



NEW! Pilkington Pyroclear[®]

The clear choice for integrity only performance!

– Fire-resistance class E 30 –





Fire-resistant screens in the façade are typical applications for E 30 glazing comprising Pilkington **Pyroclear**[®].

Pilkington **Pyroclear**[®] The new generation of fire-resistant glazing (E 30)

Pilkington **Pyroclear**[®], the fire-resistant glass for applications requiring 30 minutes integrity only performance, is the result of research and development synergies within the NSG Group. Global know-how as well as research and process competencies from the Building Products and Automotive business lines have been of vital importance for its successful development. This new product line strictly follows the rigorous principles of failure mode and effects analysis, a product design methodology employed in the production of quality components for the automotive industry. It complements the high-quality fire-resistant glasses Pilkington **Pyrostop**[®] and Pilkington **Pyrodur**[®].

With a remarkable reliability in fire tests, Pilkington **Pyroclear**[®] defines new benchmarks for monolithic fire-resistant glass and fire-resistant insulated glass units that remain transparent in the event of a fire.

Key features and technology:

- Designed for edge covers from 10 mm to 15 mm, compatible with common framing systems
- Superior visual quality
- Unique and innovative edge processing
- Reliable fire-resistant performance due to the unique edge system
- Edge protected by specially made edge tape
- Manufactured on dedicated processing equipment designed by the NSG Group




A clear choice with strong performance

Pilkington is now in a position to offer a product aimed at modern and cost efficient risk-based building designs, which require a high-grade clear fire-resistant glass with a dependable, but limited basic integrity only performance.



External façade comprising Pilkington **Pyroclear**[®] as barrier against hot smoke, flames and fumes (basic integrity).

Three product lines – a complete range – strong performers

	Requirements	Classification (reg. EN 13501-2)	Product line
	Basic integrity (barrier against smoke, flames and fumes)	E..	Pilkington Pyroclear [®]
	Enhanced integrity (basic integrity + reduced heat radiation)	EW..	Pilkington Pyrodur [®]
	Full thermal insulation (basic integrity + thermal insulation)	EL..	Pilkington Pyrostop [®]

Light giving, space making designs require fire-resistant glazing solutions which adapt to bespoke installations.



Basic integrity without compromise – reliable and dependable

As a leading manufacturer of fire-resistant glass and a pioneer in the market for transparent fire protection, Pilkington sets particularly high standards in level and consistency of performance and visual quality. Just like existing Pilkington fire-resistant products (Pilkington **Pyrostop**[®] and Pilkington **Pyrodur**[®]), Pilkington **Pyroclear**[®] satisfies a high level of expectation in terms of visual quality, reliability and performance.

Key success factors such as:

- A unique edge processing
- A specific toughening process
- Edge protection by specially made tape
- Easy to follow glazing method
- Remarkable performance in its class make

Pilkington **Pyroclear**[®] a most practical and efficient product for integrity only glazing.

Pilkington **Pyroclear**[®] is an innovative fire-resistant glass for integrity only performance. It has demonstrated extraordinary reliability of performance in fire tests, setting a new benchmark for basic clear integrity only fire-resistant glass.

Pilkington **Pyroclear**[®] is manufactured to a precise specification, has been extensively tested both internally and externally under independent supervision and has a successful record of use in the building product business.

The basic integrity fire screen can be used in a range of applications, such as internal partitions, allowing natural light to brighten up the building interior.



Areas of application* for Pilkington Pyroclear®

Pilkington **Pyroclear**® lends itself for applications in buildings where planning authorities require integrity only performance as an effective barrier against fire, smoke and fumes for short periods and for situations where the risk of exposure to a developed fire is expected to be low and limited:

Interior

- Smoke barriers
- Smoke with flame containment
- To isolate escape and access routes from flames for short periods

Exterior

- Prevent flame penetration of façades
- Prevent flame spread to adjacent areas
- Reduce the risk of fire spread to upper floors

Examples of appropriate areas of application are:

- Glazing and vision panels in single and double-leaf door designs
- Glazed panels in large area glazed door sets
- Skylights
- Partitions with large-area fire-resistant glazing
- Façade wall systems (in double glazed units)
- Atrium glazing
- Roof glazing (where appropriate)

* Areas of application depend on the design requirements for the individual building, subject to national regulations and practice. The respective national approval procedures must also be taken into account.



Pilkington **Pyroclear**® used in external façades of commercial office buildings and high-rise apartment towers to contain flames and limit spread to upper floors or adjacent areas.



With Pilkington **Pyroclear**[®] Pilkington extends its range of transparent fire-resistant glass products with a reliable but basic integrity only fire-resistant glass (E 30).

Fire Protection facilitates aesthetic open space design



Permanent product mark:
Fire-resistant glass from Pilkington is marked with the name of the manufacturer, name of product, classified fire resistance class, product code and year of production.



Pilkington **Pyroclear**[®] is certified for conformity to the applicable harmonised European standards. Third party inspection of the production is part of a comprehensive quality management system to secure consistent top-level product quality.

Pilkington **Pyroclear**[®]

Properties – Advantages – Benefits

- Designed for fire-resistant glazing where basic integrity only is required
- Safe and consistent performance whilst permitting pragmatic framing edge cover from 10 mm up to 15 mm and therefore being suitable for common fire-resistant glazing systems
- Safe and consistent performance due to a special edge strength for providing a high degree of resilience against thermal stress in case of fire
- Special edge protection tape as a clear indicator for any damage of the glass edge
- Available as monolithic and insulated glass units with high optical quality
- CE-marked product acc. to EN 12150 and EN 1279
- Impressive track record in fire tests
- Pilkington **Pyroclear**[®] for cost effective fire-resistant solutions based on risk based design

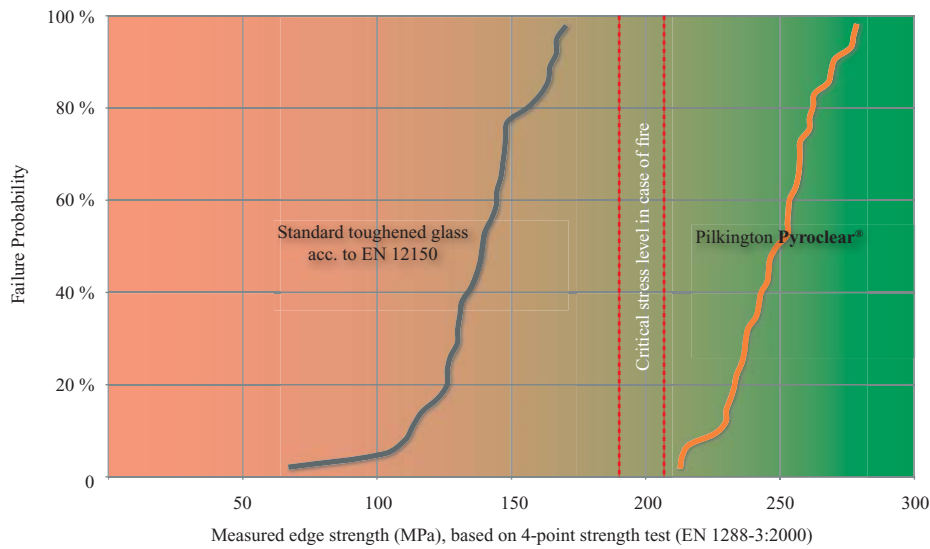
The uniquely designed edge technology makes Pilkington **Pyroclear**[®] a dependable and robust performer in case of fire. It is intended for use as a smoke retardant barrier and basic integrity fire-resistant glass where fire exposure is expected to be limited. The capability for maximum edge cover up to 15 mm of Pilkington **Pyroclear**[®] is unique and makes it a practical, convenient choice for various glazing situations.

The distinctive feature of Pilkington **Pyroclear**[®] is enhanced performance reliability, based on attention to detail in technology, processing quality, and knowledge of the fire environment based on more than 30 years' experience with clear fire-resistant glass. Pilkington **Pyroclear**[®] is the clear choice for cost effective basic integrity fire-resistant solutions.



For the production, precise edge finishing and handling of Pilkington **Pyroclear**[®] specially production and process systems are used which have been developed in-house.

Pilkington Pyroclear®: Results of internal tests for edge strength



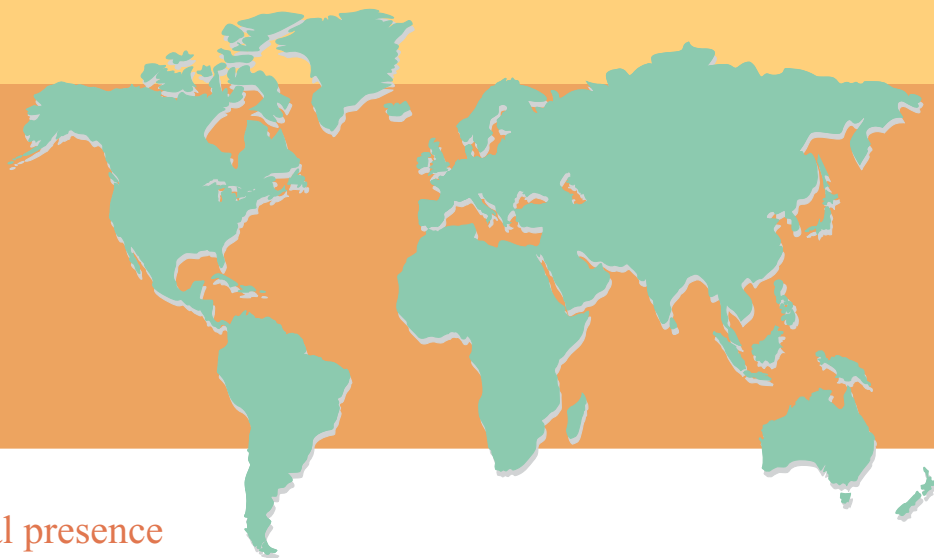
Our experience in years of fire testing has shown that the critical time for glass which is toughened acc. to EN 12150 is around 5 minutes into a fire test. During this phase in which the fire develops and the temperature rises quickly, the probability of failure is at its highest. At 5 minutes the tensile stress generated in the edge – calculated from temperature measurements – is to be of order of approx. 200 MPa. Extensive series of tests have shown that Pilkington Pyroclear® with its unique edge system achieves edge strength that exceeds the critical stress level.

(Note: Edge strength is not the same as toughened surface compressive stress)



– Image left – Large area glazed panels of Pilkington Pyroclear® are a good example of how requirements for fire safety and modern design can complement each other.

– Image right – Double leaf door comprising Pilkington Pyroclear® provides basic integrity protection for a lift lobby area.



Global presence

Pilkington is part of the NSG Group which is one of world's largest manufacturers of glass and glazing products, primarily serving the building and automotive markets. The company has annual sales of about 5,1 billion € and employs more than 31,400 people, with manufacturing operations in 29 countries on four continents, sales in 130 countries and ownership, or interests, in 51 float lines worldwide. The NSG Group has three business lines: Building Products, Automotive and Specialty Glass.

This publication provides only a general description of the product. Further, more detailed information may be obtained from your local Pilkington Building Products supplier. It is the responsibility of the user to ensure that the use of this product is appropriate for any particular application and that such use complies with all relevant legislation, standards, code of practice and other requirements.

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CE marking confirms that a product complies with its relevant harmonised European Norm.
The CE marking label for each product, including declared values, can be found at www.pilkington.com/CE.



PILKINGTON
NSG Group Flat Glass Business

Pilkington Deutschland AG

Haydnstraße 19 45884 Gelsenkirchen

Telephone: +49 (0)209 1 68 0 Fax: +49 (0)209 1 68 20 56

E-Mail: fireprotection@nsg.com

www.pilkington.com