ENVIRONMENTAL PRODUCT DECLARATION

In accordance with EN 15804 and ISO 14025

SGG PLANILUX®

2 mm - 12 mm

Clear float glass

Production zone: India
Date of issue: 27/10/2017
Version: V2

EPD VERIFIED

EPD®

VERIFICATION

S-P-00978

SAINT-GOBAIN

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General information

Manufacturer:

SAINT-GOBAIN INDIA PRIVATE LIMITED – GLASS BUSINESS
Sigapi Aachi Building, Floor No. 7, 18/3, Rukmini Lakshmipathy Road,
600008 Chennai
India

European standard EN 15804 served as core EPD	
Product / product family name and manufacturer represented	SGG PLANILUX® produced by SAINT-GOBAIN India Private Limited – Glass Business
Declaration issued:	27/10/2017
valid until:	27/10/2022
Program used	INTERNATIONAL EPD SYSTEM www.environdec.com
EPD registration number/declaration number:	S-P-00978
PCR identification	EN 15804 as the core PCR and PCR for construction products and construction services issue by the International EPD System (PCR 2012:01 Construction products and construction services, version 2.2 / 2017-05-30) GPI 2.5
PCR review was conducted by	The technical committee of the international EPD system Chair: Massimo Marino Contact via info@environdec.com
CPC Classification:	37113 “Float glass and surface ground or polished glass, in sheets.”
Independent verification of the declaration and data, according to ISO 14025	An independent verification of the declaration and data was made, according to ISO 14025:2010. This verification was based on the PCR mentioned above.
Third party verifier	Matthias Schulz
Accredited or approved by	INTERNATIONAL EPD SYSTEM

Product description

Product description and description of use

SGG PLANILUX® is a basic soda-lime silicate glass produced using the float procedure to be used in building, furniture & industrial applications. This glass is in conformity with the European Standard EN 572-2.

Performance data

Thickness (mm)	2	3	3.5	4	5	6	8	10	12
Light transmittance (LT) %	90.9	90.5	90.3	90.1	89.7	89.3	88.6	87.8	87
External light reflection (RLE) (%)	8.2	8.2	8.2	8.1	8.1	8.1	8.0	8.0	7.9
Energy transmittance (ET) %	88.5	87.1	86.4	85.7	84.4	83.1	80.6	78.3	76
Energy absorbance (EA) %	3.5	5.1	5.9	6.6	8.0	9.4	12.1	14.6	16.9
Solar factor g	0.89	0.88	0.88	0.87	0.86	0.85	0.83	0.82	0.80

The performance data are given according to EN 410-2011 standard.

Declaration of the main product components and/or materials

The product is 100% glass CAS number 65997-17-3, EINECS number 266-046-0.

At the date of issue of this declaration, there is no “Substance of Very High Concern” (SVHC) in concentration above 0.1% by weight, and neither do their packaging, following the European REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals).

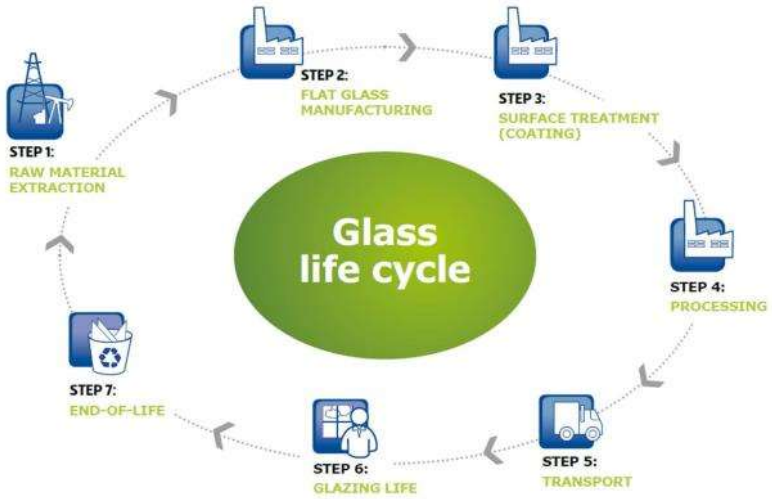
LCA calculation information

FUNCTIONAL UNIT / DECLARED UNIT	1m^2 of clear glass SGG PLANILUX® to be incorporated into a building, furniture or industrial application. The impacts of installation are not taken into account.
SYSTEM BOUNDARIES	Cradle to gate: Mandatory Stages = A1-A3
REFERENCE SERVICE LIFE (RSL)	n/a. Boundaries are cradle to gate
CUT-OFF RULES	All significant parameters are included. According to EN 15804, mass flows under 1% of the total mass input; and/or energy flows representing less than 1% of the total primary energy usage of the associated unit process may be omitted. However, the total amount of energy and mass omitted must not exceed 5% per module. Substances of Very High Concern (SVHC), as defined in the REACH Regulation (article 57), in a concentration above 0.1% by weight, in glass final products, shall be included in the Life Cycle Inventory and the cut-off rules shall not apply.
ALLOCATIONS	Allocations are done on mass basis (kg)
GEOGRAPHICAL COVERAGE AND TIME PERIOD	The informations were established over the year 2016. The information collected comes from the Indian sites producing SGG PLANILUX® (Saint-Gobain India Private Limited – Glass Business)
BACKGROUND DATA SOURCE	GaBi data were used to evaluate the environmental impacts
SOFTWARE	GaBi 8 - GaBi Envision IN_SGG EPD Tool Building glass 1m2 for India_2017-10-23.gbmx

According to EN 15804, EPD of construction products may not be comparable if they do not comply with this standard. According to ISO 21930, EPD might not be comparable if they are from different programmes.

Life cycle stages

Diagram of the Life Cycle



Not relevant stages**: as this is a cradle to gate with options declaration stages A4, to D are not** relevant.

Product stage, A1-A3

Description of the stage: For flat glass A1 to A3 represents the production of glass in the float from cradle to gate.

The product stage includes the extraction and processing of raw materials and energies, transport to the manufacturer, manufacturing and processing of flat glass.

Manufacturing process flow diagram

1. BATCH MIXER: Mix of raw materials (silica, soda ash, lime, feldspar and dolomite) to which is added recycled glass (cullet) and other compounds depending on the desired color and properties.
2. FUSION FURNACE: Raw materials are melted at 1,550°C in a furnace.
3. FLOAT: The molten glass is fed into a bath of molten tin. The glass floats on this flat surface and is drawn off in a ribbon. Serrated wheels, or top rolls, pull and push the glass sideways depending on the desired thickness (from 2 to 19 millimeters).
4. ANNEALING LEHR: The glass is lifted onto conveyor rollers and passes through a controlled cooling tunnel measuring more than 100 meters in length. Approximately 600°C at the start of this step, the glass exits the lehr at room temperature.
5. CUTTING AND STACKING: The glass is automatically cut lengthwise and crosswise. The sheets of glass are raised by vacuum frames that then place them on glass stillages.
6. QUALITY: Automatic inspections and regular samples are taken to check the quality of the glass at each step in the glassmaking process.
7. STORAGE AND TRANSPORTATION: The stillages are placed on storage racks in the warehouse.
8. ENVIRONMENT: Use of recycled cullet, installation of pollution abatement systems and closed circuit management of water: every measure is taken to limit the consumption of energy, extraction of natural resources, production of waste and emissions into the atmosphere.

LCA results

The table below present the environmental impacts associated with the production of 1 square meter of SGG PLANILUX. This is a Cradle-to-Gate EPD. The environmental impacts of all the other stages in the life cycle of the SGG PLANILUX glass are not declared (MND).

ENVIRONMENTAL IMPACTS SGG PLANILUX 2 mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Global Warming Potential (GWP) - *kg CO_2 equiv/FU*	6.48	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas. carbon dioxide. which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	2.54E-11	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbonsor halons). Which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	0.0375	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl. buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production. heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	0.00352	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Excessive enrichment of waters and continental surfaces with nutrients. and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethene equiv/FU*	0.00208	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	4.45E-5	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	70.9	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Consumption of non-renewable resources. thereby lowering their availability for future generations.														

RESOURCE USE SGG PLANILUX 2 mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - *MJ/FU*	2.66	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	2.66	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	72.2	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	72.2	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of secondary material *kg/FU*	0.366	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable secondary fuels- *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable secondary fuels - *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of net fresh water - *m^3/FU*	0.0165	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES SGG PLANILUX 2 mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	1.34 E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Non-hazardous(excluding inert) waste disposed *kg/FU*	0.13	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Radioactive waste disposed *kg/FU*	0.000521	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS SGG PLANILUX 2 mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for recycling *kg/FU*	0.0194	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for energy recovery *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Exported energy. detailed by energy carrier *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL IMPACTS SGG PLANILUX 3mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Global Warming Potential (GWP) - *kg CO_2 equiv/FU*	9.72	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas. carbon dioxide. which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	3.81E-11	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbonsor halons). Which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	0.0562	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl. buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production. heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	0.00528	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Excessive enrichment of waters and continental surfaces with nutrients. and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethene equiv/FU*	0.00311	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	6.67E-5	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	106	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Consumption of non-renewable resources. thereby lowering their availability for future generations.														

RESOURCE USE SGG PLANILUX 3mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - *MJ/FU*	3.99	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	3.99	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	108	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	108	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of secondary material *kg/FU*	0.548	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable secondary fuels- *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable secondary fuels - *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of net fresh water - m^3/FU	0.0247	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES SGG PLANILUX 3mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	2.01E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Non-hazardous(excluding inert) waste disposed *kg/FU*	0.195	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Radioactive waste disposed *kg/FU*	0.000782	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS SGG PLANILUX 3mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for recycling *kg/FU*	0.0291	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for energy recovery *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Exported energy. detailed by energy carrier *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL IMPACTS SGG PLANILUX 3.5mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Global Warming Potential (GWP) - *kg CO_2 equiv/FU*	11.3	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas. carbon dioxide. which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	4.44E-11	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbonsor halons). Which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	0.0656	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl. buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production. heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	0.00616	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Excessive enrichment of waters and continental surfaces with nutrients. and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethene equiv/FU*	0.00363	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	7.79E-5	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	124	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Consumption of non-renewable resources. thereby lowering their availability for future generations.														

RESOURCE USE SGG PLANILUX 3.5mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - *MJ/FU*	4.65	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	4.65	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	126	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	126	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of secondary material *kg/FU*	0.64	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable secondary fuels- *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable secondary fuels - *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of net fresh water - *m^3/FU*	0.0289	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES SGG PLANILUX 3.5mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	2.35E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Non-hazardous(excluding inert) waste disposed *kg/FU*	0.228	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Radioactive waste disposed *kg/FU*	0,000912	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS SGG PLANILUX 3.5mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for recycling *kg/FU*	0.0339	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for energy recovery *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Exported energy. detailed by energy carrier *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL IMPACTS SGG PLANILUX 4mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Global Warming Potential (GWP) - *kg CO_2 equiv/FU*	13	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas. carbon dioxide. which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	5.08E-11	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbonsor halons). Which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	0.075	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl. buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production. heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	0.00704	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Excessive enrichment of waters and continental surfaces with nutrients. and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethene equiv/FU*	0.00415	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	8.9E-5	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	142	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Consumption of non-renewable resources. thereby lowering their availability for future generations.														

RESOURCE USE SGG PLANILUX 4mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - *MJ/FU*	5.31	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	5.31	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	144	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	144	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of secondary material *kg/FU*	0.731	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable secondary fuels- *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable secondary fuels - *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of net fresh water - *m^3/FU*	0.033	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES SGG PLANILUX 4mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	2.68E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Non-hazardous(excluding inert) waste disposed *kg/FU*	0.261	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Radioactive waste disposed *kg/FU*	0.00104	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS SGG PLANILUX 4mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for recycling *kg/FU*	0.0388	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for energy recovery *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Exported energy. detailed by energy carrier *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL IMPACTS SGG PLANILUX 5mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse. recovery. recycling
Global Warming Potential (GWP) - *kg CO_2 equiv/FU*	16.2	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas. carbon dioxide. which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	6.35E-11	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbonsor halons). Which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	0.0937	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl. buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production. heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	0.00881	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Excessive enrichment of waters and continental surfaces with nutrients. and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethene equiv/FU*	0.00519	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	0.000111	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	177	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Consumption of non-renewable resources. thereby lowering their availability for future generations.														

RESOURCE USE SGG PLANILUX 5mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - *MJ/FU*	6.64	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	6.64	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	180	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	180	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of secondary material *kg/FU*	0.914	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable secondary fuels- *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable secondary fuels - *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of net fresh water - *m^3/FU*	0.0412	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES SGG PLANILUX 5mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	3.35E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Non-hazardous(excluding inert) waste disposed *kg/FU*	0.326	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Radioactive waste disposed *kg/FU*	0.0013	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS SGG PLANILUX 5mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for recycling *kg/FU*	0.0485	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for energy recovery *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Exported energy. detailed by energy carrier *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL IMPACTS SGG PLANILUX 6mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Global Warming Potential (GWP) - *kg CO_2 equiv/FU*	19.4	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas. carbon dioxide. which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	7.62E-11	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbonsor halons). Which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	0.112	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl. buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production. heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	0.0106	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Excessive enrichment of waters and continental surfaces with nutrients. and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethene equiv/FU*	0.00623	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	0.000133	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	213	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Consumption of non-renewable resources. thereby lowering their availability for future generations.														

RESOURCE USE SGG PLANILUX 6mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - *MJ/FU*	7.97	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	7.97	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	217	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	217	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of secondary material *kg/FU*	1.1	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable secondary fuels- *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable secondary fuels - *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of net fresh water - *m^3/FU*	0.0495	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES SGG PLANILUX 6mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	4.02E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Non-hazardous(excluding inert) waste disposed *kg/FU*	0.391	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Radioactive waste disposed *kg/FU*	0.00156	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS SGG PLANILUX 6mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for recycling *kg/FU*	0.0582	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for energy recovery *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Exported energy. detailed by energy carrier *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL IMPACTS SGG PLANILUX 8mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Global Warming Potential (GWP) - *kg CO_2 equiv/FU*	25.9	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas. carbon dioxide. which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	1.02E-10	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbonsor halons). Which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	0.15	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl. buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production. heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	0.0141	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Excessive enrichment of waters and continental surfaces with nutrients. and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethene equiv/FU*	0.0083	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	0.000178	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	283	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Consumption of non-renewable resources. thereby lowering their availability for future generations.														

RESOURCE USE SGG PLANILUX 8mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - *MJ/FU*	10.6	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	10.6	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	289	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	289	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of secondary material *kg/FU*	1.46	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable secondary fuels- *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable secondary fuels - *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of net fresh water - *m^3/FU*	0.066	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES SGG PLANILUX 8mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	5.36E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Non-hazardous(excluding inert) waste disposed *kg/FU*	0.521	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Radioactive waste disposed *kg/FU*	0.00208	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS SGG PLANILUX 8mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for recycling *kg/FU*	0.0775	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for energy recovery *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Exported energy. detailed by energy carrier *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL IMPACTS SGG PLANILUX 10mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Global Warming Potential (GWP) - *kg CO_2 equiv/FU*	32.4	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas. carbon dioxide. which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	1.27E-10	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbonsor halons). Which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	0.187	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl. buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production. heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	0.0176	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Excessive enrichment of waters and continental surfaces with nutrients. and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethene equiv/FU*	0.0104	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	0.000222	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	354	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Consumption of non-renewable resources. thereby lowering their availability for future generations.														

RESOURCE USE SGG PLANILUX 10mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - *MJ/FU*	13.3	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	13.3	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	361	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	361	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of secondary material *kg/FU*	1.83	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable secondary fuels- *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable secondary fuels - *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of net fresh water - *m^3/FU*	0.0825	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES SGG PLANILUX 10mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	6.71E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Non-hazardous(excluding inert) waste disposed *kg/FU*	0.652	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Radioactive waste disposed *kg/FU*	0.00261	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS SGG PLANILUX 10mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for recycling *kg/FU*	0.0969	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for energy recovery *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Exported energy. detailed by energy carrier *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

ENVIRONMENTAL IMPACTS SGG PLANILUX 12mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Global Warming Potential (GWP) - *kg CO_2 equiv/FU*	38.9	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas. carbon dioxide. which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	1.52E-10	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbonsor halons). Which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	0.225	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl. buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production. heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	0.0211	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Excessive enrichment of waters and continental surfaces with nutrients. and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethene equiv/FU*	0.0125	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	0.000267	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	425	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
	Consumption of non-renewable resources. thereby lowering their availability for future generations.														

RESOURCE USE SGG PLANILUX 12mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - *MJ/FU*	15.9	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	15.9	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	433	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable primary energy used as raw materials *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	433	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of secondary material *kg/FU*	2.19	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of renewable secondary fuels- *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of non-renewable secondary fuels - *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Use of net fresh water - *m^3/FU*	0.099	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES SGG PLANILUX 12mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	8.05E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Non-hazardous(excluding inert) waste disposed *kg/FU*	0.782	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Radioactive waste disposed *kg/FU*	0.00313	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS SGG PLANILUX 12mm

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse. recovery. recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for recycling *kg/FU*	0.116	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Materials for energy recovery *kg/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
Exported energy. detailed by energy carrier *MJ/FU*	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

LCA results interpretation

In the production of SGG PLANILUX, we find two main sources of impacts.

One is the energy consumed in the furnace and the other one is the impacts generated in the production of one of the main raw materials, the soda ash.

Soda ash is in the origin of more than 25% of the GWP, more than 60% of the abiotic depletion for non-fossil fuels (ADP elements) and more than 20% of the energy consumption.

		Environmental impacts (A1-A3) SGG PLANILUX 4mm	Unit
	Global warming	**13**	Kg CO_2 equiv/FU
	Non-Renewable resources consumption[1]	**142**	MJ/FU
	Energy consumption[2]	**149.31**	MJ/FU
	Water consumption[3]	**0.033**	M^3/FU
	Waste production[4]	**0.262**	Kg/FU

[1]: This indicator corresponds to the abiotic depletion potential of fossil resources.
[2]: This indicator corresponds to the total use of primary energy (renewable and non-renewable)
[3]: This indicator corresponds to the use of fresh net water.
[4]: This indicator corresponds to the sum of hazardous, non-hazardous and radioactive waste disposed.

Health characteristics

Concerning the indoor air quality, flat glass is an inert material that doesn't release any inorganic & organic compounds, in particular no VOC (volatile organic compounds).

Additional Environmental Information

Saint-Gobain's environmental policy

Saint-Gobain's environmental vision is to ensure the sustainable development of its Activities, while preserving the environment from the impacts of its processes and services throughout their life cycle. The Group thus seeks to ensure the preservation of resources, meet the expectations of its relevant stakeholders, and offer its customers the highest added value with the lowest environmental impact.

The Group has set two long-term objectives: zero environmental accidents and a minimum impact of its activities on the environment. Short and medium-term goals are set to address these two ambitions. They concern five environmental areas identified by the Group: raw materials and waste; energy, atmospheric emissions and climate; water; biodiversity; and environmental accidents and nuisance.

Saint-Gobain's long term objectives:

	Non recovered waste (2010-2025) : -50% Long-term: zero non-recovered waste
	Energy consumption: -15% (2010-2025) CO_2 emissions: -20% (2010-2025) Emissions of NOx, SO_2 and dust: -20% for each emissions category (2010-2025)
	Water discharge: -80% (2010-2025) Long-term: zero industrial water discharge in liquid form
	2025: promote the preservation of natural areas at Company sites as much as possible
	2025: all environmental events are recorded, registered and investigated

More information on our website: www.saint-gobain.com and our Registration Document.

Our products' contribution to Sustainable Buildings

Saint-Gobain encourages sustainable construction and develops innovative solutions for new and renovated buildings that are energy efficient, comfortable, healthy and esthetically superior, while at the same time protecting natural resources.

The following information might be of help for green building certification programs:

RECYCLED CONTENT

(Required for LEED v4 Building product disclosure and optimization - sourcing of raw materials)

Recycled content: proportion, by mass, of recycled material in a product or packaging. Only pre-consumer and post-consumer materials shall be considered as recycled content.

- Post-consumer material: material generated by households or commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose.

  In practice, in the case of flat glass, all material coming from glass recycling collection schemes falls under this category, i.e. glass waste from end-of-life vehicles, construction and demolition waste, etc.

- Pre-consumer material: material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.

  In the case of flat glass, this waste originates from the processing or re-processing of glass that takes place before the final product reaches the consumer market. Pre-consumer waste flat glass is made of cut-offs, losses during laminating, bending and other processing, including the manufacture of insulating glass units or automotive windscreens.

Cullet generated in the furnace plant and which is reintroduced into the furnace cannot be considered as pre-consumer recycled content, since there was never an intent to discard it and therefore it would never have entered the solid waste stream.

Pre-consumer cullet	~7%
Post-consumer cullet	< 1%

In the future, Saint-Gobain Glass intends to continue the increase of recycled material in its products, especially when recycling building post-consumer cullet glass dismantling and recycling networks will be available in every country.

For any other question / document / certification, please contact our local sales teams.