

No smoke, no risk, no panic



Fire-resistant safety glass solutions



vetrotech
SAINT-GOBAIN



Front cover: Southmead Hospital, Bristol, England
Pages 2/3: British Library, London, UK, Colin St John Wilson & Partners

Introduction

Vetrotech Saint-Gobain fire resistant glass: a timely product for the rapidly growing Indian, Middle East & Asian markets.

The region is seeing a boom in the construction industry. A significant portion of the boom is happening in building malls, commercial complexes, offices, hospitals, data centers, telecom centers etc. These buildings have a high quantum of human traffic and / or holds property that has to be protected against loss and ensure continuity of operations. Therefore these buildings require designs and use of building materials that ensure the highest level of safety for the occupants. The fire environment can be hostile and its effects can be both catastrophic to life, property and continuity of business. The occurrence and growth of fire is unpredictable and uncertain. It is therefore critical that the products we provide for fire resistance measure upto the highest standards concerning both the levels of performance and the consistency and reliability of performance. While considering various fire rated partition options, it is being seen as being prudent by many today to consider clear vision options so that hazards and people in hazardous situation are detected in time.

Passive protection vs active protection

Most organizations spent huge amounts of money on active fire control systems like sprinklers, fire extinguishers, smoke detectors etc. However statistics say that 40% of the active controls fail or are subject to a delayed start due to various reasons. It is at these times that passive fire protection systems provide the much required additional time for enabling quick action for saving life and property. Fire resistant glass panels or transparent glass screens are often required to allow vision and natural light through fire-rated internal walls and doors. Indeed, fire resistant glazing can provide an important safety benefit - other building occupants can be seen on the other side of the door, as can hazards such as smoke in the case of a fire.

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CE (TM) All Vetrotech products are CE marked and produced in independently audited production sites

Modern solutions for fire resistant safety glass

At Saint Gobain, these worries have made us passionate for a solution. Our latest fire resistant glass solutions provide the benefits of clear vision optics with impact safety and fire resistance.

We provide excellent alternatives available for clear vision safety glass. These include high performance products like transparent glasses with intumescent layers, special coatings and laminates. These products also have better performances. They have also opened up new avenues for architectural creativity as they are transparent products, look aesthetically appealing and integrate well with the other glass products used in the interiors. These solutions are safe, impact resistant and provide clear vision fire proof glazing that has test evidences of satisfying functional and time requirements for fire proofing.

In fact today our products that can actually substitute a brick wall in terms of fire rating property yet give transparency. While some of the fire safety glasses function as a physical barrier preventing spread of fire and smoke, certain advanced solutions can actually cut off the radiant heat from a fire almost completely.

These new innovations in fire rated glazing do not stop with just offering fire resistance. Some of them, in addition, can offer benefits like

- high impact safety
- sound reduction
- design potential
- one-way visibility
- energy efficiency (insulated units with Low-E and/or argon)
- heat transfer resistance

Toughened glass advantage

All of our products offer the “toughened glass advantage” – toughened safety glass that stands up to “real life” rigours on the job site.



Transport

Packaging developed and proven for shock-resistant and “worry free” transport and off-loading.



Handling

More robust glass means less chance of damage during routine jobsite storage and handling.



Installation

Higher resistance to breakage during installation, means you can prevent costly delays and complete your project successfully.



End use

Less maintenance cost in facility management, and lower exposure to insurance risks.



Vetrotech Saint-Gobain

Vetrotech Saint-Gobain is the world's leading manufacturer of fire resistant glass for the building and marine sectors. With over thirty years of specialized experience, we have built a solid reputation for delivering glass of exceptional quality and effectiveness. Our Class A range not only offers total protection against fire threats, it has also been specifically designed to accommodate other multi-functional requirements such as: energy conservation, sound reduction, impact safety, and physical security. Our commitment to provide complete glass solutions is reflected in the trust our customers place in us. This commitment is underlined by extensive research and development programmes and quality-driven production processes. This strategy keeps us at the forefront of glass technologies and enables us to effectively meet the most demanding of specifications without compromise. Our glasses combine absolute form and function, accommodating safety and property protection as well as multi-functionality and maximum transparency – they are therefore able to integrate perfectly alongside non-fire glass types. As a world leading international company, with dedicated local presence, you can trust Vetrotech Saint-Gobain to deliver the perfect solution to meet your needs.

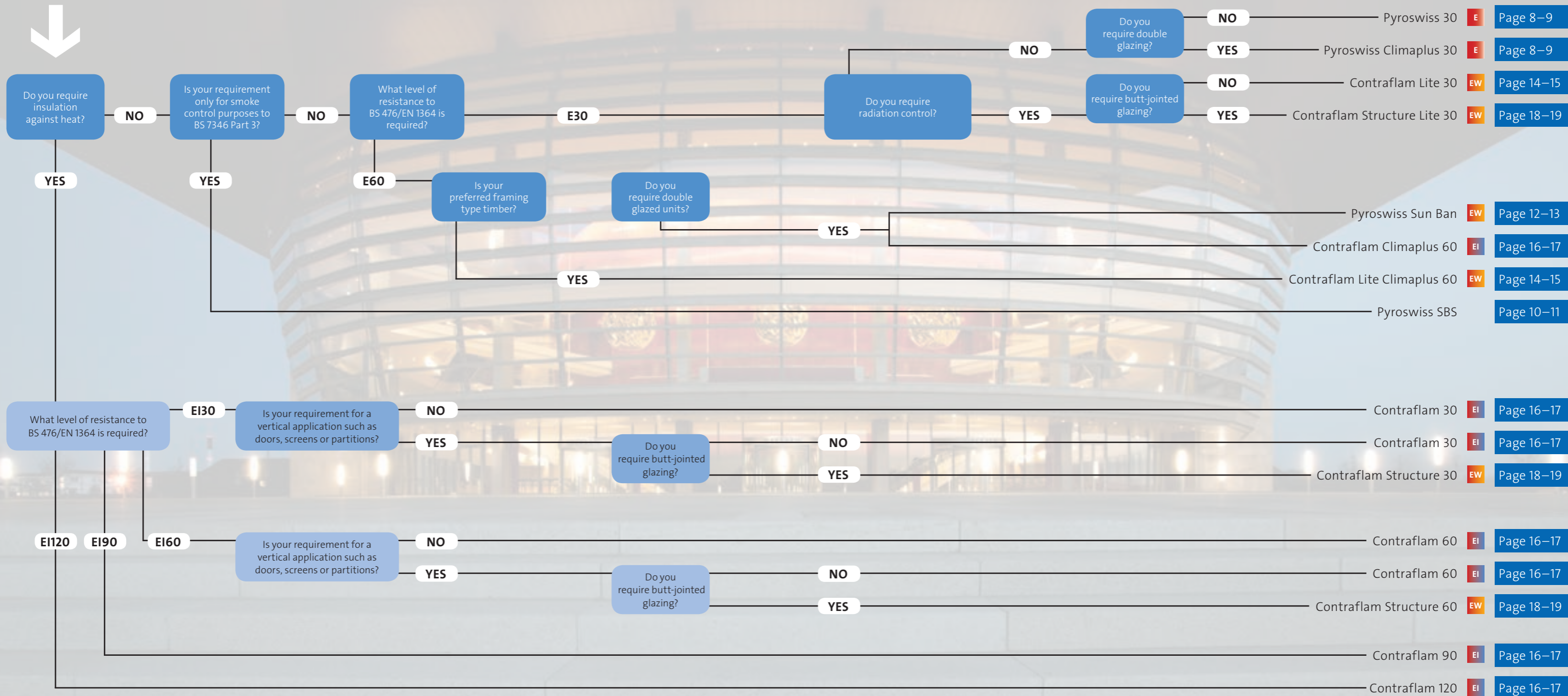
Benefits of fire resistant glass from Vetrotech Saint-Gobain

- Maintains the required fire resistance by stopping the passage of fire and smoke.
- Reduces radiant heat between the fire side and the non-fire side of the glass.
- Offers visual security by allowing clear vision making fire detection, evacuation of trapped people and shifting of property faster and easier.
- Inspires architects and interior designers to create aesthetic spaces. These products can match up with interior or exterior glazing and integrate seamlessly with the designers' intent, thus bringing down design barriers.
- Allows the liberty of using between insulated and integrity products to suit specific needs.

Vetrotech Saint-Gobain is part of the Saint-Gobain Group, the world's largest glass producer. Vetrotech Saint-Gobain arose from the requirement in the market for a specialist in the field of fire resistant glass. We focus solely on the creation of multifunctional UV-stable fire resistant safety glazing. We are unique in our field. Where other manufacturers have fire resistant glass in their package, Vetrotech Saint-Gobain is focused entirely on this specialist field.

Choosing the right product

Use the chart to help you find the right product



Opera, Copenhagen, Denmark – Henning Larsen



E Pyroswiss 30

High impact and mechanical strength

- Clear fire-resistant safety glass 30 minutes integrity (E30)
- Class A safety glass BS 6206: 1981/ E N 12600 class 1(C)1
- Heat soak tested to ensure performance reliability

Product description

Pyroswiss can be used both internally and externally and offers class E smoke resistance. This thin, elegant, fire-resistant glass has improved mechanical integrity and anti-breakage properties compared to ordinary toughened glass.

Performance

In the event of a fire Pyroswiss provides an effective barrier against the passage of smoke, flames, and hot toxic gases. By remaining transparent and fully intact, the glazing allows people to make their escape and rescue services to be fully aware of any impending danger. Rapid access can be achieved safely to facilitate hose access, smoke evacuation, and rescue efforts.

Southmead Hospital, Bristol, England



Application

Pyroswiss is available in three basic multifunctional versions:

- Single glazing (6–12 mm)
- Laminated
- Double glazed units

Pyroswiss flexibility is best illustrated when glass is incorporated into Pyroswiss Climaplus. These double glazed units can include other functions such as:

- Enhanced thermal insulation (Planitherm Ultra)
- Enhanced acoustic insulation (Stadip Silence)
- Increased safety and security (Stadip, Stadip protect)
- Solar control (Antelio, Cool Lite, Parsol)
- Improved decorative and aesthetic qualities (Masterglass, Satinovo, Emalit, Privalite).

Certification

- 30 minutes integrity (E30) To BS 476 part 22 and / or EN 1363
- Class A safety glazing material BS 6206: 1981 /EN 12600 1(C)1

Advantages

- Toughened safety glass
- UV and temperature range stability
- Internal & external use
- Can be fitted in standard timber and steel window frames, partitions, and doors in large panel sizes
- Can be used as full-height glass partitions in clear, tinted (Parsol, Stadip Colour or other) or decorative glass (Masterglass, Satinovo)
- Pyroswiss Climaplus can be combined with safety & security (Stadip, Stadip protect), enhanced thermal insulation (Planitherm Ultra), acoustic (Stadip Silence), solar control (Antelio, Cool Lite, Parsol), Decorative (Masterglass, Satinovo, Emalit, Privalite).
- Vertical / Horizontal constructions



Pyroswiss 30
Single glazing



Pyroswiss 30 Stadip
Laminated glazing



Pyroswiss 30 Climalit
Double glazing

Pyroswiss SBS Smoke Barrier System

- Clear fire resistant safety glass
30–120 minutes of Integrity (E30–E120)
- Class A safety glass BS 6206: 1981 / EN 12600 class 1(C)1
- Heat soak tested to ensure performance reliability

Product description

Pyroswiss SBS can be used both internally and externally and offers smoke resistance up to 120 minutes. This thin, elegant smoke channelizing / containment system has improved mechanical integrity and breakage properties compared to ordinary toughened glass.

With a standard thickness of 6mm, Pyroswiss SBS is light, easy to install & maintain, and blends in with the modern architecture effortlessly.

Wherever smoke occurs, our life-saving Smoke Barrier System creates safe escape routes for those in the vicinity and prevents the fire from spreading.

Courthouse Antwerp, Antwerp, Belgium



Performance

Pyroswiss® SBS can be integrated into a smoke and exhaust system, or can be installed as a stand-alone solution. Suitable for any busy area – office blocks, metro stations, museums and shopping malls, it is designed to:

- Keep escape and access routes free from smoke and hot, toxic gases
- Facilitate firefighting operations
- Prevent or delay flashover, stopping the fire from spreading
- Reduce damage caused by thermal decomposition of products and hot gases
- Reduce the thermal effects on structural components
- Allow for a safe exit without panic – from corridors, elevators, stairwells and escalators

Application AREAS

Pyroswiss SBS

- Smoke barrier system
- Escalator containment
- Stairwell containment
- Elevator containment
- Smoke reservoir boundaries
- Channelizing screens

Pyroswiss 30

- Fully glazed fire rated doors
- Vision panels for fire doors
- Partition systems in basement areas

Certification

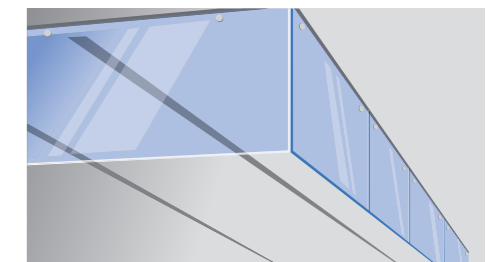
- 120 minutes smoke resistance to EN 12101-1 :2005
- Class A safety lazing material BS 6206:1981 / EN 12600 1(C) 1

Advantages

- Toughened safety glass
- UV and temperature range stability
- Internal and external use
- High smoke ratings: 30–120 minutes integrity



Pyroswiss SBS
Smoke barrier system





EW Pyroswiss Sun Ban Special coating for radiated heat reduction

Pyroswiss Sun Ban blends in seamlessly with the Sun Ban range of products, courtesy the superior technology we use to maintain the color and functional properties of Sun Ban in Pyroswiss Sun Ban.

- Clear fire resistant safety glass 30–120 minutes Integrity (EW30–EW120)
- Class A safety glass BS 6206:1981 / EN 12600 class 1(C)1
- Heat soak tested to ensure performance reliability
- Special IGU combination offering solar control benefits

Product description

Pyroswiss Sun Ban is a toughened heat soaked product that has been especially developed for reduction of radiated heat in the event of a fire. It is highly suited for large surface areas for both internal and external applications. Due to its innovative coating, the glass offers radiation control of < 15kW per m² at a distance of 1 metre from the glass. This means that items a metre away from the glazing on the non fire side are protected from combustion.

Performance

Pyroswiss Sun Ban forms an effective barrier against smoke, flames and toxic gases for up to 60 minutes with reduced radiant heat. In a fire the glass also remains transparent and completely intact. As a result, people can escape safely and rescue workers can be fully aware of potential dangers and reach the heart of the fire with firefighting equipment.

Hospital Maasstad, Rotterdam, The Netherlands, Wiegerinck



Application

Pyroswiss Sun Ban is to be used externally:

- Laminated or as double glazing
- Can be fitted into standard steel frames and doors with large panel sizes
- Can be used as full height glass partitions
- Vertical and Horizontal constructions
- Low E properties

Application areas:

- Refuge areas
- Areas in façade that requires fire resistance

Certification

- 30–120 minutes integrity (EW30 – EW120) BS 476: Part 22/EN 1363
- Class A safety glass BS 6206: 1981 / EN 12600 class 1(C)1

Advantages

- High impact safety ratings
- Excellent U Values in DGU's
- Large pane sizes tested
- Toughened safety glass
- UV and temperature range stability
- Internal & external graded



Vetroflam 30/60
Laminated glazing



Vetroflam 30/60 Climaplus
Double glazing



EW Contraflam Lite 30/60/90/120

Very bespoke, can be customized to your design requirements

EW Contraflam Door Lite 30/60

Special application for doors, only 11 mm thick

- 30–120 minutes of integrity and partial insulation (EW30–EW120)
- Partially Insulating clear fire resistant safety glass
- Class A safety glass BS 6206:1981 / EN 12600 class 1(B)1

Product description

Contraflam Lite consists of two sheets of toughened safety glass, which are separated by a transparent advanced intumescent interlayer.

Performance

When exposed to fire, the special intumescent interlayer turns opaque and expands to form a partially insulating heat shield. This effectively reduces the transmission of radiated and conducted heat. The layers also provide an integrity barrier against smoke, flames, and hot gases for maintained integrity in excess of 120 minutes. The opaque insulating interlayer blocks the view of the fire which minimises panic and acts as a guide for emergency services to indicate the presence of fire.

City archives De Bazel, Amsterdam, The Netherlands



Application

Contraflam Lite is suitable for both internal and external applications. It can either be glazed into doors or screens as a single pane or as a double glazed unit.

- Large pane sizes available.
- Multifunctional & flexible product offering decorative and functional alternatives.

Contraflam Door Lite is a special application for doors and only 11 mm thick.

Application areas Contraflam Lite / Contraflam Door Lite

- Data server rooms
- Refuge terraces
- Fire doors
- Fire partitions
- Fire exit corridors
- Fire exit staircases

Certification

- 30–120 minutes integrity (EW30–EW120) and partial insulation EN 1364-1 and 1363
- Tempered safety glass BS 6206:1981 class A / EN 12600 1(B)1

Advantages

- Toughened safety glass
- UV Stable
- Very bespoke
- Internal & external graded
- Contraflam Lite Climaplust can be combined with safety & security (Stadip, Stadip protect), enhanced thermal insulation (Planitherm Ultra), acoustic (Stadip Silence), solar control (Antelio, Cool Lite, Parsol), Decorative (Masterglass, Satinovo, Emalit, Privalite) and glass flooring (Lite-Floor)
- Contraflam Door Lite for doors only 11 mm



Contraflam 30/60 Lite Single glazing



Contraflam Lite Climaplust Double glazing



Contraflam Lite Skylite Roof glazing



EI **Contraflam 30/60/90/120**

High performance fire resistance against conducted, converted and radiant heat

- Fully insulating clear fire resistant safety glass
- 30–120 minutes of integrity & insulation (EI30–EI120)

Product description

Contraflam is a fire resistant glass which consists of two or more sheets of toughened safety glass. The cavity between the sheets of glass is filled with a transparent intumescent gel interlayer which reacts when exposed to fire.

The number of sheets of toughened safety glass and interlayers is determined by the level of required fire resistance.

This product satisfies the highest demands of fire protection. It is robust in handling and UV stable with numerous variations available.

Performance

When exposed to fire the special intumescent interlayers turn opaque and expand to form a fully insulating heat shield. This effectively reduces the transmission of radiated and conducted heat for up to 120 minutes. The opaque insulating interlayer blocks the view of the fire which minimises panic and acts as a guide for emergency services to indicate the presence of fire.

KENZO-LVMH, Paris, France, Studio d'architecture Jean-Jacques Ory



Application

Contraflam can be used for both internal and external areas, for installation into steel, aluminium or timber frames, partitions, and doors.

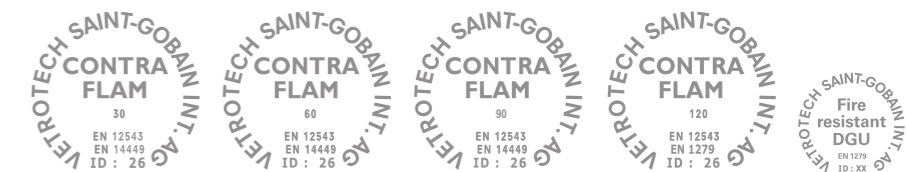
- Large pane sizes available from 30 (EI30) to 120 (EI120) minutes integrity and insulation.
- Tested and certified for fire resistant doors, screens, glass floors, and roofs.

Certification

- 30–120 minutes integrity & insulation (EI30-EI120) EN 1363
- Class A safety glazing material BS 6206 / EN 12600 1(B)1

Advantages

- Toughened safety glass
- UV Stable
- Large pane sizes
- Very bespoke
- Contraflam Climaplus can be combined with safety & security (Stadip, Stadip protect), enhanced thermal insulation (Planitherm Ultra), acoustic (Stadip Silence), solar control (Antelio, Cool Lite, Parsol), Decorative (Masterglass, Satinovo, Emalit, Privalite) and glass flooring (Lite-Floor)



Contraflam 30
Single glazing



Contraflam 30 Stadip



Contraflam 60 Climaplus
Double glazing



EW Contraflam Structure Lite 30/60
EI Contraflam Structure 30/60/90/120
EI Contraflam Structure Corner 30
 Butt-jointed all glass partition

- 30–120 minutes butt-jointed fire resistant safety glass
- Class EW or / and EI (integrity and temperature insulation)

Product description

Contraflam Structure is a product aimed at the realisation of frameless fire protection glass solutions for internal applications. By means of sophisticated glazing methods new possibilities take shape with ‘flush glazing’. This product combines an aesthetically appealing and minimalistic appearance with the highest standards of performance.

Performance

Contraflam Structure is a fire resistant glass which consists of two or more sheets of toughened safety glass. The cavity between the sheets of glass is filled with a transparent intumescent gel interlayer which reacts when exposed to fire. The protective interlayer is based on nanotechnology and is UV stable. It also offers high light transmission. In addition to its fire protection properties Contraflam Structure also meets the demands of use of ‘break safe materials’ and offers optimum safety in escape routes and busy areas. The opaque insulating interlayer blocks the view of the fire, which minimises panic and acts as a guide for emergency services to indicate the presence of fire.

Wierden Kennedy, Amsterdam, The Netherlands, NEXT architects



Specification

Contraflam Structure is a product aimed at the realisation of frameless fire protection glass solutions for internal applications. By means of sophisticated glazing methods new possibilities take shape with so called ‘flush glazing’. This product combines an aesthetically appealing and minimalistic appearance with the highest standards of performance.

Application

Contraflam Structure can be installed into steel, timber, and aluminum profiles. Various products from different manufacturers can be used. Guidelines should be followed according to the relevant installation instructions and tested sizes available.

Contraflam Structure Corner for fire resistant corner solutions. More transparency than ever before, due to the lack of corner profiles.

Certification

- 30–60 minutes integrity (EW30–EW60) BS 476:Part 22 / EN1363
- 30–120 minutes integrity & insulation (EI30–EI120) EN 1363
- Class A safety glazing material BS 6206 / EN 12600 1(B)1

Advantages

- Whole glass partitions with fire protection properties
- No Vertical frame profiles
- Optically continuous unbroken expanses of glass
- Can be combined with design and other functional glasses
- Range from EW30 to EI120



Contraflam Structure Lite 30
Single glazing



Contraflam Structure 30
Single glazing



Contraflam Structure 60 Climaplus
Double glazing



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