

Saint Gobain Glass (SGG)



Saint Gobain is one of the most renowned manufacturers of virtually any type of glass for any application in the world. The glass models mentioned below are by no means exclusive, but are the most commonly used glass panes with relevance to soundproof windows and framed glass doors.

A – SGG PLANILUX / SGG PLANICLEAR

High quality standard clear float glass of defined variable thickness.

B - SGG STADIP

Standard laminated glass comprised of two or more sheets of float glass of variable thickness, bonded together with one or more interlayers of Polyvinyl-Butyral (PvB) film of nominal thickness 0.38 mm.

C – SGG STADIP PROTECT

Security and safety laminated glass comprised of two or more sheets of float glass of variable thickness, bonded together with one or more interlayers of Polyvinyl Butyral (PVB) film of nominal thickness 0.76 mm.

D – SGG STADIP SILENCE

Acoustic laminated glass comprised of two or more sheets of float glass of variable thickness, bonded together with one or more special acoustic interlayers of Polyvinyl Butyral (PVB) film of nominal thickness 0.38 mm.

Denominations for glazing specifications:



Standard glass: Denominated by a number representing the thickness of the glass in mm. (Eg: “8”)

Gap between glazing: Denominated by a number in brackets which represents the width of the gap. Air (AIR) or Argon (AR) gas-fill is also represented.

Glazing sequence: The represented order is the physical order of the glass panes and gaps.

Example 1: 6 (15 AR) 4 – double glazing with 6 mm standard glass pane, 15 mm argon-filled gap and 4 mm standard glass pane. * First digit on left is always the internal pane.

Example 2: 8 (12 AIR) 4 (12 AIR) 6 – triple glazing with 8 mm standard glass pane, 12 mm air-filled gap, 4 mm central standard glass pane, 12 mm air-filled gap and 6 mm standard glass pane

Laminated Glass: Denominated by two a two-digit number followed by a decimal point and another number. (Eg: 44.1). The first and second digits before the decimal point represent the glass thicknesses of each of the individual sheets of glass. The digit following the decimal point represents the thickness of the PVB film interlayer, where “1” = 0.38 mm, and “2” = 0.76 mm.

Post-script for Safety and Security Glass (STADIP PROTECT): “PRO”

Post-script for Acoustic Glass (STADIP SILENCE): “SIL”

Example 3: 44.1 SIL (15 AIR) 33.1 – double glazing - STADIP SILENCE 44.1 / 15 mm air-filled gap / STADIP 33.1

Example 4: 44.1 PRO (12 AR) 4 (12 AR) 44.1 PRO – triple glazing – STADIP PROTECT 44.1 / 12 mm argon-filled gap / 4 mm central standard glass / 12 mm argon-filled gap / STADIP PROTECT 44.1

Glazing combinations are specifically calculated in each particular case, according to the nature of the room or enclosure in which specific window or framed glass door is required to be installed, external noise factors and other specific client requirements. The performance data for the specific glazing combination (see example below) can then be calculated. It is important to note that any calculations for transmission loss depend on the area of glass in contact with the external air, and therefore vary according to size of aperture. It is also assumed that the selected frame is designed to support the particular glazing specification, and that the installation of the window or framed glass door is properly carried out.

COMPUTATION OF THE SOUND TRANSMISSION LOSS

Modeling and computation done by Saint-Gobain CRDC

Computation hypothesis defined to model a measurement according to EN ISO 140

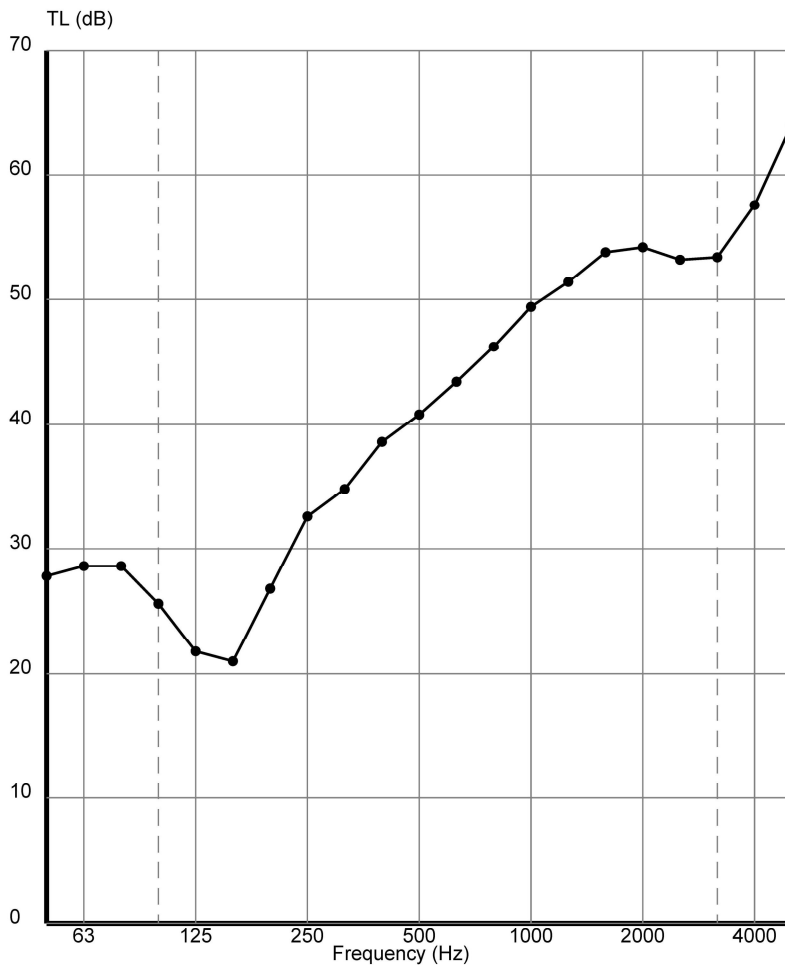
All the results, notices, measures, diagrams or charts and any other elements in this document have been obtained in Saint-Gobain's laboratories under specific circumstances. They are for information purposes only and have no contractual value. Saint-Gobain will not be liable for them in any circumstances.

Glazing : 44.1SIL (15AIR) 33.1SIL

Ratings: According to ISO 717-1 100Hz - 3150Hz

$$R_w(C;C_{tr}) = 42(-2;-7) \text{ dB} \quad R_A = 40 \text{ dB} \quad R_{A,tr} = 35 \text{ dB}$$

Results: Sound Transmission Loss by third-octave band



Frequency (Hz)	R (dB)
50	27,8
63	28,5
80	28,5
100	25,6
125	21,7
160	21
200	26,9
250	32,6
315	34,8
400	38,7
500	40,8
630	43,4
800	46,3
1000	49,5
1250	51,3
1600	53,9
2000	54,2
2500	53,2
3150	53,4
4000	57,7
5000	64

Computation details: Composition No. 7345 calculated the 02/06/2014

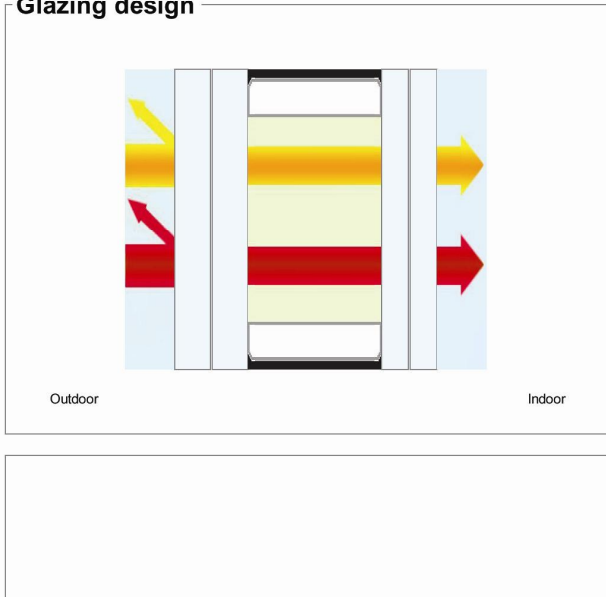
- Dimensions: 1480mm x 1230mm
- Composition: Glass 1: SGG STADIP SILENCE 44.1
Gaz 1: AIR 15
Glass 2: SGG STADIP SILENCE 33.1

In addition, other ratings for the selected pane structure such as luminous factors, energy factors, solar factors and thermal transmission are also calculated, therefore offering clients comprehensive performance data for the glazing under consideration:



Calumen® II 1.3.1
23 March 2015
Data base : SGG Spain

Glazing design



	First glazing	Second glazing
Gas		Air 15.00mm
Coating		
First glass	PLANICLEAR 4.00mm	PLANICLEAR 3.00mm
Coating		
Layer	PVB silence 0.38 mm	PVB silence 0.38 mm
Coating		
Second glass	PLANICLEAR 4.00mm	PLANICLEAR 3.00mm
Coating		

Manufacturing sizes

Nominal thickness : **29.8 mm**
Weight : **35.8 kg/m²**

Luminous factors (EN410-2011) : (D65 2°)

Transmittance : **80 %**
Outdoor reflectance : **15 %**
Indoor reflectance : **15 %**

Energy factors (EN410-2011) :

Transmittance : **66 %**
Outdoor reflectance : **12 %**
Indoor reflectance : **12 %**
Absorptance A1 : **16 %**
Absorptance A2 : **7 %**

Solar factors (EN410-2011) :

g : **0.72**
Shading coefficient : **0.82**

Thermal transmission (EN673-2011) - - 0° related to vertical position

U_g : **2.7 W/(m².K)**



CALUMEN® II is a simulation software to calculate key performance of glass such as light transmission, solar factor or thermal insulation coefficient. Computed values are indicative and subject to change. They can not be used to guarantee performance of the products.

These values are calculated according to EN410-2011 and EN673-2011 standards. Tolerances are defined according to EN 1096-4 or ISO9050-2003 standards. Nevertheless, user must check the feasibility of the associated products, in particular in terms of thickness and colour. Furthermore, it is his responsibility to check that the resulting combination of glazing meets regulatory requirements at national, local or regional level.

Calculation rules and functional output of Calumen II have been validated by TÜV Rheinland Quality Report 11923R-11-33705

