AGC GLASS EUROPE

TYPE II ENVIRONMENTAL DECLARATION: SELF-DECLARED

Tempered

Reference structure

1 6 mm Planibel Clearlite Thermally toughened

Mounting accessories excluded

This document cannot be used within the framework of French environmental regulations and the RE2020

Creation date: 11/09/2024
Configured EPD unique ID: Self-declared Tempered_73844_256

1. Warning

The information contained in this declaration is provided under the responsibility of AGC Glass Europe. The document is a self-declaration.

Any total or partial use of the information provided in this document shall at least be accompanied by an explicit reference to this self-declared environmental product declaration. Information provided by this declaration are self-declared by the producer, meaning that they have not gone through the external verification process by an independent verifier required for verified EPDs.

This self-declared environmental product declaration has been designed with a configurator for automatic editing of environmental product declarations. Certification of this configurator tool is scheduled in 2024.

2. Reading guide

The following display rules apply:

- When the inventory calculation result is zero, then the value zero is displayed.
- Abbreviation used:
  LCA: Life Cycle Assessment
  EPD: Environmental Product Declaration
  RLT : Reference Life Time
  FDES: Fiche de Déclaration Environnementale et Sanitaire (Environmental and Health Declaration Sheet)
  PCR: Product Category Rules
  FU: Functional Unit

- The units used are specified in front of each flow: kilogram "kg", gram "g", kilowatt-hour "kWh", megajoule "MJ", square meter "m2", kelvin "K", watt "W", kilometer "km", millimeter "mm". Results for environmental impacts and indicators of resource use, waste categories and outflows are presented to three significant figures and in scientific format.

All positive values ("greater than zero") correspond to environmental impacts, while negative values ("less than zero") correspond to environmental benefits. This approach applies to all modules, including Module D. When the value of Module D is greater than 0, it is an additional impact to be added to the impacts of the other life-cycle modules.

3. Comparability of EPD for construction products

This chapter on EPD comparability is indicative for Type III EPDs that have passed through the verification process. This is not the case for this self-declared environmental product declaration, which is an unverified Type II declaration.
Construction product EPDs may not be comparable if they do not comply with standard NF EN 15804+A2, which is the case of this declaration.

The NF EN 15804+A2 standard defines in § 5.3 Comparability of EPDs* for construction products, the conditions under which construction products can be compared, based on the information provided by the EPD:

"Consequently, a comparison of the environmental performance of construction products using EPD information must be based on the use of the products and their impacts on the building, and must take into account the entire life cycle (all information modules)."

NOTE 1 Outside the framework of a building's environmental assessment, EPDs are not tools for comparing construction products and services.
NOTE 2 When assessing the contribution of buildings to sustainable development, a comparison of environmental aspects and impacts must be undertaken in conjunction with socio-economic aspects and impacts relating to the building.
NOTE 3 For the interpretation of a comparison, reference values are required.

4. General information

Name and address of the manufacturer responsible for the data provided in this EPD	AGC GLASS EUROPE Avenue Jean Monnet 4 1348 Louvain-la-Neuve Belgium sustainability@eu.agc.com www.yourglass.com
Production sites	Results from this EPD reflect data collected from all the production sites of the manufacturer and 100% of the European production.
System boundaries	☐ Cradle to factory gate ☐ Cradle to grave ☑ Cradle to grave + module D
Type of EPD	☐ Collective ☑ Individual, configurable EPD (daughter EPD) ☐ Individual
Verification	This document has not been third party verified
Program operator	The document is not registered in any EPD program operator database. It is a self-declaration of environmental impacts provided by AGC Glass Europe.
Reference EPD unique ID	*Self-declared Tempered*
Reference EPD verification date	*Not applicable*
Reference EPD publication date	*not_applicable*
Reference EPD expiration date	*21/12/2024*
Configured EPD unique ID	*Self-declared Tempered_73844_256*
Configured EPD date of creation	*11/09/2024*
Configurator	This EPD have been created with the EPD configurator tool of AGC Glass Europe, available at www.agc-yourglass.com/configurator.
Target audience	This EPD is primarily intended for business-to-business communication, although it might be used by final consumers as well (business-to-consumer).
Commercial reference	The product covered here corresponds to the configuration specified by the editor of the present EPD described in section 5.2. It is a real product assessed with an EPD configurator tool.
Validity range	Only valid for the stated commercial reference. Other configurations can be assessed individually as configured EPD.
External independent verification	The information provided in this document is self-declared, no external verification has been performed.

5. Functional unit and product description

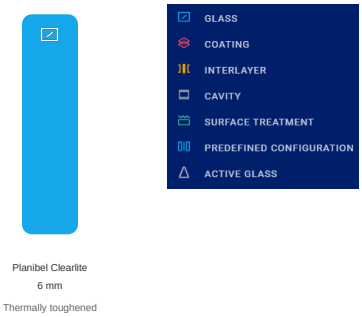
5.1. Description of the functional unit

The declaration refers to a functional unit of 1 m² of glazing used as facade glazing for a reference service life of 30 years. The associated reference flow is the product described in section 5.2 & 5.4.

Note: The reference service life of the product is set to 30 years. This period does not reflect real product lifetime, which is generally defined by building refurbishment. It does not refer to product guarantee neither. This period reflects a standard duration of use considered in glazing EPDs.

5.2. Product description

The reference product has the following structure.



Associated CE marking:EN 12150-2:2004

5.3. Description of the product usage

The product can have the following functionalities:

☑ Facade glazing

☑ Internal partitioning

☐ Surface cladding (aesthetic)

☑ Furnitures

5.4 Main performance of the functional unit

Table 1 : Product characteristics

Properties	Symbol	Product
Thermal transmission (according to EN 673)	Ug (W/m².K)	5.7
Light Transmission (EN 410)	Tv (%)	89
Light Reflection (EN 410)	ρv (%)	8
Solar factor (EN 410)	g (%)	86
Direct airborne sound insulation (EN 12578)	Rw (C;Ctr) (dB)	NPD
Resistance to fire (EN13501-2)		NPD
Reaction to fire (EN 13501-1)		A1
Bullet resistance (EN 1063)		NPD
Burglar resistance (EN 356)		NPD
Pendulum body impact resistance (EN 12600)		1C2

5.5. Other technical features not included in the functional unit

Not applicable

5.6. Description of the product main components and/or material

The composition of the product covered by this EPD is detailed in the following table.

Table 2 : Product composition

Product composition	Mass kg
Glass	15.0

Table 3 : Packaging composition

Packaging composition	Mass kg
Cardboard	5.13E-7
Wooden box	2.6985E-6

5.7. Substances from REACH candidate list

The product covered by this EPD does not contain any substance from REACH candidate list according to REACH regulation (more than 0.1%) at the time the mother EPD was published.

5.8. Distribution circuit

The target audience for this declaration is mainly B2B (business customers), although this document can also be used by final consumers (B2C).

5.9. Reference service life description

The reference service life (RSL) is 30 years.

Table 4 : Reference conditions of product use justifying RSL

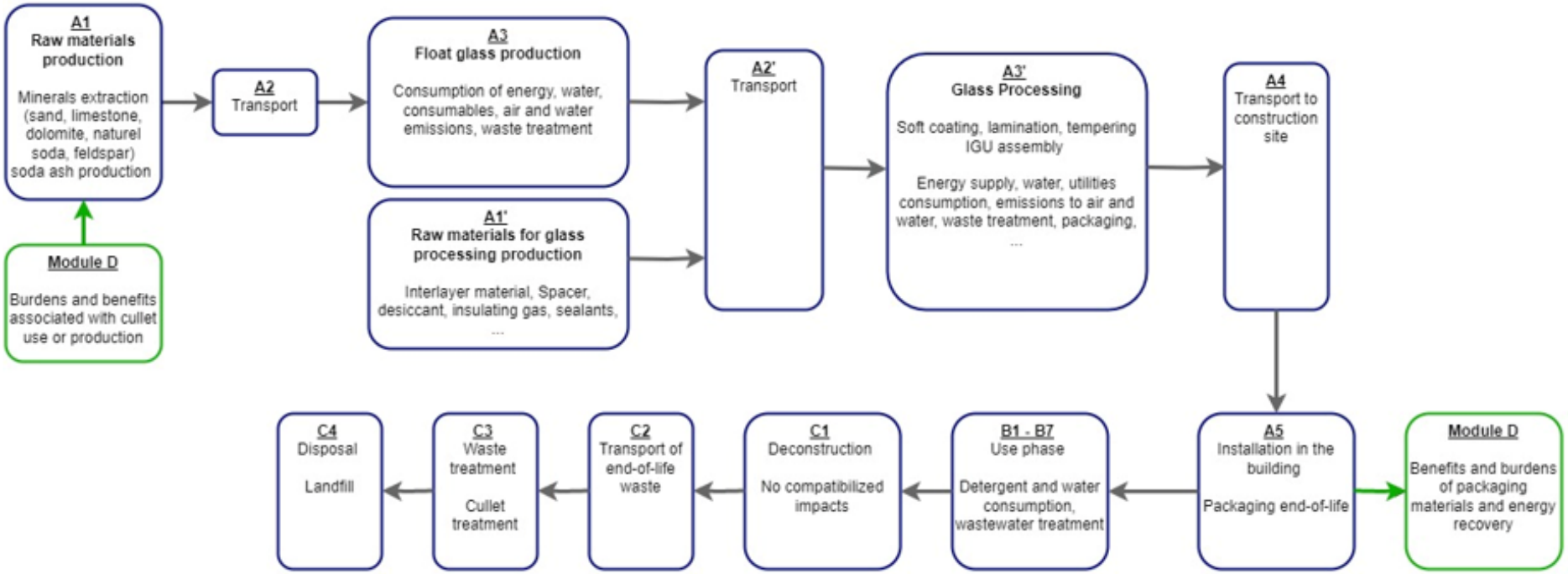
Parameter	Value
Reference service life	30 years
Declared product properties (when leaving the production site) and finishing	This product is conformed with the following European standard: EN 12150-2:2004
Theoretical application parameters (if imposed by the producer), including references to the appropriate use practices	These information are detailed in the standard NF DTU 39: 2006 Building works – Glazing and Mirror Glass Works, which defines the specifications for the implementation of glazing and installation of glazing products (new construction, renovation, refurbishment, maintenance) performed on site in all types of buildings.
Alleged quality of the construction work, when the installation is made in accordance with the manufacturer's instructions	
Exterior environment (for exterior applications), e.g. weather resistance, pollutants, UV and wind exposure, building orientation, shade, temperature	
Interior environment (for interior applications), e.g. temperature, humidity, chemicals exposure	
Use conditions, e.g. usage frequency, mechanical exposure	
Maintenance, e.g. required frequency, type and quality and replacement of replaceable components	

5.10. Biogenic carbon content (C stock)

Biogenic carbon content	Value per functional unit
Biogenic carbon content of product (at plant gate)	0.0 kg C
Biogenic carbon content of associated packaging (at plant gate)	1.46138025E-9 kg C

6. Life cycle stages

This EPD is a cradle to grave study including module D. Life cycle stages regarding product installation (A5) and product use (B1-B7) are included in the scope of the LCA model.



	Production steps	Construction steps		Use steps							End of life steps				Benefits and burden beyond system boundaries
	Total A1-A3 production	A4 Transport	A5 Installation	B1 Usage	B2 Maintenance	B3 Repair	B4 Replacement	B4 Rehabilitation	B6 Energy use	B7 Water use	C1 Deconstruction /demolition	C2 Transport	C3 Wastes treatment	C4 Disposal	D
Declared modules	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

6.1. Production stage, module A1-A3 and module A1'-A3'

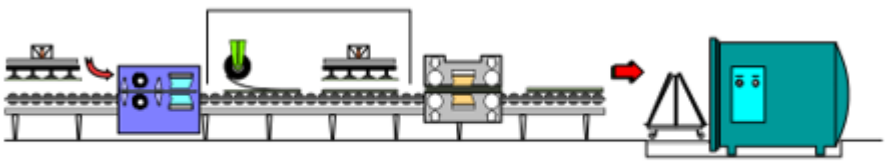
Production stages A1 to A3 cover float glass production. These stages are included in all glass products. Stages A1', A2' and A3' cover the transformation of float glass into more complex products. These stages depend on the type of product studied. The stages involved in the production of the product can be deduced from the product composition shown in section 5.2 with the help of the information below:

- The presence of a spacer (in white on the diagram in point 5.2) induces an IGU assembly stage in A3', as well as the production of the necessary materials in A1' (spacer, desiccants, insulating gas, sealants, etc.), The IGU manufacturing process includes:

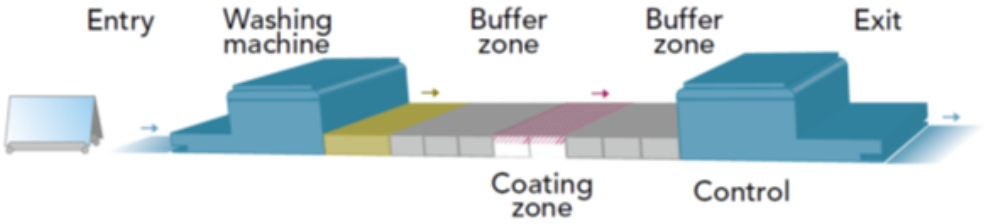
- Float glass loading
- Glass cutting to specific dimensions
- Float washing in order to prevent any impurity and to remove interleavant powder used for float transport
- Assembling (spacer) and inner sealant deposition
- Placing of the second float glass pane
- Outer sealant deposition

- The presence of an interlayer material (shown in orange on the diagram in chapter 5.2) induces a lamination step during A3' processing, as well as the production of the interlayer material in A1'. Laminated glass production process involves the following steps:

1. Float glass loading
2. Float washing in order to prevent any impurity and to remove interleavant powder used for float transport
3. Application of PVB interlayers
4. Second glass pane deposition (preliminary washed)
5. Calendaring, to remove air and ensure a good adhesion of the different components
6. Loading the two panes of glass and the interlayer material on stillage
7. Autoclave, (height temperature and very low pressure) to remove residual air bubbles and ensure perfect adhesion between float panes and PVB interlayers.



- **The presence of a magnetron layer (in red on the diagram in chapter 5.2) induces a magnetron layer deposition step in A3' as well as a production step for the targets used during magnetron layer deposition in A1'. Magnetron-coated glass production process involves the following steps:**
  - Float glass loading
  - Float washing in order to prevent any impurity and to remove interleavant powder used for float transport
  - Deposition of metals and metallic oxides under inert gas atmosphere



- **The presence of tempered glass in the product induces a thermal treatment step for this glass. The tempering stage involves heating the glass close to its softening point (600 - 650°C) in an electric or natural gas furnace and then and then bring the temperature down in a controlled way. The aim of this operation is to modify the physical characteristics of the glass, mainly to increase its mechanical strength.**

Allocations

Float glass production impacts are allocated based on mass. Impacts per m² are then derived based on float glass thickness and glass density.

Consumptions from processing have been allocated based on area.

6.2. Construction stage, module A4-A5

Transport to construction sites (module A4) considers a normalized distance between manufacturer plants and construction site. As regards installation on site (module A5), no ancillary materials is considered for the glass to be installed. No breakage during transport and installation has been considered.

1. Transport to the construction site

Transport to construction site scenario considers a delivery over a long distance in truck loaded at nominal capacity. Trucks used could be regular large trucks of more than 32t or smaller trucks between 7.5 and 12t (in the case of insulating glass units transportation). The use share between those two type of trucks can be found in the table below.

Table 5 : Transport to construction site

Parameter	Value	Unit
Diesel truck - EURO 5 – cargo > 32t	100.0	%
Diesel Truck – EURO 5 – cargo 7.5 – 12t	0.0	%
Distance to construction site	1000.0	km
Usage capacity	0.875	

2. Installation on site

No ancillary materials is considered for the glass to be installed. Packaging end of life is accounted in module A3.

6.3. Use stage, module B1-B7

1. Description

The only module from the use stage considered is B2 “maintenance”. This stage corresponds to glass cleaning with water and detergent.

Repair (B3), replacement (B4) and refurbishment (B5) are not considered. Under normal conditions of use, float glass does not need any of these operations.

Finally, glass products does not emit any substances neither to the air nor to water during its use (B1).

2. Maintenance parameters

The average annual water consumption is 0.2 litres per square meter of glass (i.e. 6 litres/m² over the whole life cycle) and an annual consumption of detergents of 10 g/m² (300 g/m² over the whole life cycle). The used water is considered as discharged to sewer grid and further treated in a wastewater treatment plant.

Table 6 : Glass maintenance

Parameter (whole life cycle)	Value	Unit
Water consumption for maintenance	6	liters
Detergent consumption	300	g

6.4. End of life stage, module C1-C4

No mechanical operation is considered as regards dismantling and demolition (module C1). End of life includes:

- C2: transport to waste treatment site ;
- C3: waste treatment ;
- C4: landfilling of demolition wastes.

End of life scenario is based on worst case scenario, considering that 100% of the glass product is sent to landfill for inert material in the end of life.

Table 7 : End of life scenarios

Parameter	Value	Unit
Waste glass sent to landfill	100	%
Transport to landfill (truck)	50	km
Waste recycled	0	%

All glass wastes are transported by diesel truck EURO 5 with a net payload of 24.7 tonnes.

6.5. Benefits and loads beyond system boundaries, module D

Glass product processing generates float glass losses, sub-components losses (spacer) as well as packaging wastes that are sent to recycling. However, these outputs are not accounted within module D. Moreover, end of life scenario considers a 100% landfilling worst case scenario. Hence, there is no output flow considered in module D. In this EPD, benefits from recycling is already accounted at production stage in module A1 through primary data. Indeed, external cullet used for float glass production limits the environmental impacts from module A1. Hence, module D only acts as a load beyond system boundaries, balancing the environmental benefits included in module A1. If looking at the benefits from recycling formula , module D is here referring to a negative net output flow, referring to the cullet use during float glass production. Module D is thus an additional impact corresponding to the net consumption of cullet, which is not compensated during other life cycle stages. When using the module D formula, this additional impact is calculated as

$$e_{module\ D1} = \sum_i (M_{MR\ sort.}|_i - M_{MR\ entr.}|_i) \cdot \left(E_{MR\ après\ FsD\ sort.}|_i - E_{VMSub\ sort.}|_i \cdot \frac{Q_{R\ sort.}}{Q_{Sub}}\Big|_i \right)$$

Symbol	Description
M_{MRsort}	Amount of material leaving the system that will be recovered (recycled and reused) in a subsequent external cullet system leaving the system after treatment Cullet going out of the system after being treated
M_{MRentr}	Quantity of material input into the product system that has been recovered (recycled or reused) from a previous external cullet system entering the system Cullet entering in the system
$E_{MR\ après\ FsD\ Sort}$	Specific emissions and resources consumed per unit of analysis from material recovery processes (recycling and reuse) of a subsequent system after end-of-waste status impact cullet treatment after end of waste status Impact of the treatment of the cullet after end of life status
$E_{VMsub\ Sort}$	Specific emissions and resources consumed per unit of analysis from the acquisition and pre-treatment of the primary material, or medium material input if the primary material is not used, from cradle to the functional equivalence point where it would replace the secondary material that would be used in a subsequent system Impact of virgin materials substituting the use of external cullet Impac t of the virgin raw materials that substitute the use of external cullet
$Q_{R\ Sort.}/Q_{sub}$	Quality ratio between recovered (recycled and reused) output material and substituted material Quality ratio between external cullet and primary materials Ratio between the quality of the external cullet and the virgin raw material replaced

This additional impact is calculated as:

- The additional production of batch raw materials (silica sand, soda ash, dolomite etc.).
- The energy overconsumption due to non-use of cullet. Indeed, virgin raw material requires 25% more energy than cullet to be melted.
- Increase of CO2 emission from decarbonisation due to the substitution of cullet by carbonated raw materials (soda ash, limestone, dolomite)

Note:
Environmental impacts reported in module D as a positive value (> 0) are additional environmental impacts to be added to the cradle to grave results. Conversely, negative values (< 0) are environmental benefits reducing the cradle to grave impacts.

7. Information regarding life cycle assessment calculation

PCR used	Not applicable for self-declared
System boundaries	Cradle to grave, including module D
Allocations	Float glass production: mass based Glass processing: area based
Primary data representativeness	*Geographical representativeness* 100% of the European production sites of: AGC GLASS EUROPE Transport distances considered are normalized truck delivery distances from production sites. The distribution scenario is therefore representative of delivery in Europe, including France. *Time representativeness* Primary data collected refer the whole calendar year: 2021-2022 *Technological representativeness* Primary data collected from all the production sites from: AGC GLASS EUROPE
Background data representativeness	The following tools have been used to generate this EPD GaBi version: 10. 7.1.28 (database 2023.2) All background data have been created or updated during the last 10 years.
Cut-off criteria	All product components and packaging known have been considered in the study. In case of insufficient input data, proxy have been used to estimate environmental impacts.
Variability	This configurable EPD is representative of the sole product described. The variability of the results have been studied for reference EPDs during the verification of the EPD configurator tool.

8. Life cycle assessment results

BASELINE ENVIRONMENTAL IMPACT INDICATORS															
Resource utilization	Production stage	Construction stage		Stage of use							End of life stage				D Benefits and charges beyond the boundaries of the system
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Usage	B2 Maintenance	B3 Repair	B4 Replacement	B4 Rehabilitation	B6 Energy use	B7 Water use	C1 Deconstruction/ Demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Climate change - total kg CO2 equiv/FU or DU	2.22E1	9.98E-1	0	0	1.16E-1	0	0	0	0	0	0	5.04E-2	0	2.47E-1	
Climate change – fossil fuels kg CO2 equiv /FU or DU	2.21E1	9.37E-1	0	0	3.32E-2	0	0	0	0	0	0	4.73E-2	0	2.22E-1	
Climate change - biogenic kg CO2 equiv/FU or DU	5.45E-2	5.23E-2	0	0	4.02E-2	0	0	0	0	0	0	2.64E-3	0	2.41E-2	
Climate change – land cover and land cover transformation kg CO2 equiv/FU or DU	5.08E-3	8.67E-3	0	0	4.26E-2	0	0	0	0	0	0	4.38E-4	0	7.00E-4	
Depletion of the ozone layer kg of CFC 11 equiv /FU or DU	5.34E-9	8.20E-14	0	0	3.15E-9	0	0	0	0	0	0	4.14E-15	0	5.73E-13	
Acidification mole of H+ equiv / FU or DU	9.53E-2	3.16E-3	0	0	4.10E-4	0	0	0	0	0	0	1.60E-4	0	1.60E-3	
Aquatic eutrophication, freshwater kg P equiv / FU or DU	1.02E-4	3.41E-6	0	0	1.62E-5	0	0	0	0	0	0	1.73E-7	0	4.54E-7	
Marine aquatic eutrophication kg of N equiv / FU or DU	2.13E-2	1.45E-3	0	0	4.42E-4	0	0	0	0	0	0	7.35E-5	0	4.13E-4	
Terrestrial eutrophication mole of N equiv /FU or DU	2.51E-1	1.63E-2	0	0	1.50E-3	0	0	0	0	0	0	8.25E-4	0	4.54E-3	
Photochemical ozone formation kg of NMCOV equiv/FU or DU	5.68E-2	2.85E-3	0	0	2.14E-4	0	0	0	0	0	0	1.44E-4	0	1.25E-3	
Depletion of abiotic resources (minerals & metals) kg Sb equiv/FU or DU [1]	6.77E-6	6.08E-8	0	0	5.04E-7	0	0	0	0	0	0	3.07E-9	0	1.04E-8	
Depletion of abiotic resources (fossil fuels) MJ/FU or DU [1]	2.82E2	1.27E1	0	0	4.00E-1	0	0	0	0	0	0	6.43E-1	0	3.00E0	
Water requirement m3 of deprivation equiv in the world / FU or DU [1]	1.69E0	1.08E-2	0	0	1.66E-1	0	0	0	0	0	0	5.45E-4	0	2.47E-2	

[1] The results of this environmental impact indicator should be used with caution because the uncertainties of these results are high or because experience with this indicator is limited.

RESOURCE UTILIZATION															
Resource utilization	Production stage	Construction stage		Stage of use							End of life stage				D Benefits and charges beyond the boundaries of the system
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Usage	B2 Maintenance	B3 Repair	B4 Replacement	B4 Rehabilitation	B6 Energy use	B7 Water use	C1 Deconstruction/ Demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials - MJ/FU or DU	1.78E1	9.01E-1	0	0	1.80E0	0	0	0	0	0	0	4.55E-2	0	4.89E-1	
Use of renewable primary energy resources as raw materials - MJ/FU or DU	4.92E-5	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) - MJ/FU or DU	1.78E1	9.01E-1	0	0	1.80E0	0	0	0	0	0	0	4.55E-2	0	4.89E-1	
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials - MJ/FU or DU	2.82E2	1.28E1	0	0	4.00E-1	0	0	0	0	0	0	6.45E-1	0	3.00E0	
Use of non-renewable primary energy resources as raw materials - MJ/FU or DU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - MJ/FU or DU	2.82E2	1.28E1	0	0	4.59E-1	0	0	0	0	0	0	6.45E-1	0	3.00E0	
Use of secondary material - kg/FU or DU	1.33E0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Use of secondary renewable fuels - MJ/FU or DU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Use of non-renewable secondary fuels - MJ /FU or DU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Net freshwater use - m3/FU or DU	6.02E-2	9.93E-4	0	0	3.87E-3	0	0	0	0	0	0	5.02E-5	0	7.58E-4	

WASTE CATEGORY															
Resource utilization	Production stage	Construction stage		Stage of use							End of life stage				D Benefits and charges beyond the boundaries of the system
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Usage	B2 Maintenance	B3 Repair	B4 Replacement	B4 Rehabilitation	B6 Energy use	B7 Water use	C1 Deconstruction/ Demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Hazardous waste disposed of - kg/FU or DU	4.25E-8	4.72E-11	0	0	4.04E-13	0	0	0	0	0	0	2.39E-12	0	6.54E-11	
Non-hazardous waste disposed of - kg/FU or DU	9.39E-1	1.84E-3	0	0	5.92E-3	0	0	0	0	0	0	9.30E-5	0	1.50E1	
Radioactive waste disposed of - kg/FU or DU	1.51E-2	1.65E-5	0	0	3.29E-6	0	0	0	0	0	0	8.34E-7	0	3.42E-5	

OUTFLOWS															
Resource utilization	Production stage	Construction stage		Stage of use							End of life stage				D Benefits and charges beyond the boundaries of the system
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Usage	B2 Maintenance	B3 Repair	B4 Replacement	B4 Rehabilitation	B6 Energy use	B7 Water use	C1 Deconstruction/ Demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Components for reuse - kg/FU or DU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Materials for recycling - kg/FU or DU	1.87E0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Energy recovery materials - kg/FU or DU	2.40E-2	0	0	0	0	0	0	0	0	0	0	0	0	0	
Electrical Energy supplied outside - MJ/FU or DU	1.16E-2	0	0	0	0	0	0	0	0	0	0	0	0	0	
Steam energy supplied externally - MJ/FU or DU	2.10E-2	0	0	0	0	0	0	0	0	0	0	0	0	0	
Gas and process energy supplied externally - MJ/FU or DU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

9. Additional information

9.1. Release of hazardous substances into indoor air, soil and water during the use stage

9.1.1. Indoor air

- VOC and formaldehyde emissions

VOC and formaldehyde tests have been performed according to EN 7375:2005 et NF EN ISO 16000-9:2009. Based on the results of these tests and considering the exposition factor taken into account, emission level has been rated A+

The VOC emissions declaration is publicly available on the website https://agc-yourglass.com

- Reaction to fungal and bacterial growth

Not tested. Glass is a mineral inert material. It is not by itself a medium for micro-organisms growth.

- Natural radioactive emissions from construction products

Not tested.

- Emission of particulates and fibres emissions.

Not tested.

9.1.2. Water and soil

Not tested. The product is not in contact with water intended for human consumption.

9.2. Product contribution to indoor wellbeing

9.2.1. Product characteristics regarding hygrothermal comfort

The relevant technical hygrothermal comfort characteristics are given in the table below.

Properties	Symbol	Product
Thermal transmission (according to EN 673)	U_g (W/m².K)	5.7
Light Transmission (EN 410)	Tv (%)	89
Light Reflection (EN 410)	ρv (%)	8
Solar factor (EN 410)	g (%)	86

Source: CE marking

9.2.2. Product characteristics regarding acoustics

The product studied has a direct airborne sound insulation NPD
Source: CE marking

9.2.3. Product characteristics regarding visual comfort

The light transmission value of the product: 89%.
Source: CE marking

9.2.4. Product characteristics regarding odours

Not tested. Glass is a mineral inert material, not able to release any odour during its use.

More information available on www.yourglass.com
And in the « Sustainability » section of our environmental website www.agc-glass.eu/en/sustainability