

Extract from the Environmental Product Declaration

In conformity with International Standards ISO 14025, ISO 14040 & ISO 14044

AFNOR Registration Number N° 08-269 : 2011

SGG ANTELIO®

6 mm

Solar control coated glass range

Other configurations studied:

- 4 mm;
- 5 mm;
- 8 mm.

The environmental impacts of this product have been assessed over its whole life cycle.

Its Environmental Product Declaration has been verified by an independent third party.





EXTRACT FROM THE
ENVIRONMENTAL PRODUCT DECLARATION
IN ACCORDANCE WITH ISO 14025 and ISO 14040

SGG ANTELIO[®]
(Solar control coated glass range)
6 mm

Additional thicknesses : 4 mm, 5 mm, 8 mm

Version 2.0 November 2013
Verified under AFNOR programme
AFNOR Registration number N° 08-269: 2011

1. Data Sources

SAINT-GOBAIN GLASS is responsible for disclosing any information contained in this declaration in accordance with NF P 01-010 § 4.6.

Contact : sustainable.glass@saint-gobain.com

2. Product characterisation in accordance with NF P 01-010 § 4.3

2.1 Definition of the functional unit (FU)

1 m² of solar control coated glass incorporated into a building for one year. The Reference Service Life (RSL) considered is 30 years. The impacts of the installation accessories are not taken into account.

2.2 Product mass and basic data required to calculate the functional unit (FU)

Product unit (nature and quantity)

The product considered is representative of the range SGG ANTELIO[®]. This EDP consequently presents the average results for this product family (50% clear, 50% silver).

The reference flow of the product Life Cycle Assessment (LCA) is 1 m² of product over a period of 30 years.

The reference flow of the FU is then 0.488 kg per year and 14.63 kg over the RSL of 30 years.

Distribution packaging (nature and quantity): a 1 m² of SGG ANTELIO[®] needs the following packaging:

- Metal: 6.33 E-5 kg (0.0019 kg over the whole RSL);
- Board: 3.9 E-04 kg (0.0117 kg over the whole RSL);
- Spacer powder: 1.67 E-5 kg (0.0005 kg over the whole RSL);
- Plastic materials (polyethylene, polystyrene, polypropylene) : 7.67E-4 kg (0.023 kg over the whole RSL);
- Wood (kg): 1.17 E-3 kg (0.035 kg over the whole RSL).

Installation accessories: Not taken into account because there are several methods of installation. This in accordance with the standard NF P01-010§4.3c.

Material losses: There are no material losses in the installation or on the building because there is no cutting to be done on the job-site, the products being delivered with the final dimensions.

Use: Cleaning is taken into account: 0.2 l of cleaning solution per m² of mirror and per year.

Substantiation of information disclosed: the information collected comes from 10 European sites producing SGG PLANILUX[®] and one site for the SGG ANTELIO[®] production

2.3 Useful technical characteristics not contained in the definition of the functional unit

The thermal transmission value U_g of the product described is 5.7 W/ (m².K), the light transmittance T_L, is 46% or 66% and the solar factor is 57 or 68.

The product complies with the EN 1096-2 standard

3. Environmental impacts representative of construction products in accordance with NF P 01-010 6

N°	Environmental impact	Indicator value for the Functional Unit				
		6 mm	4 mm	5 mm	8 mm	Units
1	Consumption of energy resources					
	Total primary energy	11.4	7.81	9.90	15.4	MJ/FU
	Renewable energy	0.342	0.266	0.310	0.423	MJ/FU
	Non-renewable energy	11.1	7.55	9.59	14.9	MJ/FU
	Fuel energy	11.0	7.49	9.52	14.8	MJ/FU
2	Depletion of natural resources	0.00461	0.00314	0.00398	0.00618	kg of antimony (Sb) eq./FU
3	Total water consumption	7.1	4.76	6.11	9.62	litre/FU
4	Solid waste:					
	Recovered waste (total)	0.0276	0.0182	0.0236	0.0377	kg/FU
	Waste disposed of:					
	Hazardous waste	0.00248	0.00164	0.00212	0.00338	kg/FU
	Non-hazardous waste	0.001	0.000452	0.000528	0.000727	kg/FU
Inert waste	0.4909	0.323	0.419	0.671	kg/FU	
Radioactive waste	4.48 E-05	0.0000	3.93 E-05	5.89 E-05	kg/FU	
5	Climatic change	0.86	0.594	0.746	1.14	kg of CO ₂ eq./FU
6	Atmospheric acidification	0.0057	0.00388	0.00492	0.0076	kg of SO ₂ eq./FU
7	Air pollution	88.1	59.5	75.9	119	m ³ /FU
8	Water pollution	0.461	0.307	0.395	0.626	m ³ /FU
9	Stratospheric ozone layer depletion	8.33 E-12	5.49E-12	7.13 E-12	1.14 E-11	kg CFC eqR11/FU
10	Formation of photochemical oxidants	0.000248	1.80E-04	0.000219	0.000320	kg of ethylene eq./FU
Other indicator (not included in the NF P 01-010)						
11	Eutrophication	0.423	0.279	0.3624	0.578	g eq PO ₄ ³⁻ /FU

N°	Environmental impact	Indicator value for the Reference Service Life				
		6 mm	4 mm	5 mm	8 mm	Units
1	Consumption of energy resources					
	Total primary energy	343	234	297	461	MJ
	Renewable energy	10.3	7.99	9.29	12.7	MJ
	Non-renewable energy	333	226	288	448	MJ
	Fuel energy	331	225	286	444	MJ
2	Depletion of natural resources	0.138	0.0943	0.116	0.185	kg eq antimony (Sb)
3	Total water consumption	213	143	183	289	litre
4	Solid waste:					
	Recovered waste (total)	0.830	0.545	0.707	1.13	kg
	Waste disposed of:					
	Hazardous waste	0.0743	0.0493	0.0637	0.101	kg
	Non-hazardous waste	0.0175	0.0136	0.0159	0.00218	kg
Inert waste	14.73	9.69	12.6	20.13	kg	
Radioactive waste	0.00134	0.0010	0.00118	0.00177	kg	
5	Climatic change	25.7	17.81	22.4	34.3	kg eq CO ₂
6	Atmospheric acidification	0.171	0.116	0.148	0.229	kg eq SO ₂
7	Air pollution	2642	1785	2 278	3 565	m ³
8	Water pollution	13.8	9.22	11.9	18.8	m ³
9	Stratospheric ozone layer depletion	2.50 E-10	1.65E-10	2.14 E-10	3.43 E-10	kg CFC eq R11
10	Formation of photochemical oxidants	0.0074	5.39E-03	0.00656	0.0096	kg eq ethylene
Other indicator (not included in the NF P 01-010)						
11	Eutrophication	12.7	8.4	10.9	17.3	g eq PO ₄ ³⁻

4. Product contribution to assessing health risks and quality of life inside buildings in accordance with NF P 01-010 § 7

Product contribution	Environnemental Impact	Comments
To assess health risks	Indoor air quality	Coated glass is an inert material which releases no elements. Radioactive emissions: no natural radioactivity measured. Fibres and particulates emissions: not relevant for glass. Micro-organisms and mould: some moulds can grow on the glass surface. but they do not produce any degradation. These moulds can be removed easily (report CONIDIA DEV 0111-006).
	Water quality	There is no impact. No migration of glass elements occurs when in contact with water (REACH Dossier CPIV).
To the quality of life	Hygrothermal comfort	SGG ANTELIO® contributes to the thermal insulation when assembled in a double glazing.
	Acoustic comfort	Not applicable.
	Visual comfort	SGG ANTELIO® light transmission of 46% (clair) or 66% (argent).
	Olfactive comfort	No odour emission test has been conducted.

5. Additional information

On average, 30% of the weight of a glass pane produced by SAINT-GOBAIN GLASS comes from internally recycled cullet (compared to 20% 10 years ago).

Cullet from SGG ANTELIO® can be recycled in a glass furnace after treatment to separate the glass from the fixing materials. Nowadays however, nearly 95% of glass at the end of life goes to landfill due to a lack of dismantling, sorting and collecting networks. The collect rate of glass at the end of life is thus only 5 %.

Abbreviations used:

RSL: Reference Service Life.

FU: Functional Unit.

VOC: Volatile Organic Compounds.