

Environmental Product Declaration



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Fire-resistant glass

Fireblock30 with tested heat insulation of 30min

Fireblock60 with tested heat insulation of 60min

from

GLASSLT FIRE




FIRE-RESISTANT GLASSES

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-08353
Publication date:	2023-02-24
Valid until:	2028-02-23

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



General information

Programme	<p>The International EPD® System</p> <p>EPD International AB Box 210 60 SE-100 31 Stockholm Sweden</p> <p>www.environdec.com info@environdec.com</p>
Product Category Rules (PCR)	<p>CEN standard EN 15804 serves as the Core Product Category Rules (PCR) Product Category Rules (PCR): PCR – Construction products 2019:14. version 1.1</p>
PCR review was conducted by	<p>PCR review was conducted by: The International EPD® System</p>
Life Cycle Assessment (LCA)	<p>LCA accountability: Silvija Serapinaitė, Vesta Consulting, UAB</p>
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:	<p>Third-party verifier: <i>Vladimír Kočí, PhD., vladimir.koci@lca.cz</i></p> <p>Approved by: The International EPD® System </p>
Procedure for follow-up of data during EPD validity involves third party verifier:	<p>Procedure for follow-up of data during EPD validity involves third party verifier:</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD:

UAB GLASLT FIRE

Phone: +370(5)2351032

E-mail: info@glassltfire.com

Description of the organisation:

Company "GLASLT FIRE" was founded in 2011, when it launched production of fire-resistant glass called Fireblock. The company operates in an industrial area of Alytus city next to glass suppliers, processing companies and glass unit producers, providing the conditions for significant expansion of the company's productive capacity. Flexibility of production and short lead times help satisfy stringent requirements set by foreign customers. Products are subject to continuous improvement with the aim to provide the market with fire resistant glass of even better quality.

Product-related or management system-related certifications:

Certificate covering production No. 1301-CPR-0964.

Name and location of production site(s):

UAB GLASLT FIRE, Verslo 10, Alytus, Lithuania



Product information

Product description:

Safety glass, be it tempered, laminated, or reinforced, does not present any serious obstacle to spreading flame and tends to break within the first minutes of fire. Special fire-resistant glass is the only glass that can act as a flame retardant. Fireblock demonstrates the highest degree of protection against flame, smoke and other combustion products and does not conduct heat. Maximum permissible temperature of the glass on the side opposite to the fire is 180 °C. The glass has been designed to ensure its effective performance during fire: after the tempered glass breaks, the fireproof gel between the glass panes starts to act by absorbing the energy and becomes opaque, thus creating a reliable barrier against the spreading fire.



Product application:

Fireblock glass can be used in a variety of construction elements: interior partitions in public buildings (hotels, museums, trade and business centres etc.), glass elevators, fire doors, windows, exterior facade systems.



Product standards: Fire resistant glasses Fireblock are manufactured in compliance with these European standards which specify all requirements for product and production quality control:

- a) EN 14449;
- b) EN ISO 12543.

Technical specifications:

	Fireblock30	Fireblock60
Nominal thickness, mm	21	25
Weight, kg/m ²	39	45
Light transmittance (LT), %	85	84
External light reflection (RLE), %	9	9
Direct solar energy transmittance (ET), %	63	61
Direct solar reflectance (RE), %	8	7
Solar factor (g)	0.7	0.69
Resistance to pendulum impact according to EN12600	1/B/1	1/B/1
Sound reduction (Rw), C, Ctr dB	42 (-1;-2)	43 (-1;-3)

Physical properties or the product:

Products are available in various sizes up to 1800mm x 3500mm and shapes (rectangle, triangle, trapezium, arc, circle).

Content information:

Materials	Fireblock30		Fireblock60	
	Weight, kg	Weight, %	Weight, kg	Weight, %
Glass	25	64	25	55
Polygel	13.04	34	18.96	42
Spacer	0.30	1	0.39	1
Polysulfyde	0.45	1	0.65	2
Butyl	0.03	0	0.03	0
Total	38.84	100	45.07	100

No dangerous substances from the candidate list of SVHC for Authorisation are used in the product.

UN CPC code: 37115 Safety glass

Geographical scope: Europe

Product life-cycle

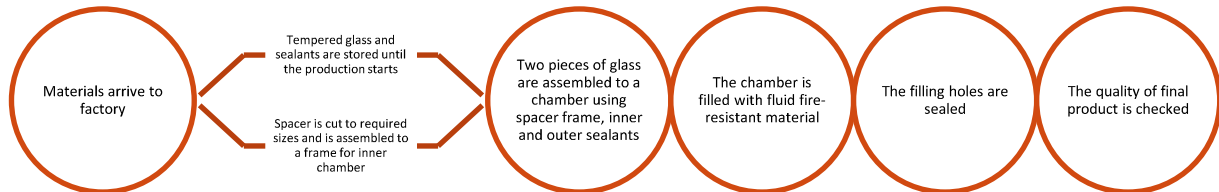
Product stage (A1-A3)

A1: This stage considers the extraction and processing of raw materials.

A2: The raw materials are transported to the manufacturing plant. In this case the model includes road transportation of each raw material.

A3: This stage includes the manufacture of products and packaging. It has considered all the energy consumption and waste generated in the production plant.

Product process description



Construction process stage (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Annual export rates are taken into consideration for delivery scenario A4 (transportation to construction site).

This EPD does not cover installation module A5.

Use stage (B1-B7)

This EPD does not cover the use phase.

Product end of life (C1-C4, D)

C1: Deconstruction, dismantling, demolition

Consumption of fuel in demolition process is calculated according to transported mass. Energy consumption for demolition is 10 kWh/1000 kg = 0,01 kWh/kg. The source of energy is diesel fuel used by work machines.

C2: Transport of the discarded product to the processing site

It is estimated that there is no mass loss during the use of the product, therefore the end-of-life product is assumed to have the same weight with the declared product. Whole end-of-life product is assumed to be sent to the closest facilities such as landfill. Transportation distance to the closest disposal area is estimated as 100 km and the transportation method is lorry which is the most common.

C3: Waste processing for reuse, recovery and/or recycling

It is assumed that 100% of products are collected at demolition site and sent directly to landfill facilities.

C4: Discharge (disposal)

It is assumed that 100% of products are collected at demolition site and sent directly to landfill facilities.

Benefits and loads beyond the system boundary (D):

No benefits are accounted in the assessment.

LCA information

Functional unit / declared unit: 1m² of fire-resistant glass.

Reference service life: The reference service life for the precast concrete balcony slabs is set at 50 years.

Time representativeness: Primary data was collected internally. The production data refers to the average of the year 2021.

Database(s) and LCA software used: The Ecoinvent database provides the life cycle inventory data for the raw and process materials obtained from the background system. The used database is Ecoinvent 3.6. The LCA software used is One Click LCA.

Data quality: The foreground data collected internally is based on yearly production amounts and extrapolations of measurements on specific machines and plants. Overall, the data quality can be described as good. The primary data collection has been done thoroughly.

Cut-off criteria: Life cycle inventory data for a minimum of 99% of total material and energy input flows have been included in the life cycle analysis. Although, only materials having in summa less than 1% of weight of product were not used in calculations.

System boundary: The type of scope for this study is cradle to gate with options, module A4, modules C1–C4 and module D and covers impacts of raw materials' production, their transportation to the production plant, manufacturing process, transportation of the products to the installation site and end-of-life stage.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage	
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal		Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Modules declared	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x	
Geography	EU	EU	LT	EU	-	-	-	-	-	-	-	-	EU	EU	EU	EU	EU	
Specific data used	>90%					-	-	-	-	-	-	-	-	-	-	-	-	
Variation – products	>10%					-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Not relevant					-	-	-	-	-	-	-	-	-	-	-	-	-

Description of the system boundary (X = Included in LCA; MND = Module Not declared; MNR =Module Not Relevant)

Environmental Information

FIREBLOCK 30

Potential environmental impact – mandatory indicators according to EN 15804

Results per declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	3.43E1	7.49E-2	4.16E0	3.86E1	5.74E-1	1.28E-1	6.48E-1	0E0	2.84E-1	0E0
GWP-fossil	kg CO ₂ eq.	3.41E1	7.48E-2	4.16E0	3.83E1	5.79E-1	1.28E-1	6.47E-1	0E0	2.83E-1	0E0
GWP-biogenic	kg CO ₂ eq.	2.26E-1	6.64E-5	5.89E-3	2.32E-1	4.21E-4	3.56E-5	3.45E-4	0E0	4.59E-4	0E0
GWP-luluc	kg CO ₂ eq.	1.04E-2	2.53E-5	8.09E-4	1.12E-2	1.74E-4	1.08E-5	2.3E-4	0E0	1.06E-4	0E0
ODP	kg CFC 11 eq.	7E-6	1.75E-8	6.45E-8	7.08E-6	1.36E-7	2.76E-8	1.47E-7	0E0	1E-7	0E0
AP	mol H ⁺ eq.	4.16E-1	3.31E-4	4.34E-3	4.21E-1	2.43E-3	1.34E-3	2.64E-3	0E0	2.44E-3	0E0
EP-freshwater	kg P eq.	1.33E-3	7.04E-7	4.39E-5	1.38E-3	4.71E-6	5.17E-7	5.42E-6	0E0	3.59E-6	0E0
EP-marine	kg N eq.	6.28E-2	9.95E-5	1.41E-3	6.43E-2	7.33E-4	5.91E-4	7.86E-4	0E0	8.49E-4	0E0
EP-terrestrial	mol N eq.	7.45E-1	1.1E-3	1.55E-2	7.61E-1	8.1E-3	6.48E-3	8.68E-3	0E0	9.35E-3	0E0
POCP	kg NMVOC eq.	1.92E-1	3.55E-4	4.31E-3	1.96E-1	2.6E-3	1.78E-3	2.66E-3	0E0	2.7E-3	0E0
ADP-minerals&metals*	kg Sb eq.	2E-3	1.34E-6	1.12E-5	2.01E-3	9.89E-6	1.95E-7	1.75E-5	0E0	3.63E-6	0E0
ADP-fossil*	MJ	6.11E2	1.17E0	1.05E1	6.22E2	9.01E0	1.76E0	9.76E0	0E0	6.87E0	0E0
WDP*	m ³	1.7E1	4.57E-3	4.51E-1	1.74E1	3.35E-2	3.28E-3	3.14E-2	0E0	2.7E-1	0E0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption										

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	3.41E1	7.48E-2	4.16E0	3.83E1	5.79E-1	1.28E-1	6.47E-1	0E0	2.83E-1	0E0

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Use of resources

Results per declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
PERE	MJ	1.98E1	1.65E-2	3.38E1	5.36E1	1.13E-1	9.52E-3	1.38E-1	0E0	6.81E-2	0E0
PERM	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
PERT	MJ	1.98E1	1.65E-2	3.38E1	5.36E1	1.13E-1	9.52E-3	1.38E-1	0E0	6.81E-2	0E0
PENRE	MJ	4.21E2	1.16E0	9.61E0	4.32E2	9.01E0	1.76E0	9.76E0	0E0	6.87E0	0E0
PENRM	MJ	1.19E1	0E0	9.08E-1	1.28E1	0E0	0E0	0E0	0E0	0E0	0E0
PENRT	MJ	4.33E2	1.16E0	1.05E1	4.45E2	9.01E0	1.76E0	9.76E0	0E0	6.87E0	0E0
SM	kg	8.25E-2	0E0	2.97E-4	8.28E-2	0E0	0E0	0E0	0E0	0E0	0E0
RSF	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
NRSF	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
FW	m ³	2.35E-1	2.36E-4	1.47E-2	0.25	1.88E-3	1.55E-4	1.67E-3	0E0	6.5E-3	0E0
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water										

Waste production and output flows

Waste production

Results per declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste disposed	kg	7.31E-1	1.24E-3	6.85E-2	8.01E-1	8.76E-3	1.89E-3	9.91E-3	0E0	7.5E-3	0E0
Non-hazardous waste disposed	kg	2.65E1	1.21E-1	2.16E0	2.88E1	9.69E-1	2.02E-2	6.81E-1	0E0	3.88E1	0E0
Radioactive waste disposed	kg	1.28E-3	7.92E-6	1.21E-5	1.3E-3	6.19E-5	1.23E-5	6.69E-5	0E0	4.52E-5	0E0

Output flows

Results per declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Material for recycling	kg	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Materials for energy recovery	kg	0E0	0E0	1.52E0	1.52E0	0E0	0E0	0E0	0E0	0E0	0E0
Exported energy, electricity	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Exported energy, thermal	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0

ENVIRONMENTAL IMPACTS - EN 15804+A1, CML / ISO 21930

Results per declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Global Warming Pot.	kg CO2e	3.36E1	7.41E-2	4.13E0	3.78E1	5.74E-1	1.27E-1	6.42E-1	0E0	2.79E-1	0E0
Ozone depletion Pot.	kg CFC-11e	3.02E-6	1.38E-8	5.52E-8	3.09E-6	1.08E-7	2.19E-8	1.17E-7	0E0	7.96E-8	0E0
Acidification	kg SO2e	8.21E-2	1.73E-4	3.29E-3	8.56E-2	1.18E-3	1.89E-4	1.3E-3	0E0	1.16E-3	0E0
Eutrophication	kg PO43e	2.5E-2	3.78E-5	1.24E-3	2.63E-2	2.38E-4	3.33E-5	2.67E-4	0E0	2.47E-4	0E0
POCP ("smog")	kg C2H4e	3.75E-3	1.19E-5	1.55E-4	3.92E-3	7.47E-5	1.94E-5	8.55E-5	0E0	7.16E-5	0E0
ADP-elements	kg Sbe	1.11E-3	1.33E-6	1.12E-5	1.12E-3	9.89E-6	1.95E-7	1.75E-5	0E0	3.63E-6	0E0
ADP-fossil	MJ	4.33E2	1.16E0	1.05E1	4.45E2	9.01E0	1.76E0	9.76E0	0E0	6.87E0	0E0

Environmental Information

FIREBLOCK 60

Potential environmental impact – mandatory indicators according to EN 15804

Results per declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	3.67E1	1.02E-1	4.13E0	4.09E1	6.01E-1	1.49E-1	7.52E-1	0E0	3.17E-1	0E0
GWP-fossil	kg CO ₂ eq.	3.64E1	1.02E-1	4.13E0	4.07E1	6.06E-1	1.49E-1	7.51E-1	0E0	3.16E-1	0E0
GWP-biogenic	kg CO ₂ eq.	2.36E-1	8.52E-5	6.05E-3	2.42E-1	4.4E-4	4.13E-5	4.01E-4	0E0	5.24E-4	0E0
GWP-luluc	kg CO ₂ eq.	1.19E-2	3.33E-5	8.03E-4	1.27E-2	1.82E-4	1.26E-5	2.66E-4	0E0	1.16E-4	0E0
ODP	kg CFC 11 eq.	3.8E-6	2.38E-8	6.42E-8	3.89E-6	1.42E-7	3.21E-8	1.71E-7	0E0	1.14E-7	0E0
AP	mol H ⁺ eq.	3.26E-1	4.41E-4	4.31E-3	3.3E-1	2.55E-3	1.55E-3	3.07E-3	0E0	2.75E-3	0E0
EP-freshwater	kg P eq.	7.94E-4	9.08E-7	4.36E-5	8.38E-4	4.93E-6	6.01E-7	6.29E-6	0E0	3.99E-6	0E0
EP-marine	kg N eq.	5.23E-2	1.33E-4	1.4E-3	5.38E-2	7.67E-4	6.87E-4	9.12E-4	0E0	9.56E-4	0E0
EP-terrestrial	mol N eq.	6.28E-1	1.47E-3	1.54E-2	6.45E-1	8.47E-3	7.53E-3	1.01E-2	0E0	1.05E-2	0E0
POCP	kg NMVOC eq.	1.58E-1	4.72E-4	4.27E-3	1.63E-1	2.72E-3	2.07E-3	3.08E-3	0E0	3.04E-3	0E0
ADP-minerals&metals*	kg Sb eq.	1.23E-3	1.79E-6	1.11E-5	1.24E-3	1.03E-5	2.27E-7	2.03E-5	0E0	3.92E-6	0E0
ADP-fossil*	MJ	4.79E2	1.58E0	1.03E1	4.91E2	9.43E0	2.05E0	1.13E1	0E0	7.79E0	0E0
WDP*	m ³	9.43E0	6.08E-3	4.45E-1	9.88E0	3.51E-2	3.82E-3	3.65E-2	0E0	3.13E-1	0E0
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption										

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
GWP-GHG	kg CO ₂ eq.	3.64E1	1.02E-1	4.13E0	4.07E1	5.79E-1	1.28E-1	6.47E-1	0E0	2.83E-1	0E0

Use of resources

Results per declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
PERE	MJ	2.21E1	2.16E-2	3.38E1	5.58E1	1.19E-1	1.11E-2	1.6E-1	0E0	7.55E-2	0E0
PERM	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
PERT	MJ	2.21E1	2.16E-2	3.38E1	5.58E1	1.19E-1	1.11E-2	1.6E-1	0E0	7.55E-2	0E0
PENRE	MJ	4.62E2	1.58E0	9.53E0	4.73E2	9.43E0	2.05E0	1.13E1	0E0	7.79E0	0E0
PENRM	MJ	1.69E1	0E0	8.03E-1	1.77E1	0E0	0E0	0E0	0E0	0E0	0E0
PENRT	MJ	4.79E2	1.58E0	1.03E1	4.91E2	9.43E0	2.05E0	1.13E1	0E0	7.79E0	0E0
SM	kg	9.16E-2	0E0	2.62E-4	9.19E-2	0E0	0E0	0E0	0E0	0E0	0E0
RSF	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
NRSF	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
FW	m ³	2.54E-1	3.25E-4	1.47E-2	0.268	1.96E-3	1.81E-4	1.94E-3	0E0	7.5E-3	0E0
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water										

Waste production and output flows

Waste production

Results per declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste disposed	kg	8.52E-1	1.64E-3	6.79E-2	9.21E-1	9.16E-3	2.2E-3	1.15E-2	0E0	8.35E-3	0E0
Non-hazardous waste disposed	kg	2.98E1	1.67E-1	2.15E0	3.21E1	1.01E0	2.35E-2	7.9E-1	0E0	4.5E1	0E0
Radioactive waste disposed	kg	1.35E-3	1.08E-5	1.19E-5	1.37E-3	6.47E-5	1.43E-5	7.76E-5	0E0	5.12E-5	0E0

Output flows

Results per declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Material for recycling	kg	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Materials for energy recovery	kg	0E0	0E0	1.51E0	1.51E0	0E0	0E0	0E0	0E0	0E0	0E0
Exported energy, electricity	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0
Exported energy, thermal	MJ	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0	0E0

ENVIRONMENTAL IMPACTS - EN 15804+A1, CML / ISO 21930

Results per declared unit											
Indicator	Unit	A1	A2	A3	A1-A3	A4	C1	C2	C3	C4	D
Global Warming Pot.	kg CO2e	3.58E1	1.01E-1	4.1E0	4E1	6.01E-1	1.48E-1	7.45E-1	0E0	3.11E-1	0E0
Ozone depletion Pot.	kg CFC-11e	3.18E-6	1.89E-8	5.49E-8	3.25E-6	1.13E-7	2.54E-8	1.36E-7	0E0	9.03E-8	0E0
Acidification	kg SO2e	9.04E-2	2.27E-4	3.26E-3	9.39E-2	1.23E-3	2.19E-4	1.51E-3	0E0	1.29E-3	0E0
Eutrophication	kg PO43e	2.79E-2	4.84E-5	1.23E-3	2.92E-2	2.49E-4	3.87E-5	3.1E-4	0E0	2.72E-4	0E0
POCP ("smog")	kg C2H4e	4.31E-3	1.52E-5	1.52E-4	4.48E-3	7.81E-5	2.26E-5	9.92E-5	0E0	8.11E-5	0E0
ADP-elements	kg Sbe	1.23E-3	1.79E-6	1.11E-5	1.24E-3	1.03E-5	2.27E-7	2.03E-5	0E0	3.92E-6	0E0
ADP-fossil	MJ	4.79E2	1.58E0	1.03E1	4.91E2	9.43E0	2.05E0	1.13E1	0E0	7.79E0	0E0

References

General Programme Instructions of the International EPD[®] System. Version 3.01

ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations Principles and procedures.

ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.

ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.

EN 15804+A2 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products.




PCR 2019:14 Construction products (version 1.1)

Tools and database

One Click LCA tool

Ecoinvent 3.6 database

Contact information

<p>EPD owner:</p>	 <p>GLASSLT FIRE, UAB https://glasslfire.com/en/</p>
<p>LCA author:</p>	 <p>Vesta Consulting, UAB https://www.vestaconsulting.lt/</p>
<p>Programme operator:</p>	 <p>The International EPD[®] System https://www.environdec.com</p>

