

No smoke, no risk, no panic

 Fire-resistant safety glass solutions



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Front cover:
Southmead Hospital, Bristol, England



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.



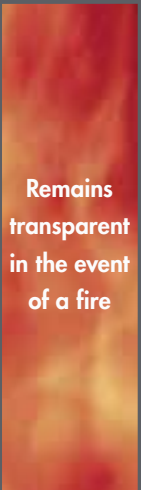





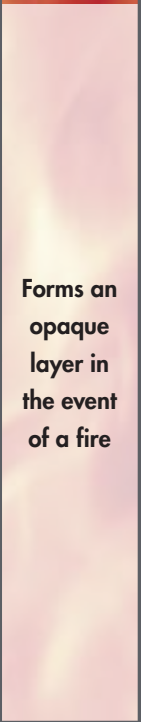















As a world leading international company, with dedicated local presence, you can trust Vetrotech Saint-Gobain to deliver the perfect solution to meet your needs.

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.



CHOOSING THE RIGHT PRODUCT

		FIRE RESISTANCE (IN MINUTES)						
			30'	60'	90'	120'		
INTEGRITY	 <p>Provides a physical barrier against flames, hot toxic gases and smoke</p>	E					 <p>Remains transparent in the event of a fire</p>	
		E						
RADIATION	 <p>Control of the transmission of radiated heat below a specific level</p>	EW				 <p>Forms an opaque layer in the event of a fire</p>		
		EW						
		EW						
INSULATION	 <p>Highest performance limitation of surface temperature on the unexposed side</p>	EI						
		EI						



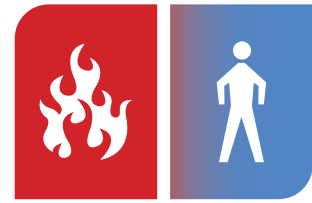
E = INTEGRITY

Provides a physical barrier against flames, hot toxic gases and smoke



EW = INTEGRITY + RADIATION REDUCTION

Control of the transmission of radiated heat below a specific level



EI = INTEGRITY + INSULATION

Highest performance limitation of surface temperature on the unexposed side

PRODUCT OVERVIEW	
<p>PYROSWISS®</p> <p>Available as 6, 8, 10, 12 and 15 mm modified toughened product. Can be a PBV laminated; Parsol tint, Satinovo, Mastercarre or acid etch.</p>	
<p>VETROFLAM®</p> <p>Single glazed 6mm toughened and coated Vetrolam.</p>	
<p>VETROFLAM®</p> <p>A 6mm toughened and coated Vetrolam supplied as a double glazed unit, or a PVB laminate only.</p>	
<p>CONTRAFLAM® DOOR LITE</p> <p>Designed specifically for use in softwood, 2mm thinner than standard Contraflam Lite, with the same fire resistance.</p>	
<p>CONTRAFLAM® LITE</p> <p>Available as a ≥13mm intumescent laminate with toughened glass panes. Easily customised to include laminated glass and other applications.</p>	
<p>CONTRAFLAM®</p> <p>Thicknesses range from ≥16mm (EI30), ≥25mm (EI60), ≥38mm (EI90), to ≥58mm (EI120). Easily customised to include laminated glass and other applications.</p>	
<p>CONTRAFLAM® STRUCTURE</p> <p>Our butt-jointed fire protection systems. Also available in double glazed unit + corner. Thicknesses range from 20mm (EW30), 23mm (EI30), 31mm (EI60), 70mm (EI90), 73mm (EI120).</p>	

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La Plaza,
Paris, France,
S.Q.M. New-York SRA architects.

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.



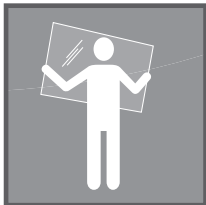
TRANSPORT

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.

E PYROSWISS 30

High impact and mechanical strength

DH PYROSWISS SBS DH30

Smoke Barrier System

- Clear fire-resistant safety glass 30 minutes integrity (E30)
- Class A safety glass BS 6206: 1981 / EN 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.

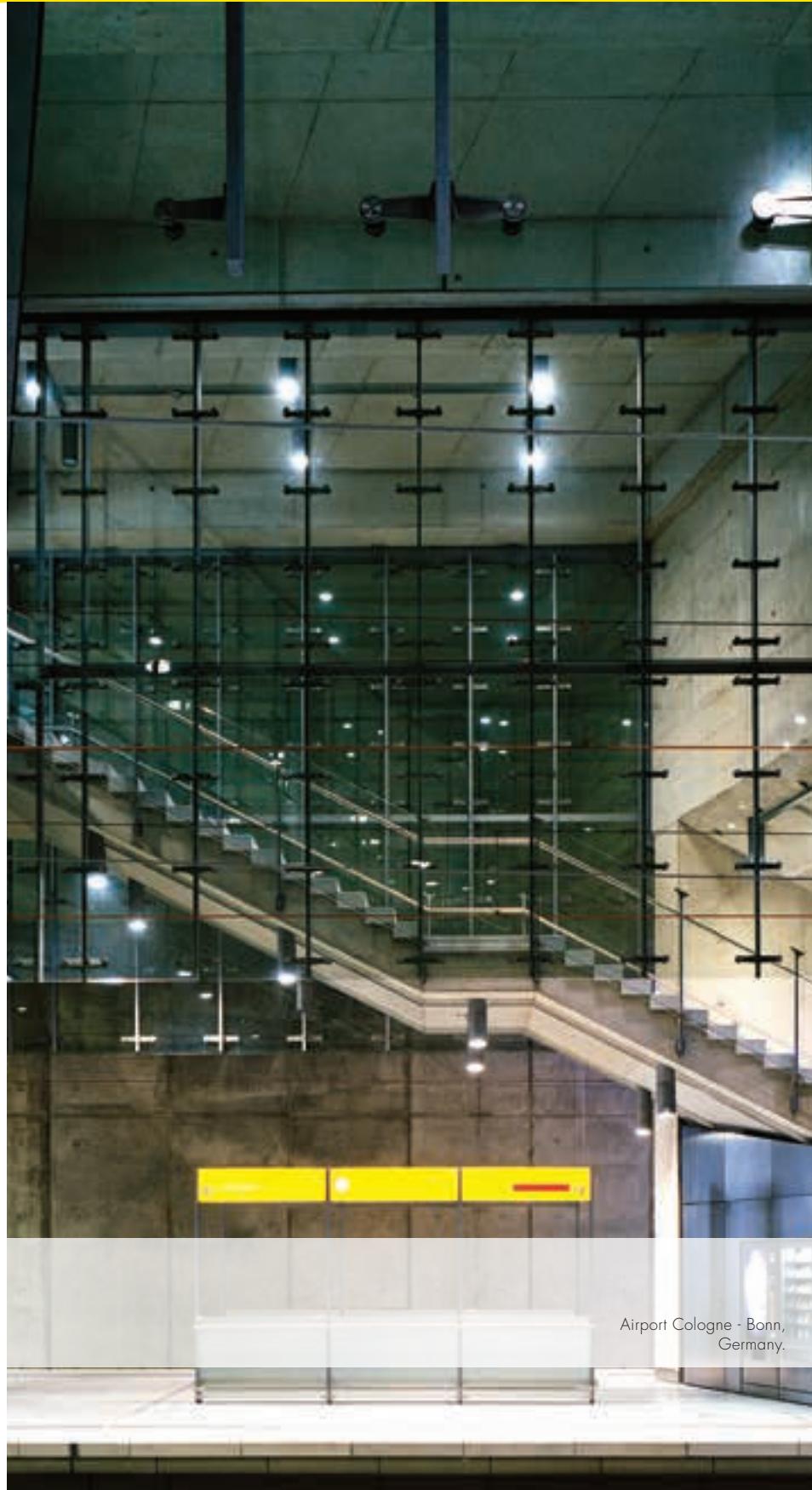
PERFORMANCE

In the event of a fire Pyroswiss provides an effective barrier against the passage of flames, hot toxic gases and smoke. Pyroswiss SBS 6 for instance is a very effective smoke curtain.

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.

Please note that as a supply only organisation it is our preferred marketing policy to sell only "symmetrical" units - i.e.: Fire glass on both sides.

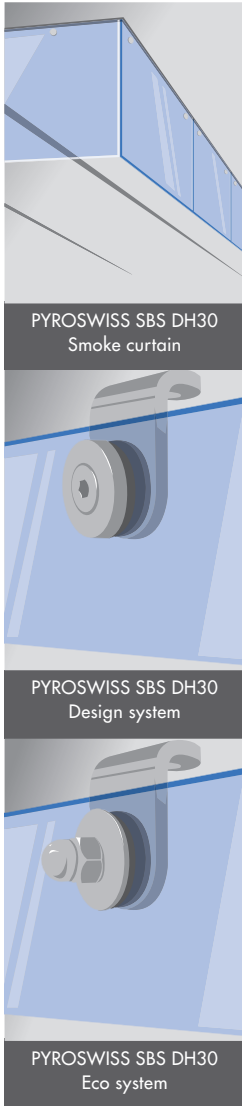
Should our customers insist on our supplying "asymmetrical" units, it becomes their responsibility to ensure that the non fire-rated or "sacrificial" pane is glazed towards the side of the perceived fire risk.



Airport Cologne - Bonn,
Germany.



M.O.D Headquarters, Northwood, UK, Scott Brownrigg.



PYROSWISS SBS DH30
Smoke curtain

PYROSWISS SBS DH30
Design system

PYROSWISS SBS DH30
Eco system

APPLICATION

Pyroswiss is available in four basic multifunctional versions:

- Single glazing (6-12 mm)
- Laminated
- Double glazed units
- Smoke barrier system (Pyroswiss SBS DH30)

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, Emalite, 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, Emalite, Privalite).
- Vertical / Horizontal constructions



PYROSWISS 30
Single glazing



PYROSWISS 30 STADIP
Laminated glazing



PYROSWISS 30 CLIMALIT
Double glazing



PYROSWISS SBS DH30
Smoke barrier system



VETROFLAM 60

Special coating for radiated heat reduction

- Clear fire resistant safety glass 60 minutes Integrity (EW60)
- Class A safety glass BS 6206:1981 / EN 12600 class 1(C)1
- Heat soak tested to ensure performance reliability

PRODUCT DESCRIPTION

Vetroflam 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 $< 15\text{kW per m}^2$ 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

Vetroflam 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.

Please note that as a supply only organisation it is our preferred marketing policy to sell only "symmetrical" units - i.e.: Fire glass on both sides. Should our customers insist on our supplying "asymmetrical" units, it becomes their responsibility to ensure that the non fire-rated or "sacrificial" pane is glazed towards the side of the perceived fire risk.



Hospital Maasstad,
Rotterdam, The Netherlands,
Wiegerinck.



Het Strijkijzer, Den Haag, The Netherlands, AAArchitecten.

APPLICATION

Vetroflam can be used both internally and externally:

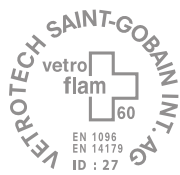
- Single or double glazing
- Laminated glazing
- Can be fitted into standard steel frames and doors with large panel sizes
- Can be used as full height glass partitions
- Vertical and Horizontal constructions
- Low E properties

Application areas:

- Data server rooms
- Refuge areas
- Areas in façade that requires fire resistance

CERTIFICATION

- 60 minutes integrity (EW60) BS 476: Part 22/EN 1363
- Class A safety glass BS 6206:1981 / EN 12600 class 1(C)1



VETROFLAM 60
Single glazing



VETROFLAM 60 STADIP
Single laminated glazing



VETROFLAM 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

- Partially insulating clear fire resistant safety glass
- 30-120 minutes of integrity and partial insulation (EW30-EW120)
- 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.



Waverly Gate,
Edinburgh, Scotland,
Hugh Martin, Fendor Ltd.

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.

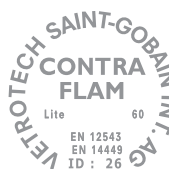
Contraflam Door Lite is a special application for doors and only 11 mm thick.

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



CONTRAFLAM LITE 30/60
Single glazing



CONTRAFLAM LITE CLIMAPLUS
Double glazing



CONTRAFLAM LITE SKYLITE
Roof glazing

ADVANTAGES

- Toughened safety glass
- UV Stable
- Very bespoke
- Internal & external graded
- Contraflam Lite 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 Door Lite is a special application for doors and only 11mm thick

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.



Detention Alphen a/d Rijn, Alphen a/d Rijn, The Netherlands, Rijksgebouwendienst (Rgd).

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)

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
Laminated glazing



CONTRAFLAM 60 CLIMAPLUS
Double glazing

EW CONTRAFLAM STRUCTURE LITE 30-60

EI CONTRAFLAM STRUCTURE 30-60-90-120

EI CONTRAFLAM STRUCTURE CORNER 30-60

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.



Wieden + Kennedy,
Amsterdam, The Netherlands,
NEXT architects.



ING Centerpoint, Amsterdam, The Netherlands, Axel Grothausen

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)

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 30/60
Single glazing



CONTRAFLAM STRUCTURE 30
Single glazing



CONTRAFLAM STRUCTURE 60 CLIMAPLUS
Double glazing



CONTRAFLAM STRUCTURE CORNER
Single glazing

TECHNICAL SPECIFICATIONS

Please contact Vetrotech Saint-Gobain UK office if the data you require is not listed below.

Product	Fire resistance classification	Thickness/type (mm)	Thickness tolerance (mm)	Size tolerance (mm)
PYROSWISS	E30	6 PY	±0.2	±2
PYROSWISS	E30	8 PY	±0.3	±2
PYROSWISS	E30	10 PY	±0.3	±2
PYROSWISS	E30	12 PY	±0.3	±2
PYROSWISS SATINOVO	E30	6 PY SATINOVO (Safimat)	±0.2	±2
PYROSWISS STADIP	E30	66.2 (12.76)	±1	±2
PYROSWISS CLIMAPLUS	E30	6 PY – 14 Argon – 6 PY	±1	±3
VETROFLAM	EW60	6 VF	±0.2	±2
VETROFLAM STADIP	EW60	66.2 (12.76)	±0.4	±3/-2
VETROFLAM CLIMAPLUS	EW60	6 Float – 14 Argon – 6 VF	±1.0	±3
CONTRAFLAM LITE	EW30	13 CFL	±2-1	±2
CONTRAFLAM LITE CLIMAPLUS	EW30	6 Planitherm/14 Argon/13 CFL	±3-2	±2
CONTRAFLAM LITE	EW60	14 CFL	±2-1	±2
CONTRAFLAM LITE CLIMAPLUS	EW60	6 Planitherm/14 Argon/14 CFL	±2	±2
CONTRAFLAM 30	EI30	16 CF	±2-1	±2
CONTRAFLAM 30	EI30	6 Planitherm/14 Argon/16 CF	±3-2	±2
CONTRAFLAM 60	EI60	25 CF	±3-2	±2
CONTRAFLAM 60	EI60	6 Planitherm/14 Argon/25 CF	±3-2	±2
CONTRAFLAM 90	EI90	36 CF	±3-2	±2
CONTRAFLAM 120	EI120	58 CF	±5-3	±2
CONTRAFLAM STRUCTURE LITE 30	EW30	20 CFS LITE	±2-1	±2
CONTRAFLAM STRUCTURE LITE 60	EW60	20 CFS LITE	±2-1	±2
CONTRAFLAM STRUCTURE 30	EI30	23 CFS	±2-1	±2
CONTRAFLAM STRUCTURE 60	EI60	31 CFS	±3-2	±2



8 Tallet, Copenhagen, Denmark, Bjarke Ingels Group.

Weight (kg/m ²)	Light transmission to EN 410	Sound reduction to EN 673 (Rw dB)	U-value to EN 673 (W/m ² k)	Temperature range (°C)	Safety	UV stability to EN ISO 12543-4 part 6aq
15	89%	32	5.7	no sensivity	A	Yes
20	88%	34	5.7	no sensivity	A	Yes
25	88%	36	5.6	no sensivity	A	Yes
30	87%	37	5.5	no sensivity	A	Yes
15	Data not available	32	5.7	no sensivity	A	Yes
31	85%	38	5.5	no sensivity	A	Yes
31	79%	33	2.6	no sensivity	A	Yes
15	80%	32	3.9	no sensivity	A	Yes
31	78%	35	5.5	no sensivity	A	Yes
31	73%	33	1.5	no sensivity	A	Yes
30	87%	37	5.2	+45/-10	A	Yes
45	76%	41	1.1	+60/-40*	A	Yes
31	85%	38	5.1	+45/-10	A	Yes
47/46	76%	41	1.1	+60/-40*	A	Yes
34	86%	38	4.8	+45/-10	A	Yes
49	75%	42	1.1	+60/-40*	A	Yes
52	82%	41	4.3	+45/-10	A	Yes
67	73%	44	1.1	+60/-40*	A	Yes
72	80%	45	3.7	+45/-10	A	Yes
108	67%	46	2.2	+45/-10	A	Yes
42	83%	39	4.8	+45/-10	A	Yes
42	83%	39	4.8	+45/-10	A	Yes
52	81%	42	4.8	+45/-10	A	Yes
69	78%	43	4.3	+45/-10	A	Yes

* After installation in unheated buildings
Storage temperature max +45/-10 °C



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



vetrotech.com

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April 2015.

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