

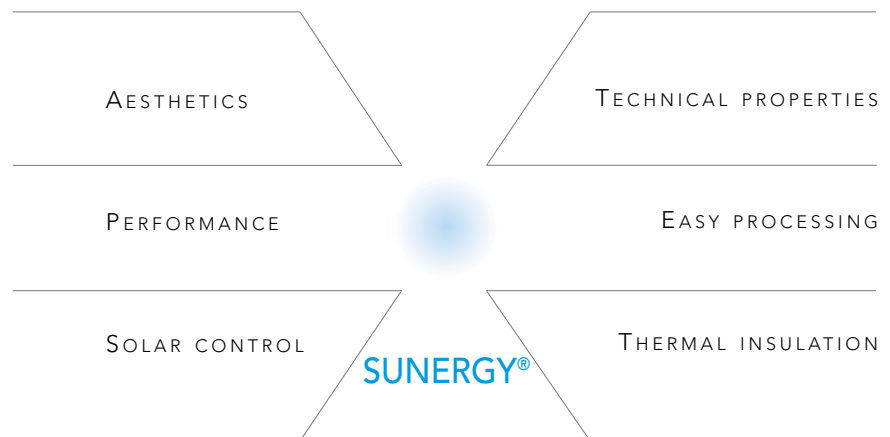
SUNERGY[®], the multifunctional glass range

In the field of sun-resistant pyrolytic coatings the Stopsol range created by Glaverbel has always been the international benchmark. Glaverbel has managed to develop a new pyrolytic process (CVD technology: Chemical Vapour Deposition, see table below) and design a globally unique glazing product, **SUNERGY[®]**.

SUNERGY[®] combines solar control with thermal insulation. It is also an excellent response to current architectural trends, thanks to its neutrality and low reflection. The name SUNERGY[®] is no coincidence; the product creates synergies and offers a solution to the problems that architects and glass processors had, until now, to contend with.



MTN CAMPUS BUILDING - SOUTH-AFRICA
SUNERGY GREEN IN STRUCTURAL GLAZING



Thanks to this combination of factors, architects and glass processors are now able to combine their talents.

SUNERGY[®] offers the following properties:

- excellent solar control
- brilliant aesthetics
- low emissivity properties (low U-value)
- easy processing (hard coating)

Chemical Vapour Deposition (CVD)

This technology is the reaction between a high temperature and a gas that creates the continuous application of perfectly uniform layers of metal oxides onto a glass resulting in a hard pyrolytic coating.

ADVANTAGES

SUNERGY[®], the combination of technology and aesthetics

Brilliant aesthetics

SUNERGY[®] is the answer to the most advanced architectural requirements. It combines neutrality with low reflection*, which allows objects to be seen in their true colour. The glazing is available in three colours, each with its own unique hue: clear, green and azur.






Excellent technical properties

SUNERGY[®] has excellent technical properties. The combination of solar control with low reflection properties and thermal insulation will appeal to everybody.

Maximum comfort

SUNERGY[®] offers visual and thermal comfort. The excellent combination of light transmission, solar control and thermal insulation makes SUNERGY[®] the ideal glass for all seasons - warm in winter, cool in summer.

* In some countries there are regulations which prescribe a low reflection for the sake of traffic safety. SUNERGY[®] complies with nearly all of these regulations.

		
Stopsol Supersilver clear	SUNERGY [®] clear	
		
SUNERGY [®] clear	SUNERGY [®] green	SUNERGY [®] azur

THANKS TO THE LOW REFLECTION SUNERGY[®] IS THE IDEAL RESPONSE TO TODAY'S ARCHITECTURAL TRENDS. COMPARE STOPSOL SUPERSILVER CLEAR POSITION 2 ON THE LEFT AND SUNERGY[®] CLEAR POSITION 2 ON THE RIGHT. (EXTERNAL VIEW)

SUNERGY[®] OFFERS BRILLIANT AESTHETICS IN ALL AVAILABLE SHADES: CLEAR (LEFT), GREEN (CENTRE) AND AZUR (RIGHT). (EXTERNAL VIEW)



GEANT CASINO - NIMES, FRANCE - SUNERGY CLEAR (VEA) - STRATOBEL TEMPERED 1010-4

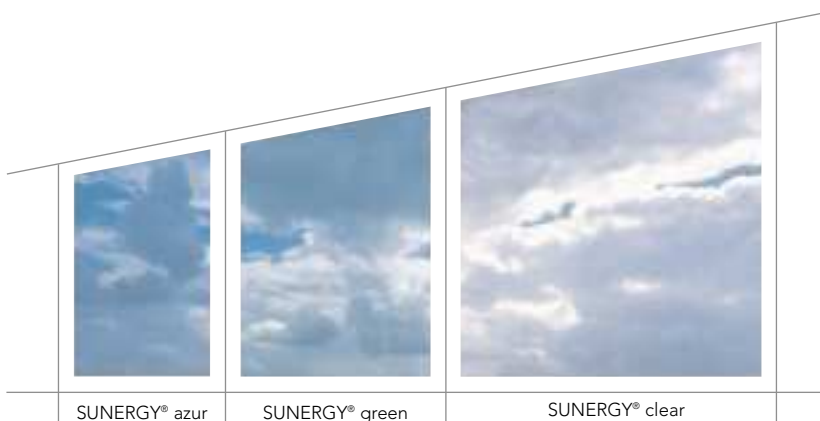
Durable quality and ease of use

Thanks to the hard pyrolytic coating and the exceptional technical properties of SUNERGY®, glass processors have no trouble in complying with the current architectural challenges.

Here are some of the advantages of a pyrolytic coating:

- no special transportation required
- no edge deletion
- leaves no scratches on the glass
- problem-free stacking and storage
- different processing possibilities (tempering, bending, laminating, ...)
- can be used as single or double glazing

Thanks to its countless advantages SUNERGY® is suitable both for residential and for commercial architectural applications. On page 10 you can see a number of examples.



SUNERGY® ALWAYS ALLOWS IN AMPLE LIGHT: SUNERGY® AZUR ON THE LEFT; SUNERGY® GREEN IN THE CENTRE; SUNERGY® CLEAR ON THE RIGHT. (INTERNAL VIEW)

SUNERGY®, well thought-out and functional

Single glazing

Thanks to the pyrolytic coating it is possible to use SUNERGY® in single glazing. In this case it is the solar control properties that are the most important. If SUNERGY® is applied in position 2 you achieve maximum performance combined with low reflection.

The visual appearance is more or less the same with the coating in positions 1 and 2.

It is recommended that SUNERGY® is always in position 2. Position 1, however, remains possible. In that case we would advise you to contact Glaverbel.

SUNERGY® green and azur offer a higher energy absorption than normal glass. We recommend to perform a calculation on thermal stress.

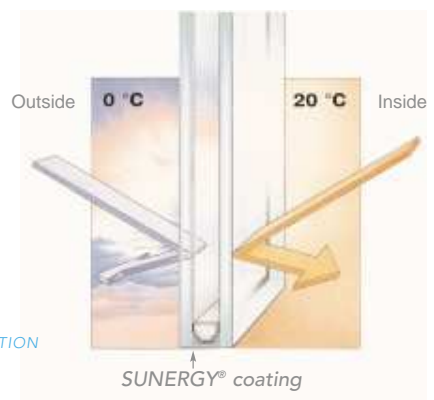
Double glazing

When using SUNERGY® in double glazing both the solar control and insulating properties are reinforced. The heat loss coefficient is reduced to $U = 1.8 \text{ W}/(\text{m}^2\cdot\text{K})$ instead of $U = 2.9 \text{ W}/(\text{m}^2\cdot\text{K})$ for traditional double glazing, which means an important energy saving. Because the loss of heat from inside to outside is reduced, it is much easier to keep the climate indoors at an even temperature. But this also applies to warm countries, where the temperature indoors is kept at an agreeable level, which means that savings can be made in the air conditioning.

Coating in pos. 2	LT (%)	SF (%)	U-value* $\text{W}/(\text{m}^2\cdot\text{K})$		
			air	gas 90%	gas 100%
Single glazing (6 mm)					
SUNERGY® clear	68	60	4.2**		
SUNERGY® green	56	42	4.2**		
SUNERGY® azur	56	45	4.2**		
Double-glazing (6-15-6mm)					
SUNERGY® clear 6 / 15 / 6	61	52	2,0	1,8	1,8
SUNERGY® green 6 / 15 / 6	50	33	2,0	1,8	1,8
SUNERGY® azur 6 / 15 / 6	50	36	2,0	1,8	1,8

* "U-value" is often called "k-value".

** Calculated for a dry coating in accordance with the EN 673 standard.



SUNERGY®, SOLAR CONTROL AND THERMAL INSULATION

Laminated glass

SUNERGY® can also be used in a laminated combination. Laminated glass contains two or more sheets of glass, held together by one or more layers of PVB*, or acoustic interlayers Stratophone®.

Given the technical properties we advise it to be used in position 2.

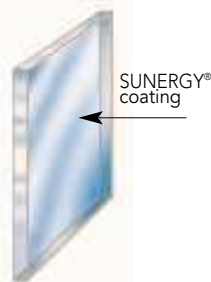
Other functions can also be obtained by combining laminated and asymmetrical double glazing systems.

*PVB: PolyVinylButyral is the material of the layer, which ensures that the panes of glass to be laminated are held together.



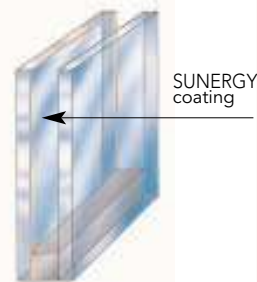
THE DIFFERENT COMPOSITIONS

SUNERGY® single glazing



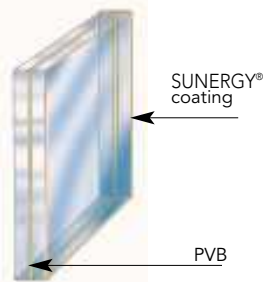
Positions 1 2

SUNERGY® double glazing



Positions 1 2 3 4

SUNERGY® laminated glass



Positions 1 2

SUNERGY® IN ...

FUNCTIONS

	Solar control	Low-e glass	Safety	Noise
Single glazing	■	■		
Double glazing	■	■		
Asymmetrical double glazing	■	■		■
Laminated glass	■	■	■	
Acoustic Laminated glass with interlayer Stratophone®	■	■	■	■
Double glazing with laminated glass	■	■	■	■