



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

ID85 Glass wall system (6 product variants)

SKANDI-BO A/S



EPD HUB, HUB-3504

Published on 28.06.2025, last updated on 28.06.2025, valid until 27.06.2030

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.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	SKANDI-BO A/S
Address	Industrivej 1, Ubby, 4490 Jerslev Sj., Denmark
Contact details	info@skandi-bo.dk
Website	www.skandi-bo.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-B7, and modules C1-C4, D
EPD author	Stefan Emil Danielsson
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	Lucas Rodriguez, as an authorized verifier acting for EPD Hub Limited.

This EPD is intended for business-to-business and/or business-to-consumer communication. 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	ID85 Glass wall system: 3000mm x 2700mm excl. 2.1 m ² door opening
Additional labels	-
Product reference	<i>Representative product:</i> EI30 with fire rating
Place(s) of raw material origin	Denmark, Europe
Place of production	Jerslev Sj., Denmark
Place(s) of installation and use	Denmark, Sweden, Norway
Period for data	Calendar year 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3 (%)	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m ²
Declared unit mass	39,7 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	8,90E+01
GWP-total, A1-A3 (kgCO ₂ e)	8,96E+01
Secondary material, inputs (%)	16,4
Secondary material, outputs (%)	16
Total energy use, A1-A3 (kWh)	501
Net freshwater use, A1-A3 (m ³)	1,46

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Skandi-Bo A/S, established in 1973 and headquartered in Jerslev Sjælland, Denmark, specializes in designing and manufacturing high-quality glass wall systems and doors. Their products are known for combining stylish aesthetics with functionality, focusing on light and open spaces. Skandi-Bo offers a range of solutions, including fire- and sound-proofed walls, with fire ratings up to EI60 (BS60). All products are custom-built and manufactured in their Danish factory, ensuring outstanding finish and flexibility. The company provides professional advice and manages projects from the design phase through to delivery at the building site. Skandi-Bo collaborates closely with architects, contractors, and clients, providing expert guidance from design to installation. Their commitment to innovation and craftsmanship makes them a trusted partner in creating bright, open, and safe spaces.

PRODUCT DESCRIPTION

ID85 Glass wall system, with the dimensions: 3000mm x 2700mm excl. 2.1 m² door opening. For the following types:

- Product 1: Single glass, without fire rating
- Product 2: E30 with fire rating
- Product 3: E60/EW60 with fire rating
- Product 4: EW30 with fire rating
- Product 5: EI30 with fire rating
- Product 6: EI60 with fire rating

The products are used in buildings, for room separation.

This EPD describes **Product 5: EI30 with fire rating** as the representative product variant, for which the full result tables are declared. The GWP-total for the six variants are declared individually in Annex, including the representative product variant.

The products are not covered by harmonised technical specifications. The letters in the names of the fire rated products are fire rating definitions: E = Integrity, EW = Integrity + Radiation, EI = Integrity + Insulation. By reference to the classification Standard DS/EN 13501.

Further technical information can be obtained by contacting the manufacturer or on the manufacturer's website:

- www.skandi-bo.dk/en/strength
- www.skandi-bo.dk/wp-content/uploads/2018/10/INDOOR_datablad_DET-STAERKE_01.pdf
- www.skandi-bo.dk/en/strength

Further information can be found at www.skandi-bo.dk.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	12	Denmark, Europe
Minerals	86	Europe
Fossil materials	2	Europe
Bio-based materials	~ 0	Denmark

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,0
Biogenic carbon content in packaging, kg C	0,45

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1
Mass per declared unit	39,7 kg
Functional unit	-
Reference service life	50

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	x	x	x	x	x	x	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 = ND. 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.

- A1 – Extraction and processing of raw materials
- A2 – Transport to the production site
- A3 – Manufacturing processes

The product stage comprises the acquisition of all raw materials, products and energy, transport to the production site and internal transport at the production site, packaging and waste processing of waste from the production site up to the end-of-waste state or final disposal. Raw materials (glass, aluminium, steel, rubber/polymer and MDF/wood) is delivered to the factory and used to produce the basic windows. Additional raw materials (plaster, fire retardant materials and ceramic blocks) are added and only relevant for the fire rated glass wall systems. During production, the materials undergo cutting, milling and mounting processes. Finally, the products are mechanically wrapped in plastic foil and placed on pallets, ready for distribution. Electricity is consumed during assembly, both for the machines and for the vehicles for internal transportation.

TRANSPORT AND INSTALLATION (A4-A5)

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

Transportation to the construction site (A4) happens mostly within Denmark to major cities. The weighted average transport distance is 170 km, performed by a EURO 6 diesel powered truck, 16-32 ton capacity.

Installation (A5) assumes that an electric-powered elevator lifts the window in place while the windows are mounted with a screwing machine. The wooden EUR-pallet is recycled and plastic foil is source separated and sent to recycling from the construction site.

PRODUCT USE AND MAINTENANCE (B1-B7)

These modules are declared as zero since no considerable environmental emissions take place during use or maintenance. No replacement takes place during its lifetime.

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

PRODUCT END OF LIFE (C1-C4, D)

Disassembly (C1) assumes that the window is manually unmounted and taken down by an electric-powered elevator lift. Thus, the process follows the same but opposite procedure as installation (A5).

Transport to waste processing facilities (C2) assumes an average distance of 50 km by a >32 tonne EURO 6 truck.

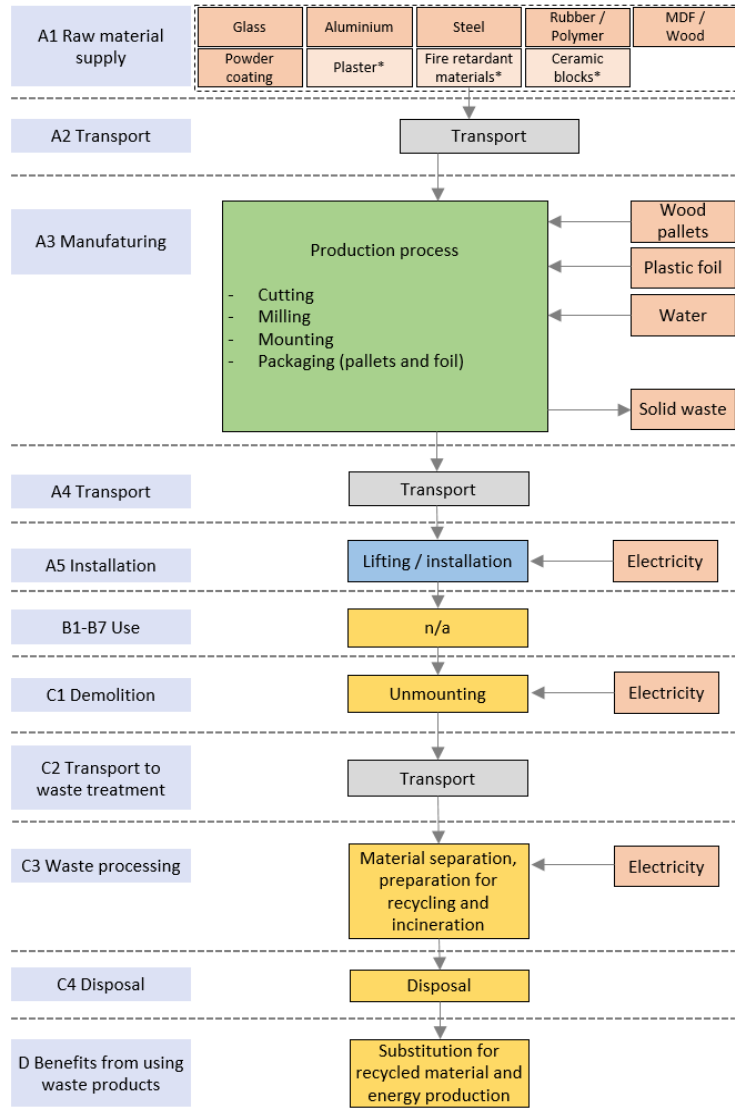
Waste processing (C3) covers three distinct material flows at the end of life, in which the window is crushed down to its three main valuable components: glass, aluminium and steel after collection at the demolition site.

- 1) Glass is de-mounted and sent to treatment; single glass without fire rating is recycled at a glass remelting facility, while glass with fire rating is sent to landfill.
- 2) Aluminium is further separated, chopped into smaller pieces, and sent to aluminium mill for remelting.
- 3) Steel is further separated, chopped into smaller pieces, and sent to steel mill for remelting.

Gypsum, rubber, MDF etc. are all mixed remainders assumed to end up in an inert-material landfill.

For loads beyond the system boundary (D), credits are applied for the substitution of virgin materials contained in the glass and aluminium. The loads of remelting the aluminium are included in D, and credit is given only to the virgin part of glass (75%) and aluminium (30%) to avoid double counting from a previous product system.

PRODUCT SYSTEM



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	No allocation
Manufacturing energy and waste	No allocation

AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	n/a
Variation in GWP-fossil for A1-A3 (%)	n/a

This declaration, including data collection and the modeled foreground system including results, represents the production of 1 m² of the different glass wall systems under the ID85 system on the production site located in Ubby, Jerslev Sj., Denmark. Product specific data are based on annual average values from 2023 provided by SKANDI-BO. The background data that are used are less than 10 years old.

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

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	8,63E+01	3,65E+00	-3,57E-01	8,96E+01	1,31E+00	1,37E+00	0,00E+00	1,12E-02	2,05E-01	-1,12E+00	1,74E-01	-3,04E+01
GWP – fossil	kg CO ₂ e	8,44E+01	3,65E+00	9,34E-01	8,90E+01	1,31E+00	7,79E-02	0,00E+00	1,12E-02	2,05E-01	7,82E-02	1,73E-01	-3,02E+01
GWP – biogenic	kg CO ₂ e	1,20E+00	0,00E+00	-1,29E+00	-9,26E-02	2,63E-04	1,29E+00	0,00E+00	0,00E+00	0,00E+00	-1,20E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO ₂ e	6,94E-01	1,43E-03	1,61E-03	6,97E-01	4,70E-04	5,80E-05	0,00E+00	4,78E-05	7,99E-05	7,96E-05	1,95E-05	-2,20E-01
Ozone depletion pot.	kg CFC-11e	1,93E-05	7,60E-08	1,30E-08	1,94E-05	2,61E-08	5,28E-10	0,00E+00	2,39E-10	4,28E-09	6,17E-10	3,13E-09	-5,97E-07
Acidification potential	mol H ⁺ e	3,76E-01	9,39E-03	5,33E-03	3,91E-01	2,72E-03	2,44E-04	0,00E+00	6,70E-05	4,84E-04	4,22E-04	1,51E-03	-2,48E-01
EP-freshwater ²⁾	kg Pe	9,55E-03	2,54E-04	3,36E-04	1,01E-02	8,82E-05	1,39E-05	0,00E+00	8,19E-06	1,43E-05	3,37E-05	5,38E-06	-4,55E-03
EP-marine	kg Ne	7,85E-02	2,46E-03	1,16E-03	8,21E-02	6,54E-04	1,23E-04	0,00E+00	1,20E-05	1,27E-04	1,43E-04	6,93E-04	-4,25E-02
EP-terrestrial	mol Ne	9,11E-01	2,66E-02	1,17E-02	9,49E-01	7,06E-03	1,01E-03	0,00E+00	1,45E-04	1,37E-03	1,08E-03	7,59E-03	-4,91E-01
POCP (“smog”) ³⁾	kg NMVOCe	2,42E-01	1,55E-02	4,59E-03	2,62E-01	4,53E-03	2,66E-04	0,00E+00	3,62E-05	8,41E-04	3,05E-04	2,33E-03	-1,47E-01
ADP-minerals & metals ⁴⁾	kg Sbe	1,70E-04	1,04E-05	2,38E-05	2,04E-04	4,36E-06	4,32E-07	0,00E+00	3,51E-07	5,87E-07	1,85E-06	8,21E-08	2,39E-04
ADP-fossil resources	MJ	1,22E+03	5,48E+01	1,34E+01	1,29E+03	1,84E+01	3,82E-01	0,00E+00	1,79E-01	3,08E+00	7,10E-01	2,52E+00	-3,66E+02
Water use ⁵⁾	m ³ e depr.	2,22E+01	2,80E-01	4,82E-01	2,29E+01	9,16E-02	5,52E-02	0,00E+00	2,01E-02	1,58E-02	2,28E-02	6,82E-03	-2,27E+01

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

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,97E-04	3,54E-07	7,54E-08	1,97E-04	9,65E-08	2,60E-09	0,00E+00	4,40E-10	2,00E-08	6,44E-09	4,24E-08	-2,93E-06
Ionizing radiation ⁶⁾	kBq U235e	3,10E+00	6,57E-02	5,37E-02	3,22E+00	2,38E-02	4,70E-03	0,00E+00	3,98E-03	3,71E-03	1,08E-02	1,34E-03	-3,08E+00
Ecotoxicity (freshwater)	CTUe	1,67E+02	6,44E+00	2,75E+01	2,00E+02	2,45E+00	3,04E-01	0,00E+00	6,27E-02	3,63E-01	7,68E-01	2,24E-01	-1,44E+02
Human toxicity, cancer	CTUh	5,99E-08	6,10E-10	1,87E-09	6,24E-08	2,20E-10	4,05E-11	0,00E+00	7,00E-12	3,42E-11	7,59E-11	1,25E-10	-1,74E-08
Human tox. non-cancer	CTUh	7,84E-07	3,53E-08	2,54E-08	8,44E-07	1,17E-08	2,08E-09	0,00E+00	3,71E-10	1,99E-09	2,35E-09	3,29E-10	1,37E-07
SQP ⁷⁾	-	4,68E+01	5,48E+01	1,07E+02	2,08E+02	1,11E+01	4,57E-01	0,00E+00	3,13E-01	3,10E+00	3,96E+00	1,71E+01	-5,82E+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-B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	3,82E+02	8,88E-01	1,49E+02	5,32E+02	3,22E-01	-1,49E+01	0,00E+00	2,77E-01	5,01E-02	-1,98E-02	2,37E-02	-6,58E+01
Renew. PER as material	MJ	3,44E+00	0,00E+00	1,13E+01	1,48E+01	0,00E+00	-1,13E+01	0,00E+00	0,00E+00	0,00E+00	-3,44E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	3,86E+02	8,88E-01	1,60E+02	5,47E+02	3,22E-01	-2,62E+01	0,00E+00	2,77E-01	5,01E-02	-3,46E+00	2,37E-02	-6,58E+01
Non-re. PER as energy	MJ	1,21E+03	5,48E+01	1,13E+01	1,27E+03	1,84E+01	-6,85E-01	0,00E+00	1,79E-01	3,08E+00	7,10E-01	2,52E+00	-3,66E+02
Non-re. PER as material	MJ	3,29E+01	0,00E+00	2,02E+00	3,49E+01	0,00E+00	-2,02E+00	0,00E+00	0,00E+00	0,00E+00	-3,29E+01	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	1,24E+03	5,48E+01	1,34E+01	1,31E+03	1,84E+01	-2,71E+00	0,00E+00	1,79E-01	3,08E+00	-3,22E+01	2,52E+00	-3,66E+02
Secondary materials	kg	4,84E+00	2,37E-02	8,78E-02	4,96E+00	8,55E-03	4,42E-04	0,00E+00	1,02E-04	1,33E-03	1,45E-03	9,58E-04	4,31E+00
Renew. secondary fuels	MJ	1,72E-02	2,97E-04	3,83E-01	4,00E-01	1,08E-04	2,00E-06	0,00E+00	6,91E-07	1,68E-05	1,16E-04	5,36E-06	-1,31E-02
Non-ren. secondary fuels	MJ	9,19E-03	0,00E+00	0,00E+00	9,19E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	1,44E+00	8,06E-03	1,05E-02	1,46E+00	2,51E-03	9,53E-04	0,00E+00	6,57E-04	4,55E-04	4,82E-04	7,43E-04	-4,76E-01

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Hazardous waste	kg	6,75E-01	7,92E-02	1,99E-01	9,53E-01	2,68E-02	6,34E-03	0,00E+00	1,09E-03	4,46E-03	8,26E-03	2,63E-03	-2,57E+00
Non-hazardous waste	kg	2,80E+01	1,58E+00	4,59E+00	3,42E+01	5,65E-01	1,04E+00	0,00E+00	4,00E-02	8,92E-02	3,96E-01	3,13E+01	-3,07E+01
Radioactive waste	kg	5,47E-02	1,63E-05	1,36E-05	5,47E-02	5,90E-06	1,08E-06	0,00E+00	9,07E-07	9,18E-07	2,75E-06	3,25E-07	-8,10E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	1,07E+00	0,00E+00	3,40E-01	1,41E+00	0,00E+00	3,00E-02	0,00E+00	0,00E+00	0,00E+00	4,72E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	1,43E-02	0,00E+00	0,00E+00	1,43E-02	0,00E+00	9,00E-01	0,00E+00	0,00E+00	0,00E+00	1,00E-02	0,00E+00	0,00E+00
Exported energy	MJ	1,40E-01	0,00E+00	0,00E+00	1,40E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	4,49E+00	3,63E+00	9,30E-01	9,05E+00	1,30E+00	7,76E-02	0,00E+00	1,12E-02	2,04E-01	1,07E-01	1,72E-01	-3,04E+01
Ozone depletion Pot.	kg CFC ₁₁ e	5,69E-08	6,04E-08	1,10E-08	1,28E-07	2,07E-08	4,59E-10	0,00E+00	2,19E-10	3,40E-09	5,12E-10	2,48E-09	-4,87E-07
Acidification	kg SO ₂ e	1,73E-02	7,45E-03	4,34E-03	2,91E-02	2,19E-03	1,79E-04	0,00E+00	5,37E-05	3,84E-04	3,34E-04	1,06E-03	-2,05E-01
Eutrophication	kg PO ₄ ³ e	1,15E-02	1,77E-03	1,15E-02	2,47E-02	5,53E-04	5,29E-05	0,00E+00	9,69E-06	9,58E-05	1,02E-04	2,61E-04	-1,92E-02
POCP (“smog”)	kg C ₂ H ₄ e	1,29E-03	7,25E-04	4,36E-04	2,46E-03	2,32E-04	1,45E-05	0,00E+00	3,47E-06	3,91E-05	3,07E-05	8,18E-05	-1,35E-02
ADP-elements	kg Sbe	2,67E-05	1,02E-05	2,33E-05	6,02E-05	4,26E-06	4,25E-07	0,00E+00	3,50E-07	5,73E-07	1,84E-06	8,00E-08	2,90E-04
ADP-fossil	MJ	7,04E+01	5,37E+01	1,23E+01	1,36E+02	1,80E+01	3,14E-01	0,00E+00	1,22E-01	3,02E+00	5,22E-01	2,50E+00	-3,12E+02

ENVIRONMENTAL IMPACTS – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP-GHG ⁹⁾	kg CO ₂ e	8,51E+01	3,65E+00	9,36E-01	8,97E+01	1,31E+00	7,79E-02	0,00E+00	1,12E-02	2,05E-01	7,83E-02	1,74E-01	-3,04E+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.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Wind power
Electricity, kg CO ₂ e / kWh	0,0167
District heating data source and quality	n/a
District heating, kg CO ₂ e / kWh	n/a

Installation scenario documentation A5

Scenario information	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	n/a
Water use / m ³	n/a
Other resource use / kg	n/a
Quantitative description of energy type (regional mix) and consumption during the installation process / kWh or MJ	Average Danish electricity grid mix (0,08 kWh)
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	n/a
Output materials (specified by type) as result of waste processing at the building site e.g. collection for recycling, for energy recovery, disposal (specified by route) / kg	Plastic foil (0,02 kg), Wooden pallet (0,027 kg)
Direct emissions to ambient air, soil and water / kg	n/a

Transport scenario documentation A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	Diesel powered truck, 16-32 tonne, EURO 6
Average transport distance, km	170
Capacity utilization (including empty return) %	24
Bulk density of transported products	n/a

End of life scenario documentation

Scenario information	Value
Collection process – kg collected separately	39,66
Collection process – kg collected with mixed waste	n/a
Recovery process – kg for re-use	n/a
Recovery process – kg for recycling	4,72
Recovery process – kg for energy recovery	0,01
Disposal (total) – kg for final deposition	34,93
Scenario assumptions e.g. transportation	Truck 16-32 tonne, EURO6, 50 km to treatment facility

ANNEX

The following result table sums up the GWP-total for all the product variants studied. The representative product is highlighted in bold.

GWP-TOTAL – 1 M² PRODUCT, EN 15804+A2, PEF

Product variant	Impact category Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Product 1: Single glass, without fire rating	kg CO ₂ e	5,79E+01	2,04E+00	-1,34E-01	5,98E+01	9,78E-01	1,04E+00	0,00E+00	1,12E-02	1,54E-01	6,25E-01	3,65E-03	-2,70E+01
Product 2: E30 with fire rating	kg CO ₂ e	6,09E+01	2,53E+00	-1,43E+00	6,20E+01	9,29E-01	2,96E+00	0,00E+00	1,17E-03	1,38E-01	-6,82E-01	1,11E-01	-2,08E+01
Product 3: E60/EW60 with fire rating	kg CO ₂ e	7,90E+01	3,33E+00	-2,11E-01	8,21E+01	1,22E+00	1,20E+00	0,00E+00	1,12E-02	1,86E-01	-9,96E-01	1,56E-01	-2,77E+01
Product 4: EW30 with fire rating	kg CO ₂ e	7,90E+01	3,33E+00	-3,93E-01	8,20E+01	1,19E+00	1,41E+00	0,00E+00	1,12E-02	1,86E-01	-9,96E-01	1,56E-01	-2,77E+01
Product 5: EI30 with fire rating	kg CO₂e	8,63E+01	3,65E+00	-3,57E-01	8,96E+01	1,31E+00	1,37E+00	0,00E+00	1,12E-02	2,05E-01	-1,12E+00	1,74E-01	-3,04E+01
Product 6: EI60 with fire rating	kg CO ₂ e	1,30E+02	5,60E+00	-6,73E-01	1,35E+02	2,03E+00	1,75E+00	0,00E+00	1,12E-02	3,19E-01	1,93E+00	2,81E-01	-4,67E+01

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.

Lucas Rodriguez, as an authorized verifier acting for EPD Hub Limited.
28.06.2025

