SAINT-GOBAIN
GLASS

SGG CLIMAPLUS®

Superior quality thermal insulation glass

The sign of functional insulation glass produced by experts

GLAS cP
CLIMALIT-PARTNER®

SAINT-GOBAIN GLASS COMFORT

SGG CLIMAPLUS®

Keep warmth in!

During cold weather, a certain amount of heat will always escape even through closed windows, just as it escapes through external walls. This is unavoidable – the question is how to minimise such heat loss.

Walls are insulated – but what about windows?

Windows are glazed with SGG CLIMAPLUS superior quality insulating glass!

The latest generation of thermal insulating glass keeps the warmth in your home. This means a drastic reduction in heating costs, a cosy interior temperature with no cold areas, and reduced emissions of environmentally-damaging gases such as carbon dioxide and sulphur dioxide.

Applications

SGG CLIMAPLUS is suitable for windows and door spaces: in fact, any location requiring a comfortable living or working temperature:

- in newly-built single- or multiple-occupancy family residences
- in extensively-glazed conservatories
- in office or administrative buildings
- in renovation work requiring the building to be brought up to modern standards.

Advantages

What do you gain?

- **You feel more comfortable at home, as SGG CLIMAPLUS maintains a steady temperature in all parts of your home, even directly next to windows. It also makes your home "bigger" by allowing you to make use of the space by the windows. Unpleasant draughts, previously a feature of winter months in particular, are now a thing of the past.**
- **You reduce your heating costs, as the less heat you lose, the less you have to produce. Using SGG CLIMAPLUS means you save money on your heating bills which could be better spent elsewhere.**
- **You help protect the environment, as the less fuel you use, the fewer harmful substances are produced. SGG CLIMAPLUS has a similar effect to using a catalyser in your car: it makes a perceptible contribution to protecting the environment.**
- **You are investing in the future, as SGG CLIMAPLUS represents the new standard required by the energy saving regulations. If you decide to swap the previous insulation glass in an existing building for SGG CLIMAPLUS, you are increasing its value – and you can even partially set your investment off against tax.**

SGG CLIMAPLUS:

glass which saves energy and costs!

- **Almost 60% less heat loss compared to older insulation glass types**
- **Balanced use of the sun's heat in winter**
- **Higher temperatures close to windows**

Excellent thermal insulation...

SGG CLIMAPLUS keeps warmth in the room and in the building. This thermal insulation performance of glass is quantified by its Ug-value (formerly the k-value): the lower the value, the lower the heat loss. The Ug-value is the most important characteristic value for thermal insulation glazing.

Older insulation glass types can only achieve U_g-values of 3.0 W/m²K, with single glazing reaching 5.8 W/m²K. Products in the SGG CLIMAPLUS range, on the other hand, have excellent U_g-values of up to 1.1 W/m²K, i.e. one-half to one-third of the heat lost through older insulation glass! The top-of-the-range SGG CLIMATOP N has a U_g-value of just 0.5 W/m²K, meeting the strictest requirements for thermal insulation.

... balanced use of the sun's energy ...

SGG CLIMAPLUS also makes use of the sun's energy. This is quantified by the g-value: the higher the value, the greater the use made of the sun's heat. The energy derived from solar radiation means a rise in temperature, which can prove unpleasant in summer.

The g-value should not therefore be excessively high (except in the case of "solar" construction projects), and in the autumn and winter the Ug-value is in any case more important.

This was taken into account during the development of SGG CLIMAPLUS. The best heat balance is achieved through excellent U-values and balanced g-values. In addition, the g-value has no effect on light transmittance, which for SGG CLIMAPLUS can be higher than other comparable glass types!

... and comfortable temperatures!

SGG CLIMAPLUS keeps the majority of the heat in the room. This increases the feeling of comfort, even close to windows. The excellent thermal insulation maintains the glass surface temperature almost at room temperature, even when it is freezing outside.

By way of illustration:

Let us assume you have a typical family home with a glazed area of around 25 m². For older insulation glass types with U_g-values of 3.0 W/m²K, some 800 litres of heating oil are consumed per heating period to make up for the heat loss, thereby producing more than two tonnes of carbon dioxide and three kilograms of sulphur dioxide.

With SGG CLIMAPLUS N, your heating oil requirement drops to 290 litres, the carbon dioxide produced falls to 800 kg and the sulphur dioxide drops to one kilo.

This means that by replacing your older insulation glass with SGG CLIMAPLUS N, you reduce your heating oil usage and the damage to the environment by more than 60%, for which your environment will be grateful.

Advantages at a glance:

SGG CLIMAPLUS

- **keeps warmth in and cold out**
- **makes reasonable use of the sun's energy**
- **reduces heating costs**
- **protects the environment**
- **produces a cosy room temperature**
- **has almost no effect on light transmittance**
- **is colour-neutral**
- **has a guaranteed long life**

SGG CLIMAPLUS N

Standard insulation glazing

With SGG CLIMAPLUS thermal insulation glazing, you

- **help protect the environment**
- **save heating costs**
- **make your home a more comfortable place**

SGG CLIMAPLUS easily meets the requirements of the latest energy saving regulations.

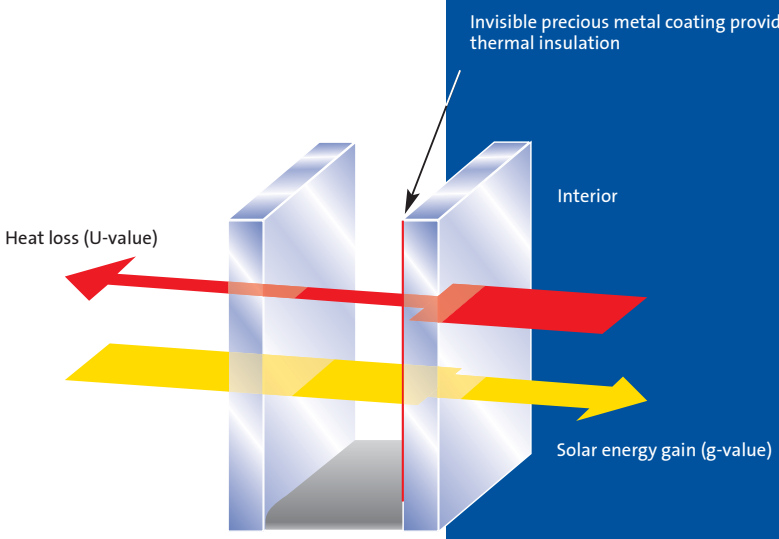
Construction

SGG CLIMAPLUS consists of two high-quality panes of float glass linked by a spacer. One pane has a very thin precious metal coating on the inner side (i.e. facing the cavity). This cavity may be filled with air, argon or krypton, which do not perceptibly alter the clarity or transparency of the glass.

The effects, however, can be noticed, as the precious metal coating almost completely reflects the radiated heat attempting to escape from the building back into the room. The inert gas filling also helps prevent heat loss.

In this way, SGG CLIMAPLUS achieves the same degree of thermal insulation as a brick wall with a thickness of 30 cm: this is up to 60% better than conventional insulation glazing, yet the glass is completely transparent!

SGG CLIMAPLUS:
Cross-section and heat balance



Product family

- SGG CLIMAPLUS N is an air-filled double insulation glazing. The N stands for a precious metal coating with a particularly high insulating effect which also offers a high degree of light transmittance and optical neutrality.
- SGG CLIMAPLUS N is also available as argon-filled double insulation glazing for excellent thermal insulation.
- SGG CLIMAPLUS SOLAR is a glass for special applications. It is optically extremely clear and makes very high use of solar energy.
- SGG CLIMAPLUS ULTRA N is the latest development in high-performance insulation glazing, offering excellent neutrality. It can achieve U values of just 1.1 W/m²K, which is the physical limit for argon-filled double insulation glazing. Using krypton, the U value drops to 1.0 W/m²K.
- SGG CLIMATOP N is a superb quality triple-glazing offering a lower degree of heat loss than a solid wall, yet is just 28 mm thick. It is ideal for uncompromising architectural applications, e.g. large glazed areas, conservatories, etc.
- SGG CLIMATOP SOLAR is a special glass for solar construction projects. It can achieve the same high degree of thermal insulation as SGG CLIMATOP N combined with very good light transmittance and good usage of solar energy.

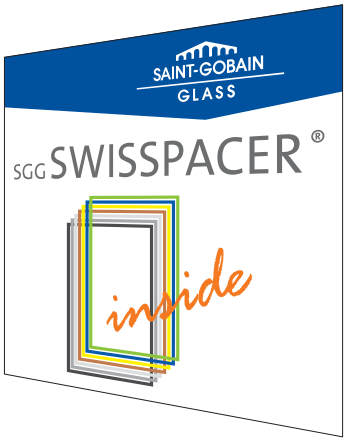
The processes used in the manufacturing of all SGG CLIMAPLUS glass types are constantly supervised by approved institutes to ensure optimum quality.

Light and heat – and what else?

- **Peace and quiet:** SGG CLIMAPLUS N can be upgraded to SGG CLIMAPLUS N ACOUSTIC or SGG CLIMAPLUS N SILENCE with excellent soundproofing qualities, offering noise protection with all of the advantages of SGG CLIMAPLUS N.
- **Protection from injury:** SGG CLIMAPLUS N SAFE is combined with toughened or laminated safety glass to produce glass which protects against the risk of injury in the event of breakage.
- **Security:** SGG CLIMAPLUS N PROTECT offers reliable protection against break-ins and external attacks, while at the same time offering a high degree of heat insulation.
- **Solar protection:** SGG CLIMAPLUS N can be combined with solar protection glass to produce SGG CLIMAPLUS SOLAR CONTROL, an effective yet attractive way of protecting against excessive solar radiation.
- **Self-cleaning:** SGG BIOCLEAN CLIMAPLUS makes use of the effects of the sun and the rain to remove organic dirt. Less cleaning and more free time gives this glass a clear advantage!

SGG SWISSPACER

All insulation glazing types produced by CLIMALIT PARTNERS are available with the SGG SWISSPACER, the innovative warm edge sealing with no thermal bridge which nevertheless has the same mechanical stability and manufacturing quality as conventional aluminium spacers. The resultant reduction in condensation around the edge of the glass and increase in thermal insulation mean greater comfort!



SGG CLIMAPLUS / SGG CLIMATOP STANDARD PRODUCTS

Produkt	Light - transmittance τ_V in %	Gas filling	Total energy transmittance (g value) in % in accordance with DIN EN 410	U_g value nin W/m²K in accordance with DIN EN 673
SGG CLIMAPLUS N	80	Air	63	1,4
SGG CLIMAPLUS N	80	Argon	63	1,2
SGG CLIMAPLUS N	80	Krypton	63	1,1
SGG CLIMAPLUS ULTRA N	78	Argon	59	1,1
SGG CLIMAPLUS ULTRA N	78	Krypton	59	1,0
SGG CLIMATOP N	69	Krypton	50	0,5

The function values given for the glass types correspond to the valid test standards under the relevant test measurements and requirements. Other formats and combinations may lead to variations in individual values.

Any other
questions?

If our products interest you, then please get in touch. Your CLIMALIT PARTNER will be happy to advise you in choosing your individual solution.

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