

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with EN 15804 and ISO 14025

**EMALIT[®] / SERALIT[®] / OPALIT[®]
EVOLUTION
& PICTUREit[®]**

4 mm - 12 mm

Enameled glass

Date of issue: 20-12-2016
Version: V01



S-P 00977




Processed by: 

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General information

Manufacturer¹:

SAINT-GOBAIN GLASS FRANCE
18 avenue d'Alsace
92400 Courbevoie
FRANCE

European standard EN 15804 served as core EPD	
Product / product family name and manufacturer represented	EMALIT [®] / SERALIT [®] / OPALIT [®] EVOLUTION & PICTUREit [®] produced by SAINT-GOBAIN GLASS INDUSTRY and Glassolutions
Declaration issued:	20-12-2016
valid until:	20-12-2021
Program used	INTERNATIONAL EPD SYSTEM www.environdec.com
EPD registration number/declaration number:	S-P 00977
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 2.01 / 2016-03-09)
PCR review was conducted by	The technical committee of the international EPD system Chair: Massimo Marino Contact via info@environdec.com
CPC Classification:	37114 "Glass in sheets, bent, edge-worked, engraved, drilled, enamelled or otherwise worked, but not framed, etc."
Independent verification of the declaration and data, according to ISO 14025	An independent verification of the declaration was made, according to ISO 14025:2010. This verification was external and conducted by the third party mentioned below, based on the PCR mentioned above. EPD process certification (External) EPD verification (Internal)
Third party verifier	Bureau Veritas Certification Sverige AB for the EPD process certification
Accredited or approved by	INTERNATIONAL EPD SYSTEM Swedac Ackreditering

¹ The manufacturing companies concerned are SAINT-GOBAIN GLASS FRANCE, SAINT-GOBAIN GLASS DEUTSCHLAND, SAINT -GOBAIN GLASS UK, SAINT-GOBAIN GLASS ITALY, SAINT-GOBAIN CRISTALLERIA, SAINT-GOBAIN GLASS POLSKA, SAINT-GOBAIN GLASS ROMANIA and all Glassolutions sites within the EU.

Product description

Product description and description of use

EMALIT EVOLUTION, SERALIT EVOLUTION, OPALIT EVOLUTION and PICTUREit are toughened glasses, compliant with the standard EN 12150:

- EMALIT EVOLUTION is an opaque coloured glass, obtained by uniformly depositing a layer of enamel on one side of the glass;
- SERALIT EVOLUTION is a colour patterned glass. It is produced by depositing an enamel pattern to one side of the glass, through a textile screen;
- OPALIT EVOLUTION is a translucent toughened enamelled glass produced by applying a layer of translucent enamel;
- PICTUREit is a digital printed glass, using enamels for the colors.

The new enamels are of the same nature as the glass itself. They are lead-free, and contain no cadmium, lithium, mercury or chrome VI (< 1.000 ppm in the enamel). They are fired at very high temperature, a process which simultaneously toughens the glass. The enamels are completely integrated into the surface of the glass, giving the decoration durability and stability over time.

EMALIT EVOLUTION, SERALIT EVOLUTION, OPALIT EVOLUTION and PICTUREit are meant to be used in building and furniture, especially for facades, street furniture and the interior décor buildings.

EMALIT EVOLUTION, SERALIT EVOLUTION, OPALIT EVOLUTION and PICTUREit can be produced on different substrate produced by Saint-Gobain Glass Industry:

- Basic glass
 - Clear, SGG PLANICLEAR
 - Extra clear, SGG DIAMANT
 - Tinted, SGG PARSOL
- Coated glass
 - SGG ANTELIO, solar control glass with CVD pyrolytic coating
 - SGG COOL-LITE, solar control glass with magnetron coating family (K, SK and ST 150)

This EPD concerns EMALIT EVOLUTION, SERALIT EVOLUTION, OPALIT EVOLUTION and PICTUREit on the following substrate: SGG PLANICLEAR, SGG DIAMANT, SGG PARSOL.

Declaration of the main product components and/or materials

All raw materials contributing more than 5% to any environmental impact are listed in the table below:

Components	Weight (in %)	Comments
Glass	More than 98%	CAS number 65997-17-3, EINECS number 266-046-0
Enamel	Less than 1%	CAS number 65997-18-4, EINECS number 266-047-6

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 EMALIT EVOLUTION, SERALIT EVOLUTION, OPALIT EVOLUTION and PICTUREit to be incorporated into a building or furniture. 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	<p>All significant parameters shall be included.</p> <p>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.</p> <p>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.</p>
ALLOCATIONS	Allocations are done on mass basis (kg)
GEOGRAPHICAL COVERAGE AND TIME PERIOD	The informations were established over the year 2014. The information collected comes from the European sites producing SGG PLANICLEAR, SGG DIAMANT & SGG PARSOL (SAINT-GOBAIN GLASS INDUSTRY) and the Glassolutions sites producing EMALIT EVOLUTION, SERALIT EVOLUTION, OPALIT EVOLUTION and PICTUREit.
BACKGROUND DATA SOURCE	GaBi data were used to evaluate the environmental impacts.
SOFTWARE	Gabi 6 - GaBi envision SGG_EPDP tool for Building glass 1m2_2016-11-23.gmbx

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, A5 and B1-B7 are not relevant.

Product stage, A1-A3

Description of the stage: For enameled glass A1 to A3 represents the production of glass in the float and the enameling in the processing plant, from cradle to gate.

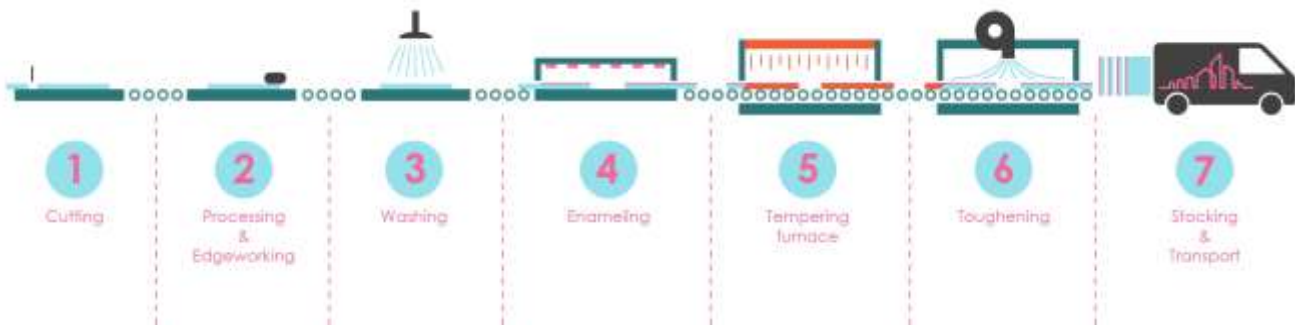
The product stage includes the extraction and processing of raw materials and energies, transport to the manufacturer, manufacturing and processing of flat glass.

Manufacturing process flow diagram



Float glass production

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.



Enameling








1. **CUTTING:** Flat glass is manufactured in sheets up to 6 * 3.210 m in size. Before tempering, each sheet is lifted using suction cups and placed on the cutting table where a diamond glass cutter scores the glass to the required size. Each piece is then automatically or manually broken out.
2. **PROCESSING AND EDGEWORKING:** Once cut to the required size, the glass can be treated to improve its functionality, highlight its appearance or personalize it even further. There are many types of decorative processing: edgeworking, polishing, shaping, drilling of holes and notches, sand blasting, engraving ...
3. **WASHING:** the glass passes through a washing machine where it is carefully cleaned using brushes, cleaner and special solvents. It is then dried quickly to avoid any impurities on the glass.
4. **ENAMELLING:** the face to be painted is conveyed below a vat of enamel with a gap allowing the paint to pour onto the glass. The amount of paint deposited varies depending on the speed of the glass passing under the vat, the size of the gap or the texture of the enamel.
5. **TEMPERING FURNACE:** the glass then makes its way towards the furnace when it is heated to a temperature of 600°C to avoid any deformation and to fuse the enamel into the surface.
6. **TOUGHENING:** the glass is very rapidly cooled by air blowers. Within seconds it reduces to 300°C. This sudden drop in temperature fuses any external coatings to the glass and hence strengthens its mechanical resistance.
7. **STACKING AND TRANSPORT:** a stacking system lifts the glass sheets vertically using suction cups, placing a thin layer of interleaving lucite paper between each sheet for protection against scratches. These are then safely transported in special vans.

LCA results









The table below presents the environmental impacts associated with the production of 1 square meter of EMALIT EVOLUTION, SERALIT EVOLUTION, OPALIT EVOLUTION and PICTUREit on SGG PLANICLEAR, SGG DIAMANT or SGG PARSOL. This is a Cradle-to-Gate EPD. The environmental impacts of all the other stages in the life cycle of the EMALIT EVOLUTION, SERALIT EVOLUTION, OPALIT EVOLUTION and PICTUREit are not declared (MND).

EMALIT / SERALIT / OPALIT EVOLUTION & PICTUREit on SGG PLANICLEAR 4 mm




ENVIRONMENTAL IMPACTS 4 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) - <i>kg CO₂ equiv/FU</i>	17.6	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) <i>kg CFC 11 equiv/FU</i>	2.98E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.0797	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0219	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) <i>kg Ethene equiv/FU</i>	0.00521	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.000101	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	206	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 4 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	25.2	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	25.2	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	236	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	236	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	1.15	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	0.0937	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 4 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 <i>kg/FU</i>	4.79E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.409	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0119	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 4 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.319	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 5 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) - <i>kg CO₂ equiv/FU</i>	21	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) <i>kg CFC 11 equiv/FU</i>	3.05E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.0968	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0271	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) <i>kg Ethene equiv/FU</i>	0.00632	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.000126	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	247	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 5 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	26.8	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	26.8	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	278	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	278	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	1.43	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	0.102	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 5 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 <i>kg/FU</i>	5.88E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.492	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0124	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 5 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.399	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 6 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) - <i>kg CO₂ equiv/FU</i>	24.4	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) <i>kg CFC 11 equiv/FU</i>	3.12E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.114	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0324	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) <i>kg Ethene equiv/FU</i>	0.00744	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.000151	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	288	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 6 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	28.4	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	28.4	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	320	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	320	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	1.72	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	0.111	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 6 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 <i>kg/FU</i>	6.97E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.575	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0129	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 6 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.478	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 8 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) - <i>kg CO₂ equiv/FU</i>	31.2	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) <i>kg CFC 11 equiv/FU</i>	3.26E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.148	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0428	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) <i>kg Ethene equiv/FU</i>	0.00967	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00020	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	369	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 8 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	31.7	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	31.7	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	404	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	404	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	2.29	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	0.129	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 8 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 <i>kg/FU</i>	9.15E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.741	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0138	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 8 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.638	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 10 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) - <i>kg CO₂ equiv/FU</i>	38	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) <i>kg CFC 11 equiv/FU</i>	3.39E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.182	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0533	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) <i>kg Ethene equiv/FU</i>	0.0119	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00025	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	451	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 10 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	34.9	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	34.9	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	488	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	488	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	2.87	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	0.146	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 10 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 <i>kg/FU</i>	1.13E-6	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.908	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0148	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 10 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.797	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 12 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) - <i>kg CO₂ equiv/FU</i>	44.8	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) <i>kg CFC 11 equiv/FU</i>	3.53E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.217	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0637	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) <i>kg Ethene equiv/FU</i>	0.0141	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00030	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	532	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 12 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	38.2	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	38.2	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	572	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	572	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	3.44	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	0.164	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES 12 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 <i>kg/FU</i>	1.35E-6	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	1.07	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0157	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS 12 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.957	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

EMALIT / SERALIT / OPALIT EVOLUTION & PICTUREit on SGG DIAMANT 4 mm




ENVIRONMENTAL IMPACTS 4 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) - <i>kg CO₂ equiv/FU</i>	18.9	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) <i>kg CFC 11 equiv/FU</i>	3,05E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.0847	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0196	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) <i>kg Ethene equiv/FU</i>	0.00508	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00011	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	221	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 4 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	27.2	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	27.2	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	253	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	253	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	0	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	0.1	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES 4 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 <i>kg/FU</i>	6.75E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.447	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0127	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS 4 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.07	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

EMALIT / SERALIT / OPALIT EVOLUTION & PICTUREit on sgg DIAMANT 5 mm




ENVIRONMENTAL IMPACTS 5 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) - <i>kg CO₂ equiv/FU</i>	22.6	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) <i>kg CFC 11 equiv/FU</i>	3.14E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.103	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0243	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) <i>kg Ethene equiv/FU</i>	0.00617	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00013	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	266	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 5 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	29.4	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	29.4	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	300	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	300	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	0	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	0.111	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 5 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 <i>kg/FU</i>	8.33E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.54	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0134	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 5 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.0875	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 6 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) - <i>kg CO₂ equiv/FU</i>	26.4	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) <i>kg CFC 11 equiv/FU</i>	3.22E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.122	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0289	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) <i>kg Ethene equiv/FU</i>	0.00725	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00016	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	310	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 6 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	31.5	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	31.5	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	346	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	346	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	0	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	0.121	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES 6 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 <i>kg/FU</i>	9.92E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.633	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0141	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS 6 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.105	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

EMALIT / SERALIT / OPALIT EVOLUTION & PICTUREit on SGG DIAMANT 8 mm




ENVIRONMENTAL IMPACTS 8 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) - <i>kg CO₂ equiv/FU</i>	33.9	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) <i>kg CFC 11 equiv/FU</i>	3.39E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.158	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0382	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) <i>kg Ethene equiv/FU</i>	0.00942	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00021	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	399	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 8 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	35.8	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	35.8	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	438	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	438	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	0	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	0.142	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES 8 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 <i>kg/FU</i>	1.31E-6	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.819	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0155	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS 8 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.14	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

EMALIT / SERALIT / OPALIT EVOLUTION & PICTUREit on SGG DIAMANT 10 mm




ENVIRONMENTAL IMPACTS 10 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) - <i>kg CO₂ equiv/FU</i>	41.4	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) <i>kg CFC 11 equiv/FU</i>	3.56E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.195	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0475	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) <i>kg Ethene equiv/FU</i>	0.0116	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00027	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	488	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 10 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	40.1	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	40.1	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	531	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	531	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	0	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	0.163	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES 10 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 <i>kg/FU</i>	1.62E-6	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	1	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0168	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS 10 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.175	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

EMALIT / SERALIT / OPALIT EVOLUTION & PICTUREit on SGG DIAMANT 12 mm




ENVIRONMENTAL IMPACTS 12 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) - <i>kg CO₂ equiv/FU</i>	48.8	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) <i>kg CFC 11 equiv/FU</i>	3.74E-9	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.232	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0569	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) <i>kg Ethene equiv/FU</i>	0.0138	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00032	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	577	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 12 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	44.3	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	44.3	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	623	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	623	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	0	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	0.184	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 12 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 <i>kg/FU</i>	1.94E-6	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	1.19	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0182	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 12 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.21	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 4 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) - <i>kg CO₂ equiv/FU</i>	15.7	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) <i>kg CFC 11 equiv/FU</i>	1.1E-8	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.07	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.00851	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) <i>kg Ethene equiv/FU</i>	0.00468	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	4.84E-5	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	203	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 4 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	26.6	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	26.6	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	273	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	273	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	8.05	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	0.0993	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 4 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 <i>kg/FU</i>	3.01E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.5	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0278	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 4 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.00086	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 5 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) - <i>kg CO₂ equiv/FU</i>	18.6	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) <i>kg CFC 11 equiv/FU</i>	1.3E-8	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.0847	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0104	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) <i>kg Ethene equiv/FU</i>	0.00567	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	6.01E-5	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	242	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 5 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	28.6	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	28.6	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	324	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	324	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	10.1	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	0.109	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 5 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 <i>kg/FU</i>	3.66E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.606	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0322	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 5 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.00108	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 6 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) - <i>kg CO₂ equiv/FU</i>	21.6	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) <i>kg CFC 11 equiv/FU</i>	1.51E-8	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.0994	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0123	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) <i>kg Ethene equiv/FU</i>	0.00665	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	7.18E-5	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	282	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 6 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	30.5	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	30.5	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	375	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	375	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	12.1	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	0.12	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 6 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 <i>kg/FU</i>	4.3E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.712	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0366	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 6 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.00129	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 8 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) - <i>kg CO₂ equiv/FU</i>	27.4	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) <i>kg CFC 11 equiv/FU</i>	1.92E-8	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.129	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.016	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) <i>kg Ethene equiv/FU</i>	0.00862	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	9.52E-5	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	362	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 8 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	34.5	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	34.5	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	477	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	477	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	16.1	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	0.14	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 8 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 <i>kg/FU</i>	5.6E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	0.924	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0455	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 8 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0,00172	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 10 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) - <i>kg CO₂ equiv/FU</i>	33.3	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) <i>kg CFC 11 equiv/FU</i>	2.33E-8	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	0.158	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0198	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) <i>kg Ethene equiv/FU</i>	0.0106	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00012	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	441	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 10 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	38.5	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	38.5	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	579	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	579	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	20.1	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	0.16	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND








WASTE CATEGORIES 10 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 <i>kg/FU</i>	6.89E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	1.14	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0544	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND









OUTPUT FLOWS 10 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.00216	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND




ENVIRONMENTAL IMPACTS 12 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) - <i>kg CO₂ equiv/FU</i>	39.2	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) <i>kg CFC 11 equiv/FU</i>	2.75E-8	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 (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.															
 Acidification potential (AP) <i>kg SO₂ equiv/FU</i>	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) <i>kg (PO₄)³⁻ equiv/FU</i>	0.0235	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) <i>kg Ethene equiv/FU</i>	0.0126	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 resources (ADP-elements) - <i>kg Sb equiv/FU</i>	0.00014	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Abiotic depletion potential for fossil resources (ADP-fossil fuels) - <i>MJ/FU</i>	521	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 12 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	42.4	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	42.4	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	681	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	681	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Use of secondary material kg/FU	24.2	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	0.18	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

WASTE CATEGORIES 12 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 <i>kg/FU</i>	8.19E-7	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Non-hazardous(excluding inert) waste disposed <i>kg/FU</i>	1.35	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Radioactive waste disposed <i>kg/FU</i>	0.0632	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

OUTPUT FLOWS 12 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 <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for recycling <i>kg/FU</i>	0.00259	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Materials for energy recovery <i>kg/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND
 Exported energy, detailed by energy carrier <i>MJ/FU</i>	0	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

LCA results interpretation

In the production of SGG EMALIT, the impacts due to glass production account as average for more than 80% of total impacts.

For the production of glass, the main impacts are related to the energy consumed in the furnace and on the impacts generated in the production of one of the main raw materials, the soda ash.

The print of enamels is in the origin of nearly 10% of GWP and more than 10% of the abiotic depletion for fossil fuels.

		Environmental impacts (A1-A3) on SGG PLANICLEAR 8 mm	Unit
	Global warming	31.2	Kg CO ₂ equiv/FU
	Non-Renewable resources consumption ^[1]	369	MJ/FU
	Energy consumption ^[2]	435.7	MJ/FU
	Water consumption ^[3]	0.129	M ³ /FU
	Waste production ^[4]	0.74	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, clear flat glass is an inert material that doesn't release any inorganic & organic compounds, in particular no VOC (volatile organic compounds).

Regarding the enamels, VOC measurements following ISO 16000 have been taken by EUROFINS (report n°G07876 and G09327). Total VOCs and Total formaldehyde after 3 days are strictly below 1000 µg/m³ (TCOV) and 10 µg/m³ (formaldehyde). As a consequence, the emission of the tested product enamels corresponds to the emission class A+ (highest ranking), of the French regulation on the labeling of product for construction or wall cladding or flooring and paint and varnish on their emissions of volatile pollutants (Arrêté April 2011).

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)
CO₂ emissions: -20% (2010-2025)
Emissions of NO_x, SO₂ 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.

RESPONSIBLE SOURCING

(Required for BREEAM International new construction 2013 – MAT 03 Responsible sourcing)

All Saint-Gobain Glass Industry sites with a glassmaking furnace, are ISO 14001 certified.

The Saint-Gobain Glass Industry site from the UK (Eggborough) has a BES 6001 certification, with a Very Good score.

All internal Saint-Gobain Glass quarries are certified ISO 14001 like, for example, SAINT-GOBAIN SAMIN (sand) in France. Many Saint-Gobain Glass raw material suppliers are certified ISO 14001. Our policy consists in encouraging the sourcing of raw materials extracted or made in sites certified ISO 14001 (or the equivalent).

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