Office buildings, computer rooms
- Industrial buildings, warehouses, laboratories, airports
Partitions
Fire-rated glass serves as an exceptional material of choice due to its transparency, longevity and almost zero-maintenance.

Fully Glazed Fire Doors
A glass-glazed option to regular fire-doors provides complete transparency and better aesthetics.

Façades and Windows
When used in façades, they stop the fire from spreading inside-out or outside-in.

Floors
Fire-safe floors utilise glass and other glazing materials to stop the flow of fire between floors.

Data Storage and Server Room Enclosures
Preservation of electronic data against risk of fire is critical and almost all server and data room enclosures are now designed with fire-rated glass products.

Stair Enclosures
Staircases are the fastest and safest exit routes in most constructions and it is important to protect their access points with fire-rated doors with inbuilt vision panels. These vision panels greatly assist in understanding the extent of fire and help coordinate getaways from fire-affected areas.

Lift Doors and Enclosures
Fire-rated glass doors help in identifying potential survivors on either side as the glass is transparent throughout the fire and can greatly help rescue efforts.