



**fire**  **master**<sup>®</sup>  
*solution*  
*fire protection glass*





# ABOUT

Buildings increasingly require greater features, both in terms of services and protection, not to mention aesthetics and design. In contemporary architecture, glass is one of the most common materials, thanks to its versatility, its inherent luminosity, thermal and acoustic insulation and protection.

**FUEGO MASTER SOLUTION®** registered trademark of **PERSIMASTER SL**, meets the most complex demands for fire protection glass, providing **PILKINGTON®** brand fire protection glass.

**PILKINGTON®** is the market pioneer with over 30 years' experience. As the world leader in the industry, it offers a proven product featuring indisputable advantages and technical features as well as the widest range of products and solutions for various firewall systems on the market.

At **FUEGO MASTER SOLUTION®** we boast a technical and human team with over 10 years of experience cutting and manufacturing **PILKINGTON®** glass firewall solutions. We boast the most advanced technology and our production is continually audited by independent certification bodies, such as passive fire protection product certification company CERTIFIRE, allowing us to deliver a high-quality and CE certified product.

The quest for higher performance and requirements for buildings results in more complex glass. Thanks to its experience in manufacturing architectural glass, **FUEGO MASTER SOLUTION®** can develop fire protection glass in addition to solar control, low emission and decorative glass, among others.



### **PILKINGTON PYROSTOP® – EI RATED GLASS**

Pilkington PYROSTOP® glass is a fire resistant glass designed with a multi-layered system including transparent glass and colourless, insulating gel layers which enhance the natural lighting of the protected enclosure. This glass is designed for maximum protection both in terms of integrity (E) and complete thermal insulation (EI) against radiated heat, tested in official trials from 30 to 180 minutes (EN 13501-2 EI rating).



### **PILKINGTON PYRODUR® – EW RATED GLASS**

Pilkington PYRODUR® glass is a fire resistant glass designed with a multi-layered system including transparent glass and colourless, insulating gel layers which enhance the natural lighting of the protected enclosure. This glass is developed to meet integrity (E) standards against flames, gases and fumes, and also complies with the reduction of radiated heat (EW), tested in official trials from 30 to 60 minutes (EN 13501-2 EW rated), even providing a basic level of thermal insulation (EI) of up to 15 minutes.



### **PILKINGTON PYROCLEAR® – E RATED GLASS**

PYROCLEAR® Pilkington glass is a fire resistant glass crafted using a special manufacturing process that requires very high-precision techniques, especially in edge finishing. Since it is a monolithic glass, it optimises natural lighting in the protected enclosure. This glass is developed to meet anti-flame and gas integrity (E) standards, tested in official trials from 30 to 60 minutes (EN 13501-2 rated E).



### **PILKINGTON PYROSHIELD® – E RATED GLASS**

PYROSHIELD® Pilkington glass is a monolithic and reinforced fire-resistant glass. It offers reliable integrity (E) and has a good track record both in the laboratory and in real-life fires. It is one of the most famous glasses in the industry and has both internal and external applications, such as fire door inspection glass.



# PILKINGTON PYROSTOP®

## EI rated glass

Pilkington PYROSTOP® glass is a fire resistant glass designed with a multi-layered system including transparent glass and colourless, insulating gel layers which enhance the natural lighting of the protected enclosure. This glass is designed for maximum protection both in terms of integrity (E) and complete thermal insulation (EI) against radiated heat, tested in official trials from 30 to 180 minutes (EN 13501-2 EI rating).

In case of fire, it provides a high level of protection, creating a barrier against flames, gases and fumes, effectively blocking the transfer of heat. The side of the glass exposed to the flames breaks and allows the first interlayer to react, becoming opaque, blocking the fire and absorbing energy.

It may be used both indoors and outdoors, with single or double glazing. It can also be installed with a special glass on the outside.

Some of the features and benefits of this glass are:

- Extensively tested, transparent fire protection.
- Provides proven integrity and complete thermal insulation of up to 180 min. When used in conjunction with tested and approved profiles, it provides an effective barrier against flames and fumes, efficiently blocking the transmission of radiated heat to the protected enclosure.
- Especially transparent, intumescent multilayer nanocoating, which reacts to form a rigid and opaque fire barrier, helping reduce people's panic and fear during an evacuation.
- Completely transparent, unobstructed view.
- Mechanical impact safety.
- Provides effective noise reduction.
- Great flexibility in combinations with other functional glass.
- Available for indoor and outdoor applications.
- Available in monolithic glass or double-glazed glass.
- Ideal alternative to traditional non-transparent firewalls.
- It remains clear until the fire reaches a temperature of approximately 120° Celsius.

**All panes thicker than 23 mm feature Pilkington Optiwhite for maximum light transmission.**





# PILKINGTON PYRODUR®

## EW rated glass

Pilkington PYRODUR® glass is a fire resistant glass designed with a multi-layered system including transparent glass and colourless, insulating gel layers which enhance the natural lighting of the protected enclosure. This glass is developed to meet integrity (E) standards against flames, gases and fumes, and also complies with the reduction of radiated heat (EW), tested in official trials from 30 to 60 minutes (EN 13501-2 EW rated), even providing a basic level of thermal insulation (EI) of up to 15 minutes.

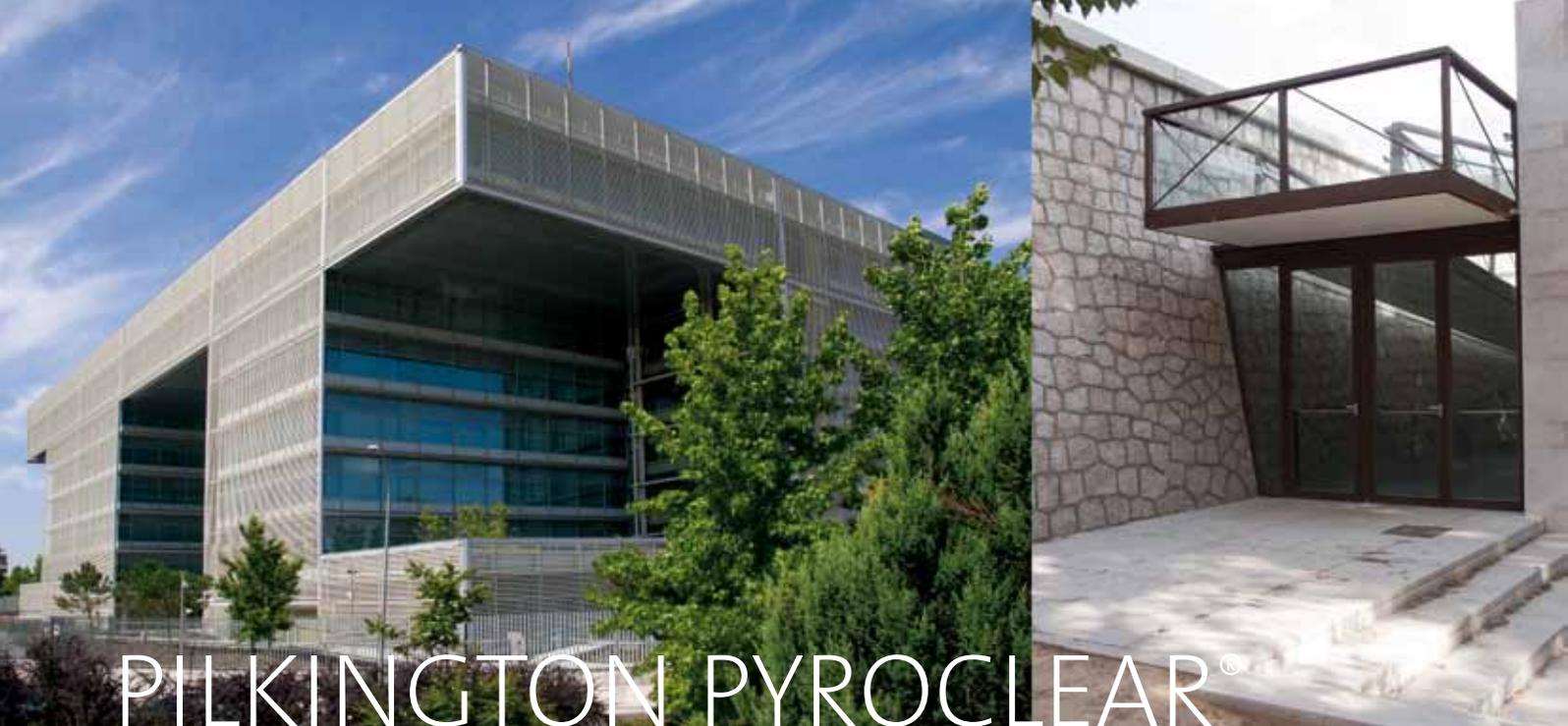
Suitable for indoor or outdoor use, wherever integrity protection and a certain level of isolation according to specs (up to EW 60) is required. Pilkington PYRODUR® is available in monolithic and double glazing for use in applications with steel, aluminum and wood systems. It can be combined with glass offering additional features, providing a wide range of products for numerous applications.

Pilkington PYRODUR® is particularly recommended for doors and screens where lighter and narrower profiles are important and help with glazing. Other applications include solar protection for facades and roofs (special glasses).

Some of the features and benefits of this glass are:

- Provides proven integrity protection for up to 60 minutes when used in the corresponding tested and approved glazing systems, restricting the spread of fire, fumes and gases.
- Especially transparent, intumescent multilayer nanocoating, which reacts to form a rigid and opaque fire barrier, helping reduce people's panic and fear during an evacuation.
- This offers the added advantage of reducing heat convection and radiation in a fire.
- Lightweight.
- Completely transparent, unobstructed view.
- Provides effective noise reduction.
- Mechanical impact safety, depending on thickness.
- Great flexibility in combinations with other functional glass.
- Available for indoor and outdoor applications.
- Available in monolithic glass or double-glazed glass.





# PILKINGTON PYROCLEAR®

## E rated glass

Pilkington PYROCLEAR® glass is a fire resistant glass crafted using a special manufacturing process that requires very high-precision manufacturing techniques, especially in edge finishing. Since it is a monolithic glass, it optimises natural lighting in the protected enclosure. This glass is developed to meet anti-flame and gas integrity (E) standards, tested in official trials from 30 to 60 minutes (EN 13501-2 rated E).

It is a high-safety and high-consistency glass based on a system of special edge treatment engineering to ensure strong effectiveness against tension and warping in the event of a fire.

Suitable for indoor or outdoor use, available in both monolithic and double glazing. It is a glass particularly suitable for installations in wood, aluminium and steel, with certified firewall systems.

Some of the features and benefits of this glass are:

- Designed for fire resistant glazing where integrity (class E) is required.
- Safe and consistent effectiveness, allowing the use of systems between 10mm and 15mm, and therefore very appropriate for most profile systems.
- Special edge treatment engineering in order to ensure strong effectiveness against tension and warping.
- Available for indoor and outdoor applications.
- Available in monolithic glass or double-glazed glass.
- High optical quality.



# PILKINGTON PYROSHIELD®

## E rated glass

Pilkington PYROSHIELD® glass is a monolithic and reinforced fire-resistant glass. It offers reliable integrity (E) and has a good track record both in the laboratory and in real-life fires. It is one of the most famous glasses in the industry and has both internal and external applications, such as fire door inspection glass.



# APPLICATIONS



Fire resistant glazing is currently used in all types of buildings and facilities. These systems mainly cover three functional objectives: to create sectorisation areas, secure escape routes and prevent the spread of fire through walls and roofs. This can be achieved thanks to the variety of systems, the multi-functionality offered by the various glasses and the wide range of types and sizes - taking into account applicable legislation in each country.



The solutions for these objectives fall into various systems:

## Fixed Glass Firewalls

Fire protection glass allow the creation of sectorisation areas and at the same time provide buildings with safe exit routes and fire fighting activity.



## Firewall Curtains

In a fire, flames can spread through the facade, and sometimes it becomes necessary to sectorise part of the building to prevent the fire from spreading to other plants or adjacent buildings.



## Firewall Roofs

**FUEGO MASTER SOLUTION®** offers glazed solutions for both indoor and outdoor horizontal glass applications.

## Custom solutions

Fire protection applications often require solutions that are not available on the market and require a very high degree of specialisation.



## Fire doors

The existence of fire protection glass has made possible the creation of doors that include all types of firewall door windows or inspection glass of different shapes and sizes.



# TECHNICAL SPECIFICATIONS

| GLASS             | FIRE RESISTANCE              | COMPOSITION          | APPLICATION    | THICKNESS (mm) | WEIGHT (Kg/m <sup>2</sup> ) | MAX. DIMENSIONS (mm)      | IMPACT STRENGTH | LIGHT TRANSMISSION (%) | ACOUSTIC ATTENUATION (dB) | Ug RATING (W/m <sup>2</sup> K) |
|-------------------|------------------------------|----------------------|----------------|----------------|-----------------------------|---------------------------|-----------------|------------------------|---------------------------|--------------------------------|
| <b>PYROCLEAR®</b> |                              |                      |                |                |                             |                           |                 |                        |                           |                                |
| E 30-001          | Fire-retardant E-30 minutes  | 6 mm Tempered        | indoor/outdoor | 6              | 15                          | 3000 x 1400               | 1(C)1           | 88                     | 32                        | 5,7                            |
| E 30-002          | Fire-retardant E-30 minutes  | 8 mm Tempered        | indoor/outdoor | 8              | 20                          | 3000 x 1600               | 1(C)1           | 88                     | 33                        | 5,7                            |
| E 30-003          | Fire-retardant E-30 minutes  | 10 mm Tempered       | indoor/outdoor | 10             | 25                          | 3500 x 1600               | 1(C)1           | 87                     | 34                        | 5,6                            |
| E 60-002          | Fire-retardant E-60 minutes  | 8 mm Tempered        | indoor/outdoor | 8              | 20                          | 3000 x 1600               | 1(C)1           | 88                     | 33                        | 5,7                            |
| E 60-003          | Fire-retardant E-60 minutes  | 10 mm Tempered       | indoor/outdoor | 10             | 25                          | 3500 x 1600               | 1(C)1           | 87                     | 34                        | 5,6                            |
| <b>PYRODUR®</b>   |                              |                      |                |                |                             |                           |                 |                        |                           |                                |
| EW 30-201         | Fire-retardant EW-30 minutes | 10 mm Multilayer     | indoor/outdoor | 10             | 24                          | 2720 x 1400               | 2(B)2           | 87                     | 36                        | 5,4                            |
| <b>PYROSTOP®</b>  |                              |                      |                |                |                             |                           |                 |                        |                           |                                |
| EI 30-10          | Firewall EI-30 minutes       | 15 mm Multilayer     | indoor         | 15             | 35                          | 3000 x 1800               | 2(B)2           | 86                     | 38                        | 5,1                            |
| EI 30-18          | Firewall EI-30 minutes       | Double glazing       | indoor/outdoor | 31             | 55                          | 3000 x 1800               | 2(B)2/ /2(B)2   | 79                     | 39                        | 1,9                            |
| EI 60-101         | Firewall EI-60 minutes       | 23 mm Multilayer     | indoor         | 23             | 55                          | 3000 x 1430 / 2850 x 1500 | 1(B)1           | 87                     | 41                        | 4,8                            |
| EI 60-181         | Firewall EI-60 minutes       | Double glazing       | indoor/outdoor | 39             | 75                          | 3000 x 1430 / 2850 x 1500 | 1(B)1/ /2(B)2   | 75                     | 43                        | 1,9                            |
| EI 90-100         | Firewall EI-90 minutes       | 44 mm Double glazing | indoor         | 44             | 90                          | 2400 x 1400               | 1(B)1/ /2(B)2   | 75                     | 42                        | 2,8                            |
| EI 90-102         | Firewall EI-90 minutes       | 37 mm Multilayer     | indoor         | 37             | 86                          | 2850 x 1800               | 1(B)1           | 84                     | 44                        | 4,2                            |
| EI 120-104        | Firewall EI-120 minutes      | 52 mm Double glazing | indoor         | 52             | 110                         | 2400 x 1400               | 1(B)1/ /1(B)1   | 78                     | 42                        | 2,8                            |

- Fire resistance according to standard EN 13501-2.
- Thickness tolerance: +/- 1mm to +/-3mm according to nominal thickness.
- Maximum size as per CE Certificate EN 14449:2005 + AC:2005 Laminated glass, intended to be used in Buildings and construction works.
- Impact strength according to standard UNE-EN 12600:2003.
- Sound attenuation based on CE regulations and in accordance with relevant EN ISO 140-3 standard.



**fuegomaster**<sup>®</sup>  
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