KEEP THE FIRE FROM SPREADING

AIS | PYROBEL

FIRE-RESISTANT GLASS

Fire might be a symbol of man's development in the world, but when it is out of control it could cause enormous damage to the surroundings. Especially when it comes to fire hazards in buildings, the occurrence of fire can be unpredictable and disastrous. It could spread wildly and cause significant threat to life and property. Therefore it is critical that fire-safety materials and fire-resistant products measure up to the highest possible standards of performance.

In today's building design and construction, glass has become an integral part of architecture and interior design. The right type of glass product used under proper norms and guidelines, can help reduce the destructive effects of fire significantly and save lives.

This is where AIS Pyrobel comes in.

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.

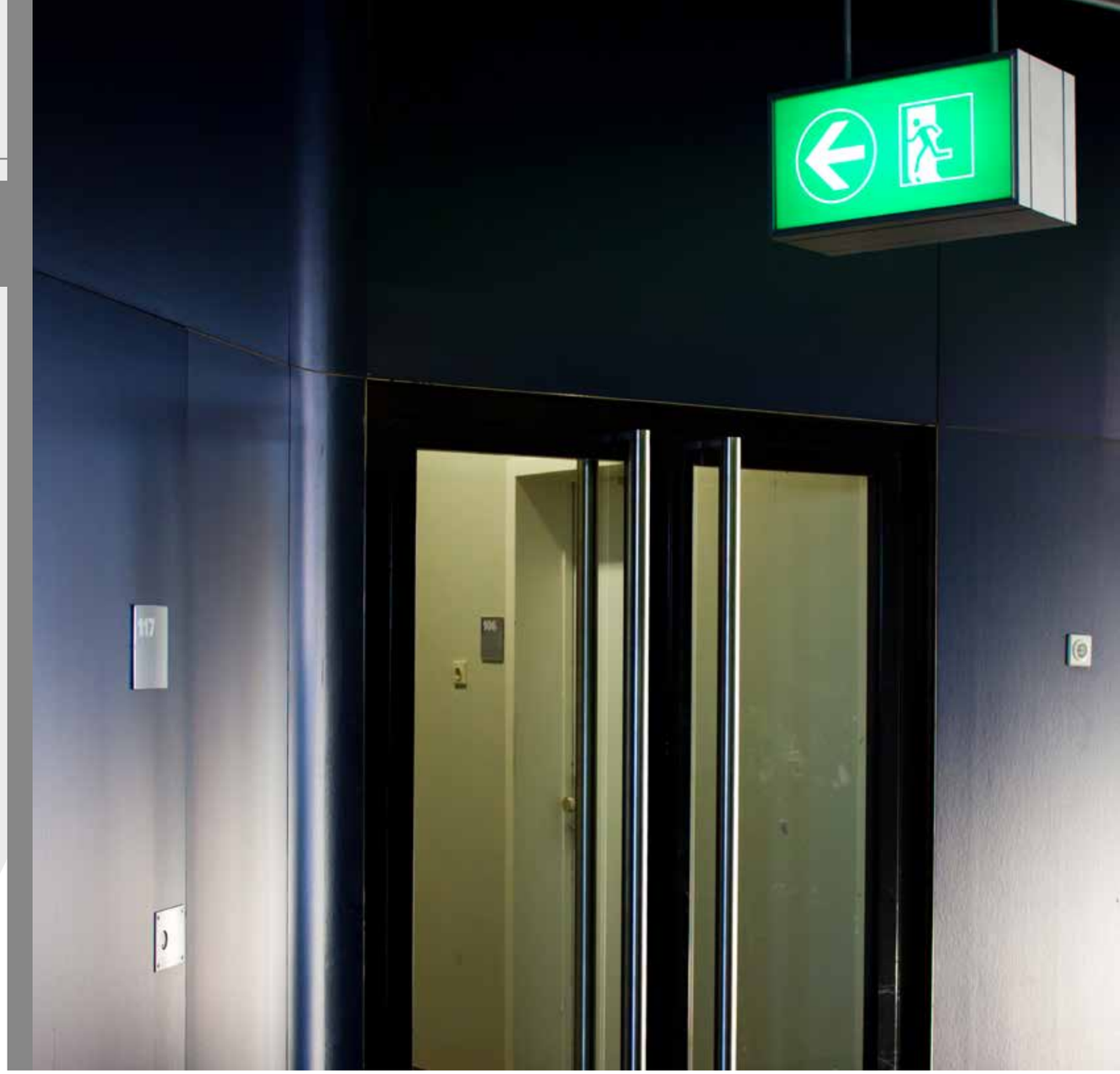
Active Fire Protection (AFP) systems require a certain motion and response to combat fire and can be either automatic or manual. These systems require periodic maintenance and audits to verify their workability and response to fire.

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.

FIRE PROTECTION SYSTEM			
PASSIVE FIRE PROTECTION	ACTIVE FIRE PROTECTION		
Constructional	**Technical**	**Organisational**	**Public**
Escape Routes	Sprinkler Systems	Ordinances of Workplaces	Fire Department
Compartmentation	Extinguishers	Instructions to Occupants	Water Supply
Behaviour of Construction Materials in Case of Fire	Flues	Fire Safety Regulations	Emergency Calls
	Hypoxic Air Suppression	Fire Safety Drills and Audits	Fire Alarms

Regulations Around the World for Passive Fire Protection

Country	Europe	Germany	UK	USA	India
Standards	DIN EN 1363	DIN 4102	BS 476	UL 9	EN 1363/UL 9/ BS 476
Institute	efectis \ TNO	DIBt	Warrington		CBRI
Test	Impact and Fire Test			Hose Stream Test	Impact, Fire, and Hose Stream Test



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, they can make a big difference in case of an emergency.

Types of Regulated Openings

Rated Doors	Rated Windows	Rated Glazing
Access doors	Casement windows	Clear ceramics
Accordion / folding doors	Double hung windows	Insulated glass
Bi-parting doors	Glass Block	Laminated glass
Conveying system doors	Hinged windows	Light diffusing plastic
Chute doors	Pivot windows	Light transmitting plastic
Dutch doors	Side lights	Fire-rated Glazing
Floor fire doors	Stationary windows	Tempered glass
Hoist-way doors	Tilting windows	Transparent ceramics
Horizontal doors	Transom windows	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 the smoke and flames from spreading.

It can easily replace a traditional brick wall in terms of fire-rating property. This helps enhance the aesthetics of the room, and at the same time provides a clear vision of the other side.

In case of a fire outbreak, AIS Pyrobel can play a pivotal role in containing damage to life and property caused by fire, and give enough time for the occupants to implement a safe evacuation plan.

It is designed to meet the fire protection ratings specified by national building regulations.

Pyrobel: From AGC to AIS

Pyrobel is a proven and tested product of AGC. AGC has had a strong influence in promoting technologically advanced glass products in India through AIS.

With an increase in fire outbreaks in India, the need for world-class fire-resistant glass products has become the need of the hour.

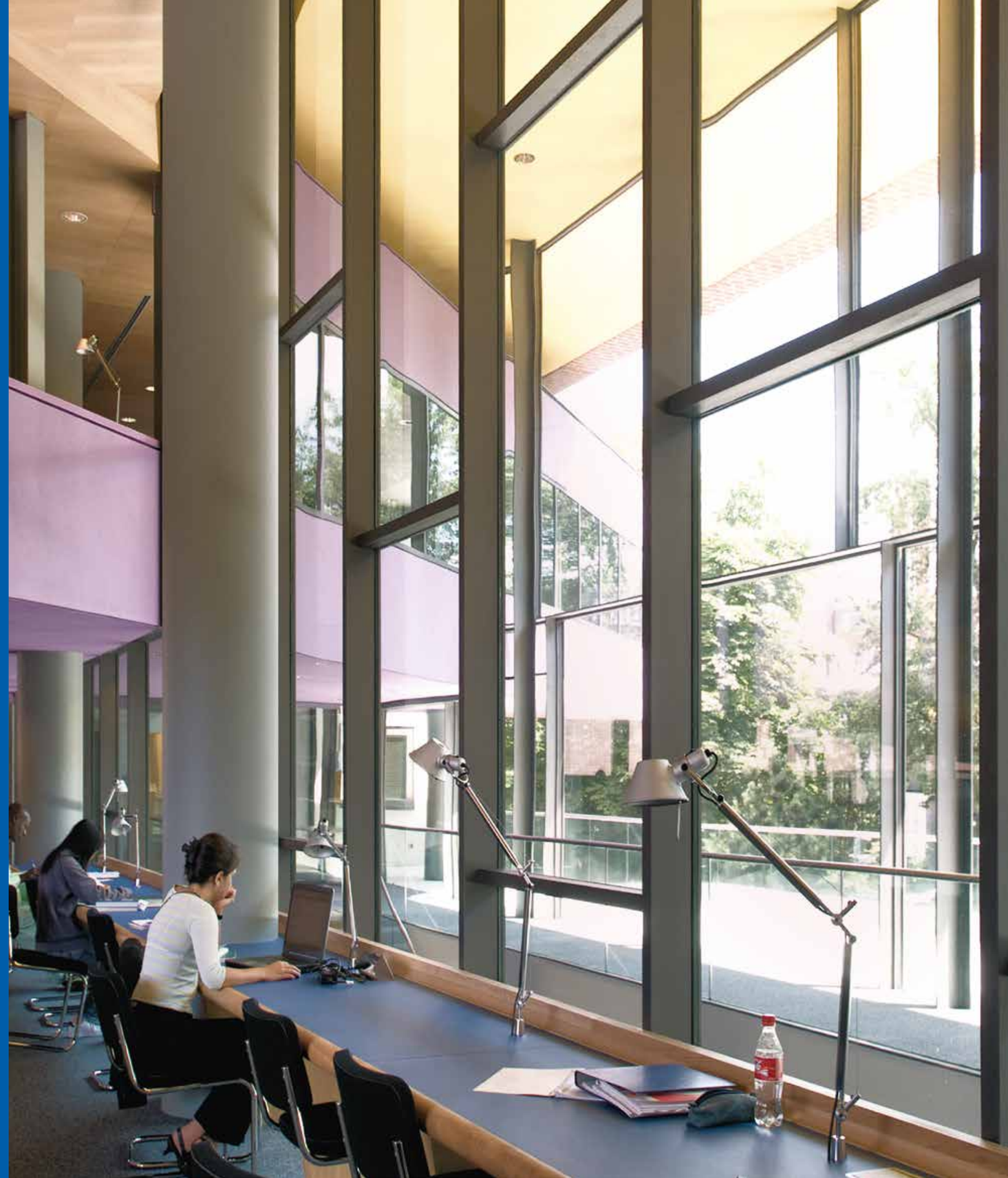
Therefore, to enhance the design and safety standards of buildings in India, Pyrobel is brought to you by AIS.

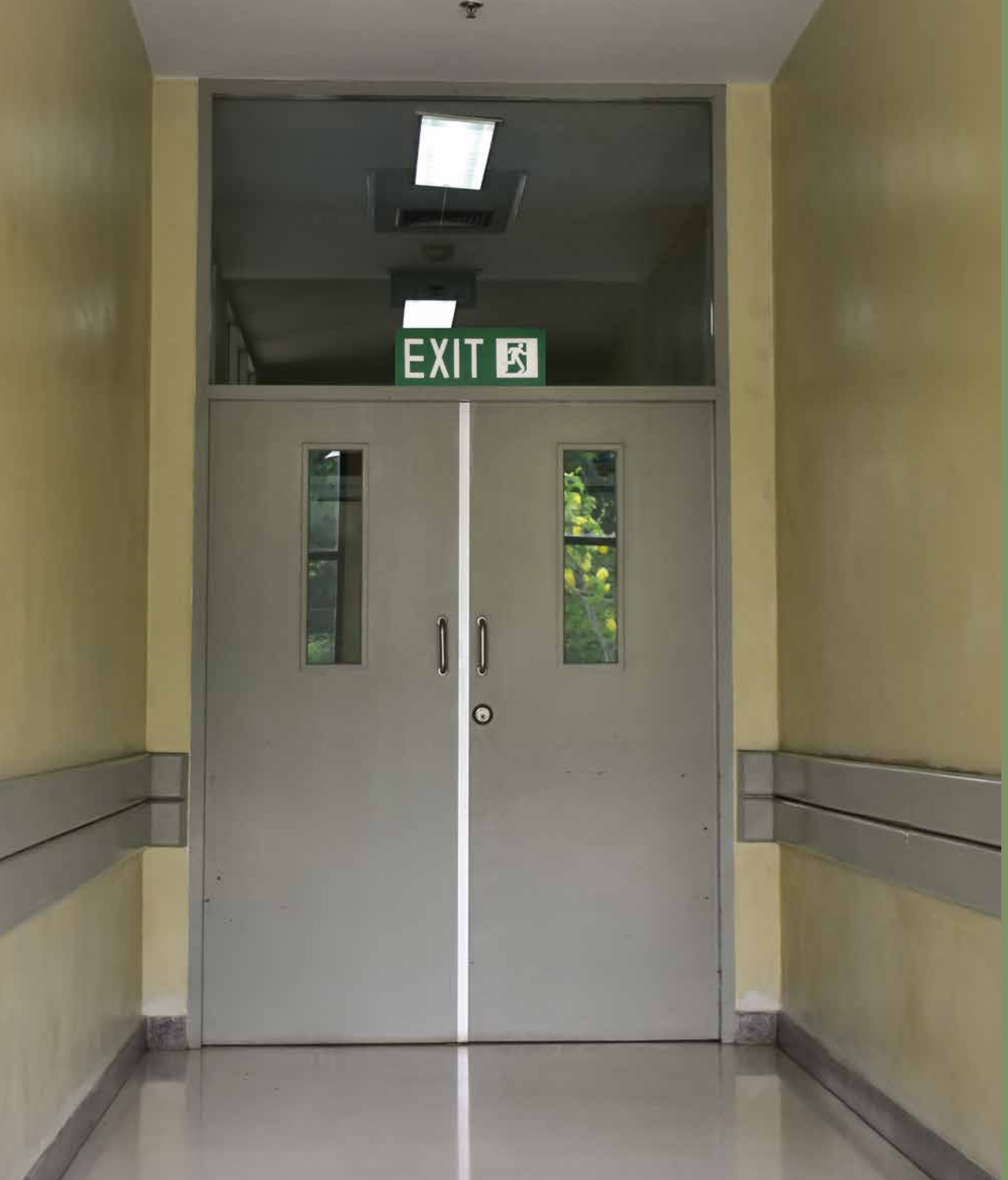
Features and Benefits

- 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 on both the sides
- Rated EW 30, EW 60, EW 120, EI 30, EI 60, EI 90, and EI 120
- Safety glass according to EN 12600 (3B3, 2B2, or 1B1 according to product type) and BS 6206 (class C, B, or A according to product type)
- Approved in wooden, steel, and aluminium framing systems
- Approved in frameless systems (butt-joint) named PYROBEL VISION LINE
- Available as single internal glazing, 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
- It can also be used in double glazing for exterior façades which provides solar and thermal protection with higher light transmission value





Fire-Resistant Glass Types

AIS Pyrobel presents a comprehensive range of fire-resistant glass products, tested and approved according to Indian and international standards. They provide a unique combination of light, transparency, and fire protection for all building applications, framing types, and fire-resistance classes and durations.

Class E: The glass prevents flames, smoke, and hot gases from passing through. The fire remains contained.

Class EW: Integrity and Low Heat Radiation or the ability of the element to prevent the passage of flames and to limit the level of heat transfer through the element.

Class EI: Integrity and Insulation or the ability of the element to prevent the passage of flames and to block heat transfer through the element.

The required fire protection rating is specified by the respective national building regulations following a risk assessment based on the building characteristics and the location of the fire-rated element (façade, partitioning walls, stairways, etc.)

Fire Protection Ratings

Class / Duration	15 mins	20 mins	30 mins	45 mins	60 mins	90 mins	120 mins
DH	-	-	DH30	-	-	-	-
E	-	E20	E30	-	E60	E90	E120
EW	-	EW20	EW30	-	EW60	EW90	EW120
EI	EI15	EI20	EI30	EI45	EI60	EI90	EI120

Choose your AIS Pyrobel

Building Application	Fire Rating EN 13501-2	Safety Rating on FR Glass EN 12600	Approved Sizes (1)	Product (2)
Interior Doors & Screens Single Glass	EW 30	3B3	Medium	PYROBELite 7
		2B2	Medium	PYROBELite 10
		1B1	Medium	PYROBELite 9 EG
	EW 60	2B2	Medium	PYROBEL 16
				PYROBELite 12
	EW 120	1B1	Medium	PYROBEL-T EW 120 - 16
	EI 30	2B2	Large	PYROBEL 16
		1B1	Large	PYROBEL 16 EG
	EI 60	1B1	Large	PYROBEL 25 & 25 EG
	EI 90	1B1	Large	PYROBEL 30
	EI 120	1B1	Large	PYROBEL 53N
Interior Screens Butt-Jointed Single Glass	EI 30	2B2	Large	PYROBEL 16 Vision Line
		1B1	Large	PYROBEL 16 EG Vision Line
	EW 120	1B1	Medium	PYROBEL T EW 120 - 16
	EI 60	1B1	Large	PYROBEL 25 Vision Line
			Large	PYROBEL 25 EG Vision Line
	EI 120	1B1	Large	PYROBEL 53N Vision Line
Outside Windows & Curtain Walls Double Glass	EW 30	1B1	Medium	PYROBELite 9 EG IGU
	EI 30	1B1	Large	PYROBEL 16 EG IGU
	EI 60	1B1	Large	PYROBEL 25 IGU
	EI 90	1B1	Large	PYROBEL 30 IGU
	EI 120	1B1	Large	PYROBEL 53N IGU
Horizontal Floors & Ceilings Single Glass	EI 30	1B1	Medium	PYROBEL 19 H
	EI 60	1B1	Medium	PYROBEL 28 H

(1) For more information about the approved framing systems and sizes, please refer to the respective Product Data Sheets

(2) Pyrobel(ite) in IGU structure can be either 6 - air - Pyrobel(ite) EG or Laminated glass 33.2 - air - Pyrobel(ite), all combined with or without all types of coatings

All Pyrobel(ite) EG structures can be combined with Stratobel approved Anti-bandit (EN 356) or Anti-bullet (EN 1063) glasses.

Where can AIS Pyrobel be used?

Partitions
Fire-rated glass serves as an exceptional material of choice for creating these compartments 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 transmitting inside-out or outside-in.

Floors
Fire-safe floors utilize 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 facilitate coordinated 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.

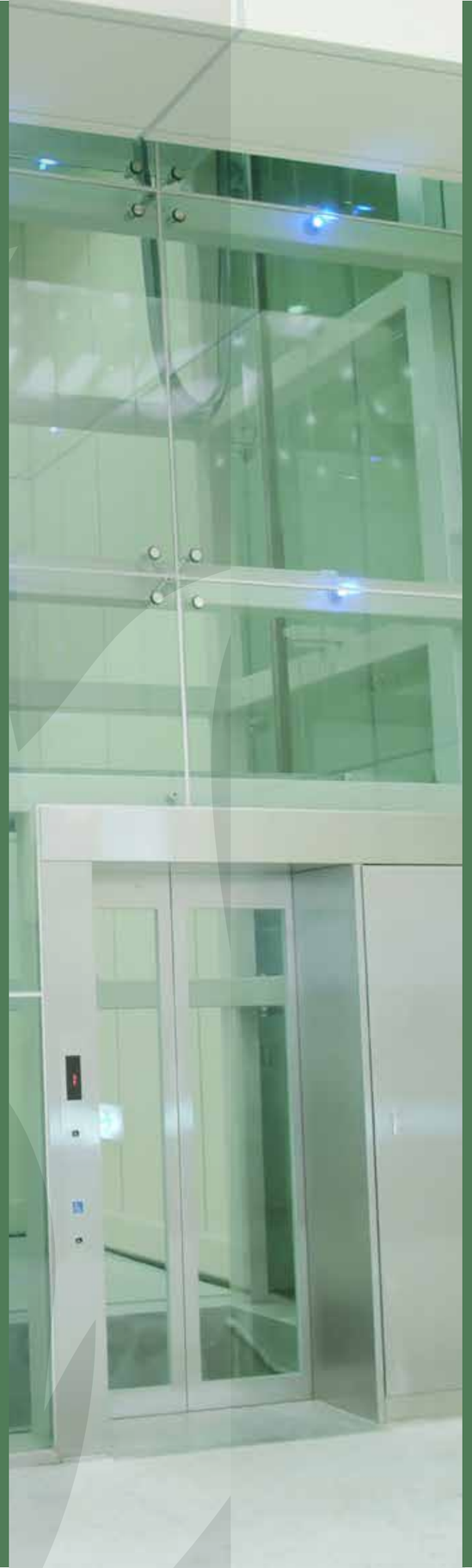
Compliance

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 2 sided fire-resistant glass. For correct installation in case of UV radiation, the stamp must be readable from the inside of the building.

Storage and Handling Instructions

- 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 opposed side

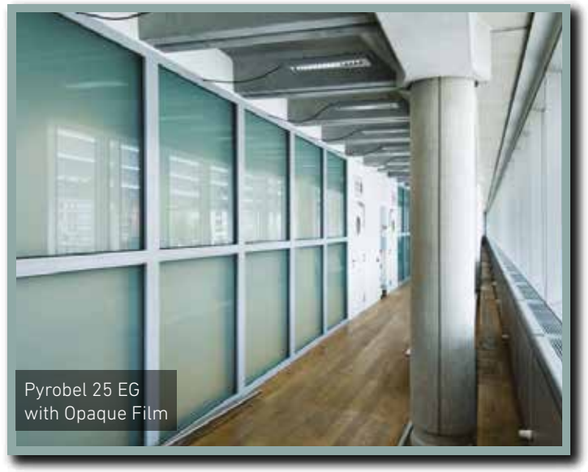
Uncompromising Quality

The quality and performance of the AIS Pyrobel range is carefully controlled at each step of production. 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.

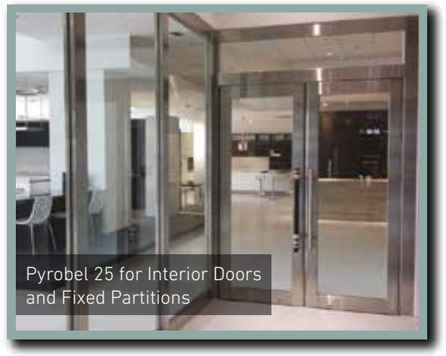
These features do not affect the free vision nor shall the fire resistance of the glazing be considered defective, provided the variation of haze and light transmission does not exceed 5%.

AIS Pyrobel Projects


Butt-jointed Partition
Pyrobel 16+6 EG VL EI 30

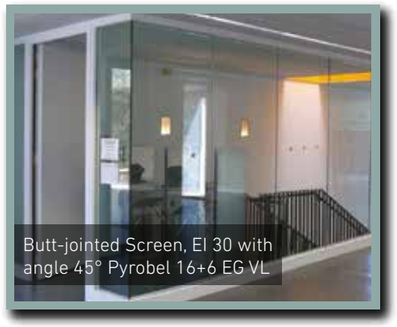

Pyrobel 25 EG
with Opaque Film


Butt-jointed Screen
EI 60 Pyrobel 25 EG Vision Line


Pyrobel 25 for Interior Doors
and Fixed Partitions


Pyrobel 25 IGU


Butt-jointed Partition
Pyrobel 16 EG VL EI 30


Butt-jointed Screen, EI 30 with
angle 45° Pyrobel 16+6 EG VL


Pyrobel 25 IGU


Pyrobel 25 Vision Line

When it comes to ensuring safety of your building and the occupants, you can't afford to take any chances. The investment in high quality architectural design ensuring fire safety in buildings is the best solution for new building projects in order to protect human life and financial investment.

With AIS Pyrobel, it's time you prepare for the unexpected fire breakout in your buildings and minimize the fatality.

We at AIS, have been trusted and relied on by builders, architects, and designers for our glass solutions over the last several years. Whatever your requirements, we're dedicated to providing multifunctional, specialised glass solutions – for safe, secure, and comfortable living.

For more information on giving your building the ideal protection along with enhanced aesthetics, get in touch with our experts.

Asahi India Glass Ltd. (AIS)
Unit No. 305 to 308 and 312 to 314, 3rd Floor, Platinum Techno Park,
Sector - 30A, Vashi, Tal & Dist - Thane, Navi Mumbai – 400 705
seemore@aisglass.com | www.aisglass.com

Shailesh Ranjan, Product Manager - AIS Pyrobel
M: +91 99018 29117 | E-mail ID: shailesh.ranjan@aisglass.com