

SGG CLIMAPLUS® FIRE

*Fire-resistant low-emissivity
double-glazed units*

Technical Sheet
United Kingdom

SGG CLIMAPLUS® FIRE

Fire-resistant low-emissivity double-glazed units

Description

SGG CLIMAPLUS FIRE double-glazed units provide a comprehensive range of glazing designed to satisfy the class requirements and regulatory needs for fire-resistant applications. One of the two components of the double-glazed unit is a fire-resistant glass from the SAINT-GOBAIN GLASS PROTECT range. The thermal insulation is assured by using a low-emissivity coating on one of the internal faces of the double-glazed unit.

The double-glazed units are manufactured exclusively by VETROTECH SAINT-GOBAIN approved sites, following strict procedures and using high-performance materials (interlayers, sealants, spacer bars etc.). If the double-glazed unit does not incorporate a low-emissivity glass, it is known as SGG CLIMALIT FIRE.

Applications

Due to the regulations governing fire protection, SGG CLIMAPLUS FIRE double-glazed units can be used in many applications:

- public buildings
- office blocks
- apartment blocks
- marine installations.

SGG CLIMAPLUS FIRE can be installed in façades and roofs, in a vertical, inclined or horizontal position, within the limits of the regulations in force.

Advantages

The level of protection given by SGG CLIMAPLUS FIRE double-glazed units varies depending on the type of fire-resistant glass that is used.

Fire protection

SGG CLIMAPLUS FIRE double-glazed units comply with the main performance criteria which are defined in the standards and, depending on the composition, provide:

- limitation of calorific radiation (class W)
- flame-proof and impervious to hot gases (class E)
- thermal insulation during a fire (class I).

All products have been approved, certified and attested by supporting documents.

Transparency

SGG CLIMAPLUS FIRE double-glazed units are clear and transparent.

Safety

- Increased resistance to impact
- Protection against injury if the glass breaks.

Thermal efficiency

Energy saving and improved thermal comfort, see "SGG CLIMAPLUS".

Multi-functional solutions

It is possible to combine fire-resistance with other functions such as solar control, bullet resistance etc.

Range

SGG CLIMAPLUS FIRE is a comprehensive range and includes compositions which meet:

- all requirements of conformity to different classes of fire protection
- the imposition of minimum fixed periods (Integrity only E30 to fully insulating EI 120, additional criteria W). In all cases, it is advisable to check that there is a Classification Report relating to the composition that is to be used.

For thermal insulation, glass from the SGG PLANITHERM range can be used. SGG CLIMAPLUS FIRE can also incorporate solar control glass from the SGG COOL-LITE, SGG ANTELIO or SGG PARSOL ranges.

SGG CLIMAPLUS PYROSWISS and SGG CLIMAPLUS VETROFLAM

These double-glazed units are intended for building elements providing integrity only fire resistance for 30 minutes, E(W) 30, and 60 minutes, E(W) 60 for internal and external applications, including partitions, doors and façade glazing.

Depending on the fire-resisting and safety or security requirements of the applications, the units generally compose one pane of either SGG PYROSWISS or SGG VETROFLAM, and one pane of SGG SECURIT or SGG STADIP PROTECT. For exceptional cases, where there is a specific risk of fire on either side of the glass, they can comprise two panes of SGG PYROSWISS or SGG VETROFLAM.

Numerous glass combinations and configurations are possible.

SGG CLIMAPLUS SWISSFLAM and SGG CLIMAPLUS SWISSFLAM LITE

SGG CLIMAPLUS SWISSFLAM is a double-glazed unit for applications requiring fire resistance for 30 and 60 minutes (EI 30 and EI 60).

SGG CLIMAPLUS SWISSFLAM LITE is a double-glazed unit for applications requiring integrity only fire resistance for 30 minutes (EW 30).

SGG CLIMAPLUS CONTRAFLAM and SGG CLIMAPLUS CONTRAFLAM LITE

These double-glazed units are intended for applications:

- that require integrity only for 30 and 60 minutes (EW 30 and EW 60), for SGG CLIMAPLUS CONTRAFLAM LITE
- Fire resistant for 30 to 120 minutes (EI 30 to EI 120) for SGG CLIMAPLUS CONTRAFLAM.

In the event of a fire, the interlayer material inside the SGG CONTRAFLAM and SGG CONTRAFLAM LITE glass opacifies and forms an insulating barrier which prevents the heat from spreading.

Note

Special precautions must be taken in the presence of an intumescent interlayer. This material is by nature, sensitive to high temperatures. It is therefore imperative that it is glazed in applications where the temperature limits are not exceeded:

-10°C to + 45°C (extreme temperatures permitted within the interlayer).

Such temperatures are usually produced in a vertical position, in normal climatic conditions, through the combination of double-glazed units which have a low-heat absorbent glass on the external pane with an air-filled cavity of at least 12 mm. It is advisable to arrange for a survey to be conducted for such applications.

Performance

Fire protection

Fire-resistance glass	Possible classifications when in double-glazing	Direction of the coating		Permissible temperature limits in application: -10°C; +45°C
		Fire side	Inner pane	
SGG PYROSWISS	E 30 / E 60	X		
SGG VETROFLAM	EW 30 / EW 60	X		
SGG SWISSFLAM LITE	EW 30		X	X
SGG SWISSFLAM	EI 30 / EI 60		X	X
SGG CONTRAFLAM LITE	EW 30/ EW 60		X	X
SGG CONTRAFLAM	EI 30 / EI 60 / EI 90 / EI 120		X	X

Spectrophotometric and thermal values:

Double-glazing					
Product		SGG PYROSWISS E 30	SGG CONTRAFLAM EI 60(1)	SGG SWISSFLAM EI 60 (1)	SGG SWISSFLAM LITE EW 30(1)
Composition	mm	6 (12) 6	23 (12) 6	25 (15) 6	6 (12) 6
Thickness	mm	24	41	46	24
Weight	kg/m²	31	63	62	31
Low-E coating position(2)	face	3	3	3	3
Light factor					
LT	%	76	72	74	76
LRe	%	12	13	13	12
LRi(3)	%	N/A	N/A	N/A	N/A
UV	%	25	20	1	25
Energy factor					
T	%	50	42	42	50
Re	%	22	22	22	22
Ri	%	N/A	N/A	N/A	N/A
A	%	28	36	36	28
Solar factor g		0,60	0,55	0,55	0,60
Shading Coefficient		0,69	0,63	0,63	0,69
U-value	W/(m².K)				
Air		1,3	1,6	1,4	1,6
Argon 90 % (4)		2,9	1,2	1,2	1,3

(1) Permitted temperatures -10°C, +45°C

(2) Inner glass : SGG PLANITHERM TOTAL

(3) N/A- Not available

(4) >93% argon-filled cavity = 1.1W/m²K

For further information visit www.vetrotech.com

Installation Guidelines

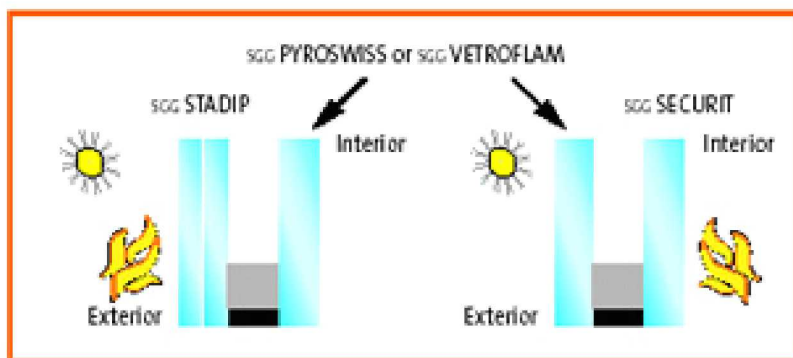
SGG CLIMAPLUS FIRE double-glazed units must be installed in compliance with the approvals and authorisations which have been granted and are currently valid.

Double-glazed units which incorporate SGG SWISSFLAM, SGG CONTRAFLAM LITE and SGG CONTRAFLAM glass must not be installed near a heat source. The application range which is between -10°C and +45°C must also be adhered to.

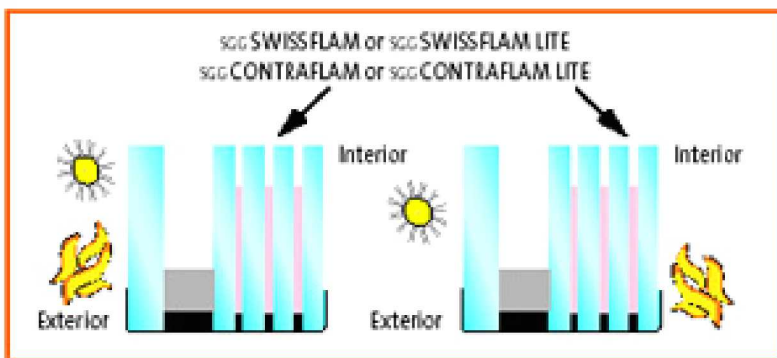
With the exception of symmetrical double-glazed units (two glass panes of the same thickness), general recommendations on the direction of glazing should be followed.

SGG CLIMAPLUS PYROSWISS and SGG CLIMAPLUS VETROFLAM.

The SGG PYROSWISS or SGG VETROFLAM glass must always be glazed on the non-fire side of the construction regardless of the direction of the fire in relation to the building: fire inside the building (most often the case) or fire outside the building.



SGG CLIMAPLUS SWISSFLAM, SWISSFLAM LITE, CONTRAFLAM and CONTRAFLAM LITE; with the glass component, comprising special intumescent interlayers it is recommended that it is glazed towards the interior of the building, regardless of the direction of the fire.



Standards and Regulations

The characteristics of fire-resistant glass from the SAINT-GOBAIN GLASS FIRE range are tested in accordance with BS EN 476-22. SGG CLIMAPLUS FIRE double-glazed units will receive the relevant CE marking when it is officially in force.