



LOW-EMISSION GLASS



GLASS UNLIMITED

THE PLANIBEL LOW-E RANGE

PLANIBEL LOW-E



PLANIBEL LOW-E: LOW-EMISSIVITY GLASSES

The range of coated glasses from AGC Glass Europe^(*) is not only the most extensive available, but is also undergoing improvements in terms of technical specifications (solar control, thermal insulation), appearance and processing options. Owing to AGC's policy of ongoing research, processors and architects now have access to pyrolytic and magnetron LOW-E glasses that can be toughened, bent and screen-printed. These advances mean that processors can offer their clients an enhanced service, faster turnaround and shorter replacement times. They also open up interesting avenues for architects and façade designers. All of these glasses offer a neutral appearance and a high light transmission rating. The metal oxide particles in the coating reinforce the insulating properties of the glass, thus improving the building's energy balance.

(*) In this document, AGC stands for AGC Glass Europe.



PLANIBEL G & PLANIBEL G fasT

The only pyrolytic LOW-E glasses

Applications

Residential and commercial buildings

Use

Single or double glazing

Where

Heating dominant conditions

Aesthetics

Neutral

Advantages

- > Good light transmission
- > Highest energy gains from solar factor (SF: 74%) compared to all other LOW-E glasses
- > Ease of processing
- > No edge stripping
- > Any type of toughening furnace
- > G fasT coating can be positioned against the rollers (15% cycle time improvement) and can be tempered in radiative furnace
- > Available in safety version (Stratobel) and in safety acoustic version (Stratophone).

PLANIBEL I-TOP & PLANIBEL TOP^{N+} ^(*)

The perfect LOW-E glass with efficient free energy gains

Applications

Residential buildings (mainly)

Use

Double and triple glazing

Where

Cooling and heating dominant conditions

Aesthetics

Neutral – non reflective

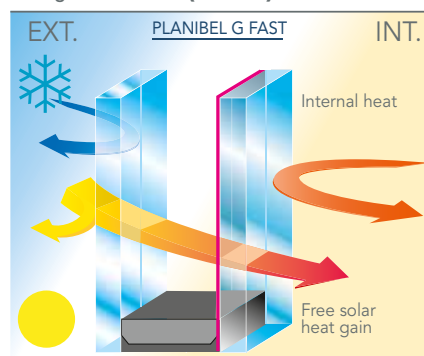
Advantages

- > Best combination of thermal insulation – U_g : 1.1 W/(m².K) – light transmission and neutral aesthetics
- > Good solar factor to make efficient use of free energy gains (SF: 61%)
- > PLANIBEL TOP^{N+} ^(*) good aesthetical matching
- > Available on CLEARVISION for better neutrality and increased free solar heat gain.
- > Available in safety version (Stratobel) and in safety acoustic version (Stratophone).

(*) (toughenable version of PLANIBEL I-TOP)

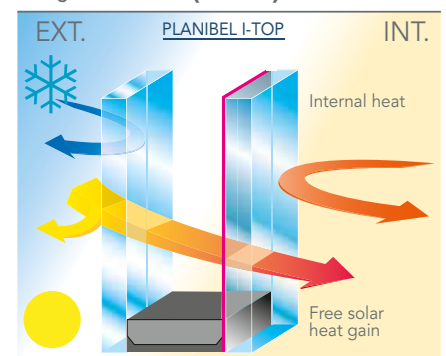
The TOP^{N+} ^(*) coating slightly changes its color after toughening.

$U_g=1.5$ W/(m².K) SF=74%



Insulating glass unit with PLANIBEL G fasT

$U_g=1.1$ W/(m².K) SF=61%

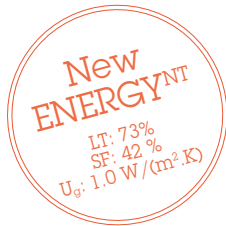


Insulating glass unit with PLANIBEL I-TOP

AGC GLASS EUROPE, A EUROPEAN LEADER IN FLAT GLASS

AGC Glass Europe produces, processes and sells flat glass for the construction industry (exterior glazing and interior decorative glass), for the automotive sector and for specialised industries. Based in Brussels, Belgium, it is the European branch of AGC Glass, the world's leading producer of flat glass.

Visit www.yourglass.com for more complete and recent information on our range of PLANIBEL LOW-E products (technical performance, availability, processing guides). Click on "Brands" and then "PLANIBEL LOW-E".



PLANIBEL ENERGY^N & PLANIBEL ENERGY^NCL

Smart glasses for all seasons

Applications

Residential and commercial buildings

Use

Double glazing

Where

All commercial buildings and residential buildings in cooling dominant conditions

Aesthetics

Neutral – non reflective

Advantages

- > Smart glass: reflecting the sun's heat (SF: 41%) with high thermal insulating against the cold [$U_g: 1.0 \text{ W}/(\text{m}^2 \cdot \text{K})$]
- > ENERGY^NCL perfectly matches ENERGY^N: both products offer an ideal solution for architects and specifiers
- > ENERGY^NCL can be bent and screen-printed (under certain conditions)
- > Available also on PLANIBEL CLEARVISION for a better neutrality
- > Available in safety version (Stratobel) and in safety acoustic version (Stratophone).

PLANIBEL TOP 1.0

The best U_g -value in DGU with good solar protection

Applications

Residential buildings

Use

Double glazing

Where

Cooling dominant conditions

Aesthetics

Neutral, light reflection

Advantages

- > Highest thermal insulation rating in its class – U_g -value: $1.0 \text{ W}/(\text{m}^2 \cdot \text{K})$ – for an optimal thermal insulation in the winter
- > A reduced solar factor (SF: 50%) to guarantee a better solar protection in summer
- > Available also on PLANIBEL CLEARVISION for a better neutrality
- > Available in safety version (Stratobel) and in safety acoustic version (Stratophone).

PLANIBEL LIGHT

Soft coated solar control glass with low U value and good solar protection

Applications

Residential buildings

Use

Double glazing

Where

Cooling dominant conditions

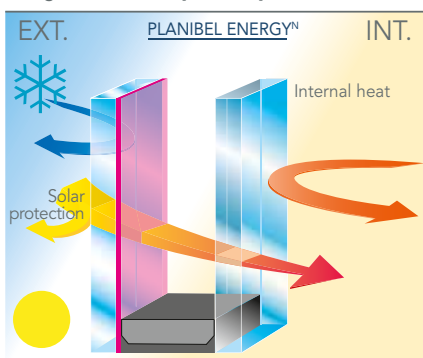
Aesthetics

Neutral/brilliant

Advantages

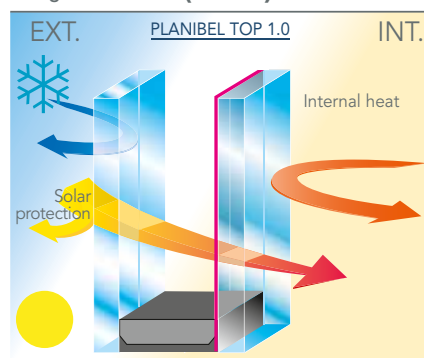
- > Solar control glass perfect for warm climates such as Mediterranean countries (Italy, Spain, Greece)
- > Solar Protection (SF: 41%), thermal insulation [$U_g: 1.0 \text{ W}/(\text{m}^2 \cdot \text{K})$] and privacy in only one glass
- > Available on PLANIBEL CLEARVISION for better neutrality
- > Available in safety version (Stratobel) and in safety acoustic version (Stratophone).

$U_g=1.0 \text{ W}/(\text{m}^2 \cdot \text{K})$ SF=41%



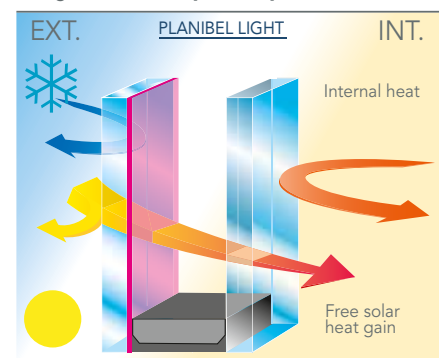
Insulating glass unit with PLANIBEL ENERGY^N

$U_g=1.0 \text{ W}/(\text{m}^2 \cdot \text{K})$ SF=50%



Insulating glass unit with PLANIBEL TOP 1.0

$U_g=1.0 \text{ W}/(\text{m}^2 \cdot \text{K})$ SF=41%



Insulating glass unit with PLANIBEL LIGHT

Comparative performance table for the range

	G & G fasT	I-TOP & TOP N+ζ	TOP I.0	ENERGY^N & ENERGY^{Nζ}	PLANIBEL LIGHT
Made for	IGU	IGU	IGU	IGU	IGU
Cooling dominant conditions	•	••	•••	••••	•••••
Heating dominant conditions					
> Residential	•••	•••	••	••	••
> Commercial / conservatories	••	••	•••	••••	•••
Light Transmission	•••	••••	•••	•••	•••
Processability	••••	••	••	••	••
Main advantage	Easy to process	Perfect for all climate types	High thermal insulation with good solar protection	The perfect products for commercial and residential buildings	Recommended in cooling dominant conditions (Mediterranean countries)

Processing options

	G & G fasT	I-TOP & TOP N+ζ	TOP I.0	ENERGY^N & ENERGY^{Nζ}	PLANIBEL LIGHT
Laminated	•	•	•	•	•
Toughened					
Bent ^(*)	G & G fasT	Top N+ ζ		Energy ^{Nζ}	
Screen-printed ^(*)					
No edge stripping	•				
Single glazing	•				
Virtually unlimited shelf life	•				

(*) Some conditions do apply.

Performances

Insulating glass unit

Assemblies	Insulating glass unit 4-15-4							
	G (#3)	G fasT (#3)	I-TOP (#3)	TOP N+ζ (#3)	TOP I.0 (#3)	ENERGY^N (#2)	ENERGY^{Nζ} (#2)	PLANIBEL LIGHT (#2)
LT (%)	75	75	79	80	70	73	73	65
LR (%)	17	17	13	13	20	12	12	25
SF (%) EN 410	74	74	61	64	50	41	42	41
U _g -value [W/(m ² .K)] 90% argon	1.5	1.5	1.1	1.1	1.0	1.0	1.0	1.0

Abbreviations: LT: Light Transmission; LR: Light Reflection; SF: Solar Factor; U_g value: Thermal transmittance of the glass. The # symbol indicates the position of the low-emissivity coating in the double glazing composition.

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