ENVIRONMENTAL PRODUCT DECLARATION

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

Facade door
Outline Vinduer A/S

EPD HUB, HUB-3114
Published on 28.03.2025, last updated on 28.03.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Outline Vinduer A/S
Address	Fabriksvej 4, 9640 Farsø
Contact details	ordre@outline.dk
Website	https://www.outline.dk/

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 EN 17213 Windows and doors
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Indra Bock Nielsen
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Sarah Curpen, as an authorized verifier acting for EPD Hub Limited

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	Facade door
Additional labels	Wood and wood/ alu-clad products
Product reference	Facade door wood/ alu-clad
Place of production	9640 Farsø, Denmark
Period for data	Calendar year 2023 (01/01/23-31/12/23)
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m2 of a facade door with aluminium cladding and glass part
Declared unit mass	38,11 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	7,85E+01
GWP-total, A1-A3 ($kgCO_2e$)	5,40E+01
Secondary material, inputs (%)	4,45
Secondary material, outputs (%)	99,8
Total energy use, A1-A3 (kWh)	477
Net freshwater use, A1-A3 (m^3)	2,2

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Outline Vinduer A/S is one of Denmarks leading manufacturers of energy-optimized windows and doors in wood and wood/aluminum for all types of homes. We have over 30 years of experience and all products are based on quality craftsmanship, designed and manufactured in Farsø.

Our windows and doors are tailored to the customers wishes and needs and are delivered with the markets fastest delivery time of down to 4 days. We deliver quality on time, and provide an extended warranty in addition to the Window Industrys general warranty conditions of 5 years. We give a 10-year guarantee on our product series in wood, wood/aluminum, wood/aluminum 3-layer and wood/aluminum Daylight.

The products are sold through builders merchants and retailers all over the country to both professional and private customers.

PRODUCT DESCRIPTION

This EPD covers Glazing facade door made with aluminium clad wooden frame and glassfiber treshold. Exterior doors as standard are fitted with a cylinder and 3-point locking. The top and bottom locking points are activated when the handle is lifted upwards - ensuring that the door is completely closed tight, and can now be locked. Supplied as standard without a handle. Main application is to provide thermal insulation and access for residential buildings.

Further information can be found at https://www.outline.dk/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	13	China and EU
Minerals	52	EU
Fossil materials	5	EU
Bio-based materials	30	EU

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	6,62
Biogenic carbon content in packaging, kg C	1,39

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m2 of a facade door with aluminium cladding and glass part
Mass per declared unit	38,11 kg
Functional unit	1m2 of a facade door with aluminium cladding and glass part
Reference service life	-

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	Deconstruction/ demolition	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 manufacturing process includes the production and supply of raw materials, as well as their processing at the factory. Manufacturing starts in the timber transformation plant where fingerjointed heartwood pine wood are cut to length for the frame whereafter parts are milled and flattened. Pieces are jointed together with glue using tongue and groove joints and the frame is then clamped in a hydraulic press where the corners are pressed together tightly. Next the frame is primed/ painted. Finally, customised hardware are fixed on to the frame/sash and gaskets are mounted onto sashes. Lastly glass is installed and beads used to seal glass. The finished product then passes through inspection before being loaded onto wooden pallet and secured with corner pads, wooden boards and plastic wrapping for distribution. Timber shavings are collected by suction system into silo to be used for heating on-site. Aluminium waste is collected separately and sent to a waste contractor that uses the materials for recycling. Other manufacturing wastes include paint/primer, which are collected separately and sent to local waste contractor close to factory to be recycled/incinerated. The production line uses electricity, and shavings for heat.

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.

Using transportation scenario from EN 17213 PCR for windows and doors., Distance of transport to construction site takes place using small batches using distributors as prescribed scenario: 40T truck full capacity, 150km and return empty 150km and 7.5T truck 20% payload 50km one-way and 50km return empty Total 400km. Transportation does not cause losses as product is packaged properly. The most common installation scenario has been considered where the product is installed manually without the use of mechanical handling, with electrical screwdriver. No ancillary material is required and no waste generated. This module also considers environmental impacts from installation process due to generation of waste from packaging materials (A5). This study assumed the loads of preprocessing of

packaging waste, namely wooden pallet chipped to be used as secondary fuel, PE and paper sorted for recycling.

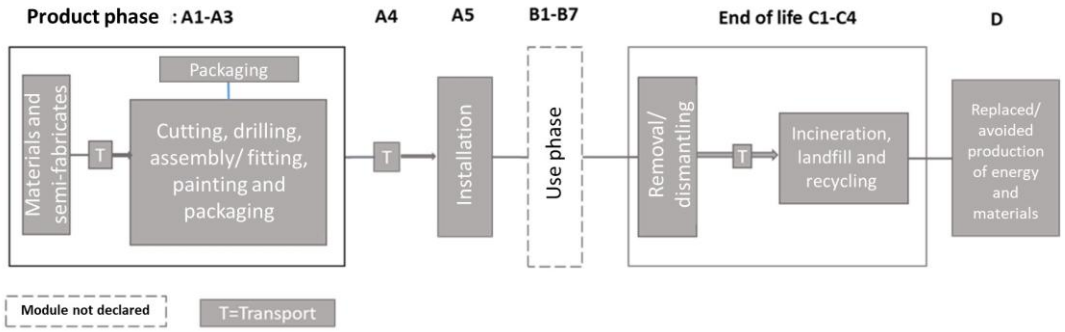
PRODUCT USE AND MAINTENANCE (B1-B7)

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)

The door is at its EoL dismantled manually using hand tools and separately from other construction waste. Per Annex B, EN 17213, 5% non glass are rejected and sent directly to landfill. The remaining 95% of non glass are sorted and sent to a local treatment facility for processing. This approach is only used for the materials where respective national statistics data could not be found. Specific national data are used for timber (71% recycled, 29% incinerated for energy recovery), aluminium and other metals (100% recycled), glass (99% recycled, 1% incinerated), plastics (99% recycled, 1% incinerated). The share of metals are recycled, while timber is conservatively assumed to be chipped to be used as secondary fuel. Module D claims the benefits of avoided production of metal through recycling, avoided production of heat and electricity through wood and plastic incineration. It also takes into account the loads of incineration and recycling activities.

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	No allocation
Packaging material	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	%

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 v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

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_2e	4,81E+01	4,93E+00	9,47E-01	5,40E+01	3,24E+00	5,18E+00	MND	MND	MND	MND	MND	MND	MND	3,90E-02	2,05E-01	1,84E+01	5,93E+00	1,22E+01
GWP – fossil	kg CO_2e	7,15E+01	4,93E+00	2,13E+00	7,85E+01	3,23E+00	6,98E-02	MND	MND	MND	MND	MND	MND	MND	3,88E-02	2,05E-01	3,93E+00	5,22E-03	1,23E+01
GWP – biogenic	kg CO_2e	-2,44E+01	0,00E+00	-1,19E+00	-2,55E+01	6,43E-04	5,11E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,45E+01	5,92E+00	-5,80E-02
GWP – LULUC	kg CO_2e	9,67E-01	2,09E-03	6,18E-03	9,76E-01	1,14E-03	1,71E-04	MND	MND	MND	MND	MND	MND	MND	1,21E-04	9,18E-05	7,92E-04	6,13E-07	-7,61E-04
Ozone depletion pot.	kg $CFC\text{-}_{11}e$	2,25E-06	9,25E-08	3,75E-08	2,38E-06	6,45E-08	1,14E-09	MND	MND	MND	MND	MND	MND	MND	6,73E-10	3,03E-09	1,43E-08	2,81E-11	-1,61E-06
Acidification potential	mol H^+e	6,06E-01	5,41E-02	1,07E-02	6,70E-01	6,62E-03	3,31E-04	MND	MND	MND	MND	MND	MND	MND	1,98E-04	7,00E-04	5,47E-03	7,00E-06	2,38E-01
EP-freshwater[2)]	kg Pe	6,22E-03	2,81E-04	5,03E-04	7,01E-03	2,16E-04	4,90E-05	MND	MND	MND	MND	MND	MND	MND	3,47E-05	1,60E-05	4,03E-04	1,00E-07	-2,52E-03
EP-marine	kg Ne	1,05E-01	1,37E-02	3,58E-03	1,22E-01	1,58E-03	7,72E-05	MND	MND	MND	MND	MND	MND	MND	3,43E-05	2,30E-04	1,38E-03	6,84E-05	4,46E-02
EP-terrestrial	mol Ne	1,13E+00	1,51E-01	3,72E-02	1,32E+00	1,71E-02	6,32E-04	MND	MND	MND	MND	MND	MND	MND	2,98E-04	2,50E-03	1,41E-02	2,92E-05	5,50E-01
POCP ("smog")[3)]	kg NMVOCe	3,09E-01	4,86E-02	1,40E-02	3,71E-01	1,11E-02	2,28E-04	MND	MND	MND	MND	MND	MND	MND	9,89E-05	1,03E-03	4,42E-03	1,13E-05	1,17E-01
ADP-minerals & metals[4)]	kg Sbe	2,58E-04	1,10E-05	1,30E-05	2,83E-04	1,07E-05	2,55E-07	MND	MND	MND	MND	MND	MND	MND	8,67E-08	5,72E-07	2,21E-05	2,16E-09	-1,87E-05
ADP-fossil resources	MJ	1,17E+03	6,96E+01	3,29E+01	1,27E+03	4,54E+01	1,42E+00	MND	MND	MND	MND	MND	MND	MND	9,19E-01	2,98E+00	1,10E+01	2,23E-02	3,43E+02
Water use[5)]	m^3e depr.	1,70E+01	3,09E-01	1,06E+00	1,84E+01	2,24E-01	3,48E-02	MND	MND	MND	MND	MND	MND	MND	2,38E-02	1,47E-02	9,07E-01	1,11E-04	1,79E+00

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	4,46E-06	3,74E-07	1,21E-07	4,95E-06	2,27E-07	6,69E-09	MND	MND	MND	MND	MND	MND	MND	6,92E-10	2,05E-08	8,01E-08	1,59E-10	2,80E-06
Ionizing radiation[6)]	kBq U235e	4,76E+00	6,88E-02	1,33E-01	4,96E+00	6,17E-02	3,36E-02	MND	MND	MND	MND	MND	MND	MND	2,57E-02	2,59E-03	1,08E-01	2,53E-05	3,07E+00
Ecotoxicity (freshwater)	CTUe	1,83E+03	7,33E+00	1,53E+01	1,85E+03	6,18E+00	3,58E-01	MND	MND	MND	MND	MND	MND	MND	9,68E-02	4,21E-01	2,77E+01	2,44E-01	1,40E+03
Human toxicity, cancer	CTUh	4,37E-08	8,84E-10	4,73E-09	4,93E-08	5,31E-10	5,51E-11	MND	MND	MND	MND	MND	MND	MND	8,07E-12	3,39E-11	6,32E-10	2,34E-13	2,86E-08
Human tox. non-cancer	CTUh	8,04E-07	3,72E-08	2,76E-08	8,69E-07	2,81E-08	1,03E-09	MND	MND	MND	MND	MND	MND	MND	3,47E-10	1,93E-09	3,14E-08	1,52E-11	5,43E-07
SQP[7)]	-	2,29E+02	5,23E+01	3,65E+02	6,47E+02	2,63E+01	4,98E-01	MND	MND	MND	MND	MND	MND	MND	1,56E-01	3,00E+00	1,03E+01	5,20E-02	5,77E+01

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	4,78E+02	9,57E-01	2,98E+01	5,09E+02	8,22E-01	-9,23E-01	MND	MND	MND	MND	MND	MND	MND	2,15E-01	4,08E-02	-5,46E+01	3,56E-04	-5,93E+01
Renew. PER as material	MJ	1,37E+02	0,00E+00	2,27E+01	1,60E+02	0,00E+00	-4,49E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-8,35E+01	-3,16E+01	1,96E+01
Total use of renew. PER	MJ	6,16E+02	9,57E-01	5,25E+01	6,69E+02	8,22E-01	-4,58E+01	MND	MND	MND	MND	MND	MND	MND	2,15E-01	4,08E-02	-1,38E+02	-3,16E+01	-3,97E+01
Non-re. PER as energy	MJ	1,12E+03	6,96E+01	2,04E+01	1,21E+03	4,54E+01	-1,79E+00	MND	MND	MND	MND	MND	MND	MND	9,19E-01	2,98E+00	-3,74E+01	-1,30E+00	3,46E+02
Non-re. PER as material	MJ	5,34E+01	0,00E+00	3,49E+00	5,69E+01	0,00E+00	-8,59E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-4,64E+01	-1,84E+00	0,00E+00
Total use of non-re. PER	MJ	1,17E+03	6,96E+01	2,39E+01	1,26E+03	4,54E+01	-1,04E+01	MND	MND	MND	MND	MND	MND	MND	9,19E-01	2,98E+00	-8,38E+01	-3,14E+00	3,46E+02
Secondary materials	kg	1,70E+00	3,04E-02	1,94E-01	1,92E+00	2,07E-02	7,82E-04	MND	MND	MND	MND	MND	MND	MND	9,87E-05	1,27E-03	9,90E-03	7,71E-06	-1,70E+01
Renew. secondary fuels	MJ	2,66E-02	2,95E-04	1,33E+00	1,35E+00	2,48E-04	5,38E-06	MND	MND	MND	MND	MND	MND	MND	4,06E-07	1,61E-05	2,42E-04	1,37E-07	-1,85E-04
Non-ren. secondary fuels	MJ	2,68E-19	0,00E+00	0,00E+00	2,68E-19	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,65E-19
Use of net fresh water	m^3	2,16E+00	8,69E-03	2,47E-02	2,20E+00	6,20E-03	1,05E-03	MND	MND	MND	MND	MND	MND	MND	7,63E-04	4,40E-04	1,02E-02	-2,49E-04	-1,50E+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	3,70E+00	9,69E-02	3,03E-01	4,10E+00	6,40E-02	4,71E-03	MND	MND	MND	MND	MND	MND	MND	2,09E-03	5,04E-03	6,86E-01	3,70E-05	-1,36E+00
Non-hazardous waste	kg	1,40E+02	1,78E+00	8,42E+00	1,50E+02	1,39E+00	2,90E-01	MND	MND	MND	MND	MND	MND	MND	1,70E-01	9,33E-02	2,19E+01	3,63E-01	-2,38E+00
Radioactive waste	kg	3,15E-02	1,71E-05	2,35E-04	3,18E-02	1,55E-05	8,61E-06	MND	MND	MND	MND	MND	MND	MND	6,60E-06	6,45E-07	2,77E-05	6,33E-09	1,19E-02

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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	6,43E+00	0,00E+00	4,04E-01	6,84E+00	0,00E+00	1,85E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	3,29E+01	0,00E+00	5,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	2,50E+00	2,50E+00	0,00E+00	3,38E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	5,16E+00	0,00E+00	0,00E+00
Exported energy	MJ	9,18E-01	0,00E+00	2,06E+01	2,15E+01	0,00E+00	4,24E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,38E-01
Exported energy – Electricity	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Heat	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	0,00E+00	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_2e	0,00E+00	4,90E+00	3,32E-01	5,23E+00	3,21E+00	1,05E-02	MND	MND	MND	MND	MND	MND	MND	3,89E-02	2,04E-01	3,93E+00	5,02E-03	-2,19E+01
Ozone depletion Pot.	kg $CFC_{-11}e$	0,00E+00	7,36E-08	3,56E-09	7,71E-08	5,13E-08	1,73E-10	MND	MND	MND	MND	MND	MND	MND	5,52E-10	2,42E-09	1,18E-08	2,24E-11	-1,21E-06
Acidification	kg SO_2e	0,00E+00	4,31E-02	2,35E-03	4,54E-02	5,32E-03	1,94E-05	MND	MND	MND	MND	MND	MND	MND	1,68E-04	5,34E-04	4,38E-03	5,16E-06	-9,75E-02
Eutrophication	kg PO_4^3e	0,00E+00	5,65E-03	5,45E-04	6,20E-03	1,32E-03	4,84E-06	MND	MND	MND	MND	MND	MND	MND	2,28E-05	1,30E-04	8,03E-04	4,77E-06	-9,64E-03
POCP (“smog”)	kg C_2H_4e	0,00E+00	2,47E-03	1,92E-04	2,66E-03	5,62E-04	1,98E-06	MND	MND	MND	MND	MND	MND	MND	9,45E-06	4,76E-05	2,94E-04	1,10E-06	-5,60E-03
ADP-elements	kg Sbe	0,00E+00	1,08E-05	3,64E-06	1,44E-05	1,05E-05	3,02E-08	MND	MND	MND	MND	MND	MND	MND	8,60E-08	5,58E-07	2,16E-05	2,10E-09	-2,39E-05
ADP-fossil	MJ	0,00E+00	6,85E+01	4,15E+00	7,27E+01	4,44E+01	1,53E-01	MND	MND	MND	MND	MND	MND	MND	4,66E-01	2,94E+00	9,06E+00	2,18E-02	-2,13E+02

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_2e	7,24E+01	4,93E+00	2,14E+00	7,95E+01	3,24E+00	7,00E-02	MND	MND	MND	MND	MND	MND	MND	3,90E-02	2,05E-01	3,93E+00	5,22E-03	1,23E+01

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 compliancy 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.

Sarah Curpen, as an authorized verifier acting for EPD Hub Limited.
28.03.2025

VERIFIED ISO 14025