

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

Alumia glass wall system
Muotolevy Oy



EPD HUB, EPD number XXXXX

Published on XXX, last updated on XXX, valid until XXX

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Muotolevy Oy
Address	Tervasuontie 3, 03100 Nummela, Finland
Contact details	myynti@muotolevy.fi
Website	www.muotolevy.fi

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third-party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Sara Pukkila, Muotolevy Oy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	#VERIFIER#

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Alumia glass wall system
Product reference	101569
Place of production	Nummela, Finland
Period for data	2022
Averaging in EPD	No averaging

ENVIRONMENTAL DATA SUMMARY

Declared unit	Alumia glass wall system 2614 x 2690 mm (glass thickness 6+6)
Declared unit mass	228 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	4,31E+02
GWP-total, A1-A3 (kgCO ₂ e)	4,29E+02
Secondary material, inputs (%)	0.47
Secondary material, outputs (%)	100
Total energy use, A1-A3 (kWh)	1960
Net fresh water use, A1-A3 (m ³)	24.1

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Muotolevy is a growing and developing family-owned company founded in 1974. Muotolevy is passionate about developing the quality of Finnish construction and working and living environments. Muotolevy's offering includes high-quality dry construction solutions for interior and façade construction, as well as flexible soundproof interior walls for offices and public premises.

PRODUCT DESCRIPTION

The product consists of three glass sheets with a glass seam strip, aluminum frames and rubber seals. Alumia wall system allows large uniform glass surfaces, which makes it an excellent solution for the implementation of a spacious, bright and comfortable working environment. Thanks to the 92 mm profile depth of Alumia's glass sections, glass elements relate elegantly and discreetly to doors and solid elements, as well as to surrounding structures. Alumia's soundproofing levels ensure the functionality of the wall system both as a space divider in the working environment and as a wall solution for an efficiently soundproofed meeting room.

Technical specifications are as follows:

- glass wall dimensions 2614 x 2690 mm (width x height)
- Aluminum profile dimensions: height 22 mm, width 92 mm
- glass thickness 6+6mm Sound Control (Rw 40 dB)

Further information can be found at www.muotolevy.fi.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	6,6	Sweden
Minerals	90,5	Estonia
Fossil materials	2,9	Finland
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0,6

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	Alumia glass wall system 2614 x 2690 mm (glass thickness 6+6)
Mass per declared unit	228 kg

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The product is made of aluminium profiles, laminated double-glazing (6+6 mm) and rubber fittings. Raw materials are transported to Muotolevy's production facility in Nummela, Finland, where the main manufacturing processes include cutting and machining of profiles and packing. The glass is laminated and cut to size by the supplier and delivered to Muotolevy to be transported to the construction site with the profiles.

The manufacturing process requires electricity and wooden chips for facility heating. Cutting fluid and diesel are used in the production. The profiles are packaged in plastics and sent to the installation site on a wooden pallet. The glazing is packed on glass racks by the supplier and transported to the site by Muotolevy.

TRANSPORT AND INSTALLATION (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.

The average distance of transportation from production plant to building site (A4) is 76km by lorry, calculated as weighted average from the sales data. Vehicle capacity utilization volume factor is assumed to be 100 % which means full load. In reality, it may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. Empty returns are not considered as it is assumed that return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as product are packaged properly. Also, the volume capacity utilisation factor is assumed to be 100 % for the nested packaged products. Transported weight includes packages for both glass and profiles.

Material and energy consumption during installation phase (A5) is excluded as insignificant in material and energy flows, as it consists of screws and small fittings and the use of battery-operated hand tools. There is no installation loss except a small amount of waste from seal cutting. Therefore, the impacts in A5 only include the treatment of packaging waste generated at site.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

At the end of the life cycle, the product is dismantled. Consumption of energy in demolition process (A1) is assumed to be negligible as the product can be dismantled using battery-operated hand tools. It is assumed that the demolition waste is collected at site and transported (A2) to the waste treatment center for recycling (C3) or for final disposal (C4). Transportation distance and method to treatment or disposal is assumed as 42 km by lorry. For aluminium a maximum recycling rate 96 % is assumed (Alliance for Aluminium DACH). The national average recycling rate of construction waste (56%) has been used for the laminated flat glass. Rubber seals are assumed to be incinerated.

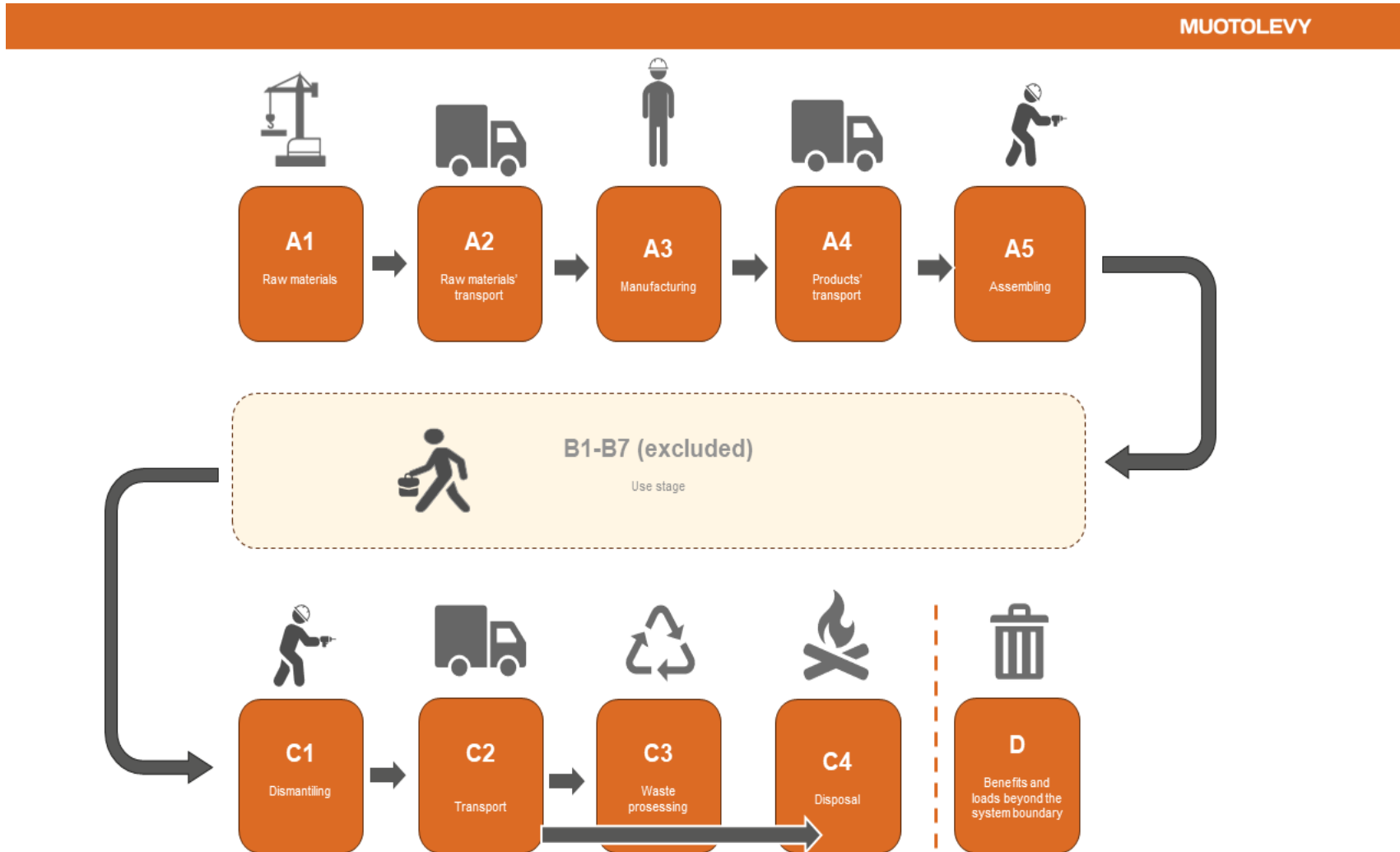
The benefits and loads of recycling (glass, aluminium profiles) and energy recovery from package incineration are included in Module D. Recycled glass is assumed to be used to produce foam glass aggregate and replace virgin materials in construction (soil construction and insulation). Recycled aluminium is assumed to replace the production of primary aluminium.

References for recycling rates:

[Alliance for Aluminium DACH](#)

[Average recycling rate of construction waste](#)

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	Allocated by mass or volume
Packaging materials	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

This EPD is product and factory specific and does not contain average calculations.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	4,17E+02	5,73E+00	6,63E+00	4,29E+02	4,04E+00	5,45E+00	MND	MND	MND	MND	MND	MND	MND	MNR	9,01E-01	2,88E+02	2,09E-02	-1,46E+02
GWP – fossil	kg CO ₂ e	4,16E+02	5,73E+00	8,69E+00	4,31E+02	4,04E+00	3,39E+00	MND	MND	MND	MND	MND	MND	MND	MNR	9,01E-01	2,88E+02	2,09E-02	-1,44E+02
GWP – biogenic	kg CO ₂ e	0,00E+00	0,00E+00	-2,06E+00	-2,06E+00	0,00E+00	2,06E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO ₂ e	5,28E-01	2,68E-03	6,86E-03	5,37E-01	1,90E-03	8,31E-04	MND	MND	MND	MND	MND	MND	MND	MNR	3,32E-04	1,91E-03	2,34E-05	-1,94E+00
Ozone depletion pot.	kg CFC ₁₁ e	5,28E-05	1,26E-06	6,92E-07	5,48E-05	9,08E-07	2,08E-08	MND	MND	MND	MND	MND	MND	MND	MNR	2,07E-07	3,58E-07	2,28E-09	-8,32E-07
Acidification potential	mol H ⁺ e	3,51E+00	8,03E-02	7,79E-02	3,67E+00	1,61E-02	2,34E-03	MND	MND	MND	MND	MND	MND	MND	MNR	3,81E-03	4,30E-02	1,39E-04	-6,36E-01
EP-freshwater ²⁾	kg Pe	1,12E-02	3,73E-05	4,31E-04	1,16E-02	3,29E-05	3,76E-05	MND	MND	MND	MND	MND	MND	MND	MNR	7,37E-06	6,71E-05	6,85E-07	-3,82E-03
EP-marine	kg Ne	5,67E-01	2,08E-02	2,68E-02	6,14E-01	4,63E-03	4,60E-04	MND	MND	MND	MND	MND	MND	MND	MNR	1,13E-03	1,93E-02	3,32E-05	-1,95E-02
EP-terrestrial	mol Ne	6,55E+00	2,31E-01	3,07E-01	7,09E+00	5,11E-02	5,11E-03	MND	MND	MND	MND	MND	MND	MND	MNR	1,25E-02	2,09E-01	3,70E-04	-1,32E-01
POCP (“smog”) ³⁾	kg NMVOCe	1,70E+00	6,27E-02	8,51E-02	1,85E+00	1,57E-02	1,35E-03	MND	MND	MND	MND	MND	MND	MND	MNR	4,00E-03	5,10E-02	1,10E-04	-1,06E+00
ADP-minerals & metals ⁴⁾	kg Sbe	4,94E-03	1,13E-05	4,36E-05	4,99E-03	1,88E-05	1,10E-06	MND	MND	MND	MND	MND	MND	MND	MNR	2,11E-06	2,17E-05	4,91E-08	1,09E-03
ADP-fossil resources	MJ	5,29E+03	8,12E+01	1,55E+02	5,53E+03	5,92E+01	7,82E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,35E+01	4,04E+01	2,95E-01	-4,15E+03
Water use ⁵⁾	m ³ e depr.	1,41E+02	3,22E-01	5,43E+00	1,46E+02	3,10E-01	2,90E-01	MND	MND	MND	MND	MND	MND	MND	MNR	6,05E-02	8,52E+00	3,85E-03	-3,18E+02

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	3,27E-05	4,92E-07	4,15E-06	3,73E-05	3,01E-07	9,05E-09	MND	MND	MND	MND	MND	MND	MND	MNR	1,04E-07	2,47E-07	2,08E-09	-9,18E-06
Ionizing radiation ⁶⁾	kBq U235e	2,88E+01	3,83E-01	2,54E+01	5,45E+01	3,20E-01	2,01E-01	MND	MND	MND	MND	MND	MND	MND	MNR	6,44E-02	2,28E-01	1,74E-03	-1,66E+01
Ecotoxicity (freshwater)	CTUe	2,79E+04	6,61E+01	2,97E+02	2,82E+04	5,14E+01	5,28E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,22E+01	1,00E+02	3,32E+02	7,50E+02
Human toxicity, cancer	CTUh	3,24E-07	2,35E-09	1,67E-08	3,43E-07	1,80E-09	3,31E-10	MND	MND	MND	MND	MND	MND	MND	MNR	2,99E-10	1,11E-08	1,95E-11	-2,58E-07
Human tox. non-cancer	CTUh	6,22E-06	6,00E-08	3,19E-07	6,60E-06	5,03E-08	8,61E-09	MND	MND	MND	MND	MND	MND	MND	MNR	1,20E-08	4,05E-07	5,20E-10	-2,94E-06
SQP ⁷⁾	-	1,56E+03	6,81E+01	1,98E+02	1,83E+03	3,56E+01	1,25E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,56E+01	3,59E+01	3,81E-01	9,49E+02

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	1,45E+03	7,98E-01	7,65E+01	1,52E+03	1,02E+00	1,31E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,52E-01	1,85E+00	1,92E-02	-3,44E+02
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,80E+01	1,80E+01	0,00E+00	-1,80E+01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,45E+03	7,98E-01	9,45E+01	1,54E+03	1,02E+00	-1,67E+01	MND	MND	MND	MND	MND	MND	MND	MNR	1,52E-01	1,85E+00	1,92E-02	-3,44E+02
Non-re. PER as energy	MJ	5,27E+03	8,12E+01	1,04E+02	5,45E+03	5,92E+01	7,80E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,35E+01	4,04E+01	2,95E-01	-1,83E+03
Non-re. PER as material	MJ	2,91E+01	0,00E+00	5,51E+01	8,42E+01	0,00E+00	-5,51E+01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	-2,91E+01	0,00E+00
Total use of non-re. PER	MJ	5,29E+03	8,12E+01	1,59E+02	5,53E+03	5,92E+01	-4,73E+01	MND	MND	MND	MND	MND	MND	MND	MNR	1,35E+01	4,04E+01	-2,88E+01	-1,83E+03
Secondary materials	kg	1,06E+00	2,60E-02	1,23E-01	1,21E+00	2,43E-02	3,28E-03	MND	MND	MND	MND	MND	MND	MND	MNR	3,76E-03	4,96E-02	7,26E-05	9,89E+01
Renew. secondary fuels	MJ	1,48E-01	1,88E-04	7,98E+01	8,00E+01	2,81E-04	6,64E-06	MND	MND	MND	MND	MND	MND	MND	MNR	3,79E-05	5,91E-04	4,65E-06	1,86E+00
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	1,07E+01	8,80E-03	1,33E+01	2,41E+01	8,32E-03	6,60E-03	MND	MND	MND	MND	MND	MND	MND	MNR	1,75E-03	3,71E-02	2,28E-04	-7,11E+00

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	3,52E+01	1,06E-01	1,50E+00	3,69E+01	7,71E-02	3,09E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,79E-02	5,09E-02	0,00E+00	-1,42E+01
Non-hazardous waste	kg	4,59E+02	1,48E+00	1,30E+01	4,73E+02	1,39E+00	2,69E+00	MND	MND	MND	MND	MND	MND	MND	MNR	2,95E-01	1,18E+02	5,36E-01	-7,13E+01
Radioactive waste	kg	2,03E-01	5,54E-04	3,79E-04	2,04E-01	4,04E-04	5,42E-05	MND	MND	MND	MND	MND	MND	MND	MNR	9,05E-05	8,77E-05	0,00E+00	-6,03E-03

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	6,23E+00	0,00E+00	0,00E+00	6,23E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	1,33E+02	0,00E+00	0,00E+00
Materials for energy rec	kg	1,10E-01	0,00E+00	0,00E+00	1,10E-01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	9,51E+01	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,34E+01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	4,11E+02	5,68E+00	8,76E+00	4,26E+02	4,00E+00	3,38E+00	MND	MND	MND	MND	MND	MND	MND	MNR	8,91E-01	2,88E+02	2,03E-02	-1,31E+02
Ozone depletion Pot.	kg CFC ₋₁₁ e	4,56E-05	9,96E-07	5,71E-07	4,71E-05	7,21E-07	1,80E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,64E-07	3,04E-07	1,83E-09	-2,23E-06
Acidification	kg SO ₂ e	2,91E+00	6,37E-02	5,75E-02	3,03E+00	1,25E-02	1,92E-03	MND	MND	MND	MND	MND	MND	MND	MNR	2,96E-03	3,05E-02	1,11E-04	-5,81E-01
Eutrophication	kg PO ₄ ³ e	5,43E-01	8,61E-03	4,78E-02	6,00E-01	2,95E-03	1,55E-03	MND	MND	MND	MND	MND	MND	MND	MNR	6,75E-04	2,56E-02	3,28E-05	-2,99E-02
POCP ("smog")	kg C ₂ H ₄ e	1,19E-01	1,79E-03	6,29E-03	1,27E-01	5,30E-04	7,51E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,16E-04	6,07E-04	7,73E-06	-4,20E-01
ADP-elements	kg Sbe	4,21E-03	1,10E-05	4,22E-05	4,26E-03	1,84E-05	1,08E-06	MND	MND	MND	MND	MND	MND	MND	MNR	2,04E-06	2,02E-05	4,61E-08	1,06E-03
ADP-fossil	MJ	4,72E+03	8,12E+01	1,73E+02	4,98E+03	5,92E+01	7,80E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,35E+01	4,04E+01	2,95E-01	-4,15E+03

ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ⁹⁾	kg CO ₂ e	4,16E+02	5,73E+00	8,69E+00	4,31E+02	4,04E+00	3,39E+00	MND	MND	MND	MND	MND	MND	MND	MNR	9,01E-01	2,88E+02	2,09E-02	-1,44E+02

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH4 fossil, CH4 biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO2 is set to zero.

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliance with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

#SIGNATURE#