

SGG REFLECTASOL®

*Solar control glass*

Technical Sheet  
United Kingdom

# SGG REFLECTASOL®

## *Solar control glass*

### Description

SGG REFLECTASOL solar control glass is produced by depositing a transparent metallic coating onto SGG PLANILUX clear glass or SGG PARSOL body-tinted glass during the manufacture of the glass on the float line. The on-line pyrolytic manufacturing process gives the coating a number of properties:

- Total integration into the surface of the glass
- Strength and stability over time
- Solar control properties and a reflective appearance.

When the glass is installed, the coated face must be positioned on face 2 (towards the interior of the building).

### Applications

SGG REFLECTASOL is suitable for most types of façade glazing in buildings:

- Offices
- Commercial buildings
- Schools
- Industrial buildings
- Apartment blocks

Its attractive appearance also enhances the interior of a building:

- Reflective quality: creating a one-way observation effect in certain lighting conditions, transmitting light whilst screening vision.
- Bevelled edges: to create a unique decorative effect (e.g. traditional internal doors)

### Advantages

- External or internal use.
- High light reflectance and unique appearance.
- Low light transmittance, improves visual comfort against direct sunlight.
- Low light transmittance provides internal privacy, even in buildings with large glazed areas.



*Ministerio de Asuntos Sociales, Spain  
Architect: Rafael de la Hoz*

## Range

In the UK, the SGG REFLECTASOL range is not available as standard. The availability of these products can be checked by contacting our marketing department.

The SGG REFLECTASOL range comprises of 4 different variants:

- SGG REFLECTASOL CLEAR
- SGG REFLECTASOL BRONZE
- SGG REFLECTASOL GREY
- SGG REFLECTASOL GREEN

| SGG REFLECTASOL : range and manufacturing sizes |                       |              |            |                 |       |
|---|-----------------------|--------------|------------|-----------------|-------|
| Colour  | Thickness<br>(1) (mm) | Base glass   |            | Dimensions (mm) |       |
|   |                       | SGG PLANILUX | SGG PARSOL | Length          | Width |
| CLEAR   | 5                     | CLEAR        |            | 6000            | 3210  |
|   | 6                     |              |            |                 |       |
| GREY  | 5                     |              | GREY       | 6000            | 3210  |
|   | 6                     |              |            |                 |       |
| GREEN   | 5                     |              | GREEN      | 6000            | 3210  |
|   | 6                     |              |            |                 |       |
| BRONZE  | 5                     |              | BRONZE     | 6000            | 3210  |
|   | 6                     |              |            |                 |       |

(1) Tolerance :  $\pm 0.2$  mm

## Performance

The spectrophotometric performance of SGG REFLECTASOL glass is given:

- For single glazing
- In SGG CLIMALIT double glazed-units, combined with SGG PLANILUX
- In SGG CLIMAPLUS enhanced thermal insulation double-glazed units with SGG PLANITHERM TOTAL low-emissivity glass

| Single-glazing             |                       |       |        |       |      |  |  |
|----------------------------|-----------------------|-------|--------|-------|------|--|--|
| SGG REFLECTASOL            |                       | CLEAR | BRONZE | GREEN | GREY |  |  |
| Thickness                  | mm                    | 6     | 6      | 6     | 6    |  |  |
| Coating position (1)       | face                  | 2     | 2      | 2     | 2    |  |  |
| Light factor               |                       |       |        |       |      |  |  |
| LT                         | %                     | 32    | 18     | 26    | 15   |  |  |
| LRe                        | %                     | 45    | 17     | 32    | 13   |  |  |
| LRi                        | %                     | 54    | 53     | 53    | 53   |  |  |
| UV                         | %                     | 6     | 2      | 2     | 2    |  |  |
| solar radiant heat factors |                       |       |        |       |      |  |  |
| T                          | %                     | 44    | 29     | 19    | 26   |  |  |
| Re                         | %                     | 31    | 14     | 16    | 12   |  |  |
| Ri                         | %                     | 40    | 39     | 39    | 39   |  |  |
| A                          | %                     | 25    | 57     | 64    | 61   |  |  |
| Solar factor g             |                       | 0,50  | 0,44   | 0,36  | 0,42 |  |  |
| Shading Coefficient SC     |                       | 0,58  | 0,50   | 0,41  | 0,49 |  |  |
| U-value                    | W/(m <sup>2</sup> .K) | 5,7   | 5,7    | 5,7   | 5,7  |  |  |

(1) SGG REFLECTASOL is a pyrolytic glass: for aesthetic reasons, the coating must be positioned on face 2 of external glazing.

| SGG REFLECTASOL                    |                       |                 |        |        |  |                    |        |        |  |
|------------------------------------|-----------------------|-----------------|--------|--------|--|--------------------|--------|--------|--|
| Double-glazing                     |                       |                 |        |        |  |                    |        |        |  |
| External pane                      |                       | SGG REFLECTASOL |        |        |  | SGG REFLECTASOL    |        |        |  |
|                                    |                       | CLEAR           | BRONZE | GREY   |  | CLEAR              | BRONZE | GREY   |  |
| Internal pane                      |                       | SGG PLANILUX    |        |        |  | SGG PLANILUX TOTAL |        |        |  |
| Composition                        | mm                    | 6(12)6          | 6(12)6 | 6(12)6 |  | 6(12)6             | 6(12)6 | 6(12)6 |  |
| Solar control coating (1) position | face                  | 2               | 2      | 2      |  | 2                  | 2      | 2      |  |
| Low-E coating position             | face                  | -               | -      | -      |  | 3                  | 3      | 3      |  |
| Light factor                       |                       |                 |        |        |  |                    |        |        |  |
| LT                                 | %                     | 29              | 16     | 13     |  | 28                 | 16     | 13     |  |
| LRe                                | %                     | 46              | 17     | 13     |  | 46                 | 17     | 13     |  |
| LRi                                | %                     | 52              | 52     | 52     |  | 48                 | 48     | 48     |  |
| UV                                 | %                     | 4               | 2      | 1      |  | 3                  | 1      | 1      |  |
| Solar radiant heat factors         |                       |                 |        |        |  |                    |        |        |  |
| T                                  | %                     | 35              | 23     | 21     |  | 23                 | 15     | 13     |  |
| Re                                 | %                     | 33              | 15     | 13     |  | 41                 | 19     | 17     |  |
| A1                                 | %                     | 25              | 57     | 62     |  | 27                 | 60     | 65     |  |
| A2                                 | %                     | 7               | 5      | 4      |  | 9                  | 6      | 5      |  |
| Solar factor g                     |                       | 0,42            | 0,33   | 0,31   |  | 0,32               | 0,23   | 0,22   |  |
| Shading Coefficient                |                       | 0,49            | 0,38   | 0,36   |  | 0,37               | 0,26   | 0,25   |  |
| U-value                            | W/(m <sup>2</sup> .K) |                 |        |        |  |                    |        |        |  |
| Air                                |                       | 2,8             | 2,8    | 2,8    |  | 1,7                | 1,7    | 1,7    |  |
| Argon 85 %                         |                       | -               | -      | -      |  | 1,3                | 1,3    | 1,3    |  |

(1) SGG REFLECTASOL is a pyrolytic coating, however for aesthetic reasons, the coating must always be positioned on face 2.

#### Processed Product Variations

SGG REFLECTASOL can be used either in a single or double-glazed unit for multifunctional glazing.

##### **Storage, handling and cutting**

- The storage conditions for SGG REFLECTASOL are the same as for non-coated glass.
- It is generally recommended to keep handling to a minimum so that the coating is less likely to come into contact with anything that might damage it or make it dirty.
- The cut must always be clean in order to minimise the risk of thermal or mechanical breakage

##### **Double-glazing**

- SGG REFLECTASOL coatings must not be edge-deleted.
- The coating is located on face 2 of the double-glazed unit.
- SGG CLIMAPLUS SOLAR enhanced thermal insulation double-glazed units are created by combining SGG REFLECTASOL glass with a low-emissivity glass such as SGG PLANITHERM TOTAL.

Toughened glass, heat-strengthened glass, heat-soak test treatment

- The sGG REFLECTASOL coating is designed to withstand toughening and heat strengthening operations or to undergo the heat-soak test.
- These treatments do not change the appearance or performance of the glass. Once toughened or heat-strengthened it can no longer be cut, edgeworked or drilled.

It is therefore essential that these processes are performed before the glass is toughened or heat-strengthened.

#### *Curved glass*

- Please contact SAINT-GOBAIN GLASS for details

#### *Laminated glass*

- sGG REFLECTASOL can be laminated. The coating is positioned on face 4 of the laminate (i.e. on the outside of the second sheet of glass). For lamination where the coating comes into contact with the PVB interlayer, it is recommended that you contact our technical department.
- The architect / specifier must approve the colour difference between laminated and non-laminated sGG REFLECTASOL

#### *Edgeworking and drilling*

- sGG REFLECTASOL can be edgeworked and drilled using standard equipment.

#### *Enamelling*

- sGG REFLECTASOL can be enamelled on the non-coated side (sGG EMALIT).

#### *Screen-printing*

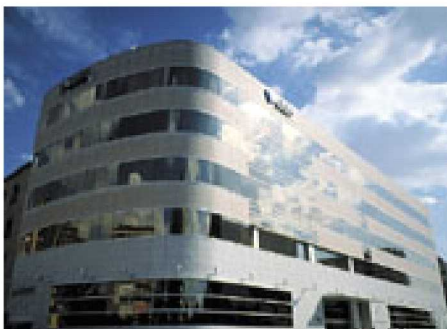
- It is possible to apply an enamelled pattern onto sGG REFLECTASOL by screen-printing on the non-coated side. However, it is not possible to apply an sGG REFLECTASOL coating to a screen-printed glass.

#### *Opacification for spandrel areas*

- The low light transmittance of sGG REFLECTASOL coatings that are applied to sGG PARSOL body-tinted glass allow for use in spandrel areas, without opacification. There is therefore a uniform appearance between the vision and spandrel area of the facade. However, the appearance should be approved by visually checking a large sample that is installed on-site.

## Installation Guidelines

- Installation position: on facades, sGG REFLECTASOL is installed with the coating on face 2 (towards the interior of the building). In all cases sGG REFLECTASOL glass must be installed in accordance with general installation recommendations and current national regulations.
- Exterior bolted glass assemblies: sGG REFLECTASOL can be installed in exterior bolted glass assemblies.
- Structural sealant glazing: sGG REFLECTASOL can be installed in structural sealant glazing.
- Sealants: Glass processors and installers must check that all sealants are compatible with the coating before assembly into double-glazing, standard installation or use in exterior structural sealant glazing.



*AEGON, insurance company  
Architect: J.A. Casana Cabrera*

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Standards and Regulations

- sGG REFLECTASOL coatings comply with the requirements of Class B of European standard BS EN 1096. sGG REFLECTASOL coated glass, produced and processed in Saint Gobain Glass factories and subsidiaries will carry the relevant CE marking.
- Exterior structural sealant glazing: glass processors and installers must check that all sealants are compatible with the sGG REFLECTASOL coating as well as its suitability for use in exterior structural sealant glazing in accordance with ETAG002 of the EOTA (European Organisation for Technical Approvals). The suitability of the sGG REFLECTASOL coating for use in exterior structural sealant glazing has been tested in accordance with ETAG002, with Dow-Corning DC993 and DC3362 silicones covered by an ETA (European Technical Approval).



*JR Towers, Hyderabad, India  
Architect: A. Balagangadhar*