



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Betongpålar PP2

Skandinaviska Byggelement AB



EPD HUB, HUB-3817

Published on 14.08.2025, last updated on 14.08.2025, valid until 14.08.2030

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	Skandinaviska Byggelement AB
Address	Tallmätargatan 2, 721 34 Västerås
Contact details	info@byggelement.se
Website	https://byggelement.se

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR version 1.1, 5 Dec 2023 EN 16757 Product Category Rules for concrete and concrete elements
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	Jörgen 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	Imane Uald Lamkaddam as an authorized verifier for EPD Hub

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	Betongpålar PP2
Additional labels	-
Product reference	-
Place(s) of raw material origin	Sweden
Place of production	Västerås, Sweden
Place(s) of installation and use	Sweden
Period for data	2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
A1-A3 Specific data (%)	12,9

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 ton
Declared unit mass	1000 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	1,66E+02
GWP-total, A1-A3 (kgCO ₂ e)	1,68E+02
Secondary material, inputs (%)	4,06
Secondary material, outputs (%)	0,07
Total energy use, A1-A3 (kWh)	442
Net freshwater use, A1-A3 (m ³)	3,66

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Byggelement (Skandinaviska Byggelement AB) was created as a company 2002 and is a part of the Peab Group. Byggelement is one of Sweden's leading suppliers of complete structural systems in concrete and prefabricated concrete elements. We produce and deliver project-adapted frames and elements directly to the construction site, ready for assembly. Byggelement manufactures and supplies frame systems and concrete elements for multi-dwelling buildings, office, hotel, industrial buildings, business premises and healthcare and school.

PRODUCT DESCRIPTION

Concrete piles are used when the bearing capacity of the soil is insufficient for the construction being designed.

The product is designed for a service life of 100 years and is classified as L100 according to standard SS-EN

12794, Precast concrete products – concrete piles.

This EPD reports the environmental impact of piles of pile type PP2 including the average amount of steel fittings.

- Single piles with lengths of 8-12 m
- Bottom piles with lengths of 10-12 m
- Top piles with lengths of 8-12 m

Further information can be found at: <https://byggelement.se>

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	5,3	EU
Minerals	94,7	EU
Fossil materials		
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

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 ton
Mass per declared unit	1000 kg
Functional unit	-
Reference service life	100

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.

A market-based approach is used in modelling the electricity mix utilized in the factory.

The products are manufactured in the factory by mixing the raw materials for the concrete. The wet mass is filled into molds, prepared with reinforcement steel and embedded goods. The products are then left to cure under controlled conditions to later be transported for storage or to construction site. The source of manufacturing waste is mainly disposable packaging from incoming goods.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

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 transportation distance is defined according to the PCR. Average distance of transportation from production plant to building site is in average 150 km and the transportation method is assumed to be lorry and train. Vehicle capacity utilization 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 taken into account 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.

Energi used during installation (A5): 65,89 MJ/ton pile (based on information from Peab Grundläggning AB).

PRODUCT USE AND MAINTENANCE (B1-B7)

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

PRODUCT END OF LIFE (C1-C4, D)

Waste treatment (C1-C4)

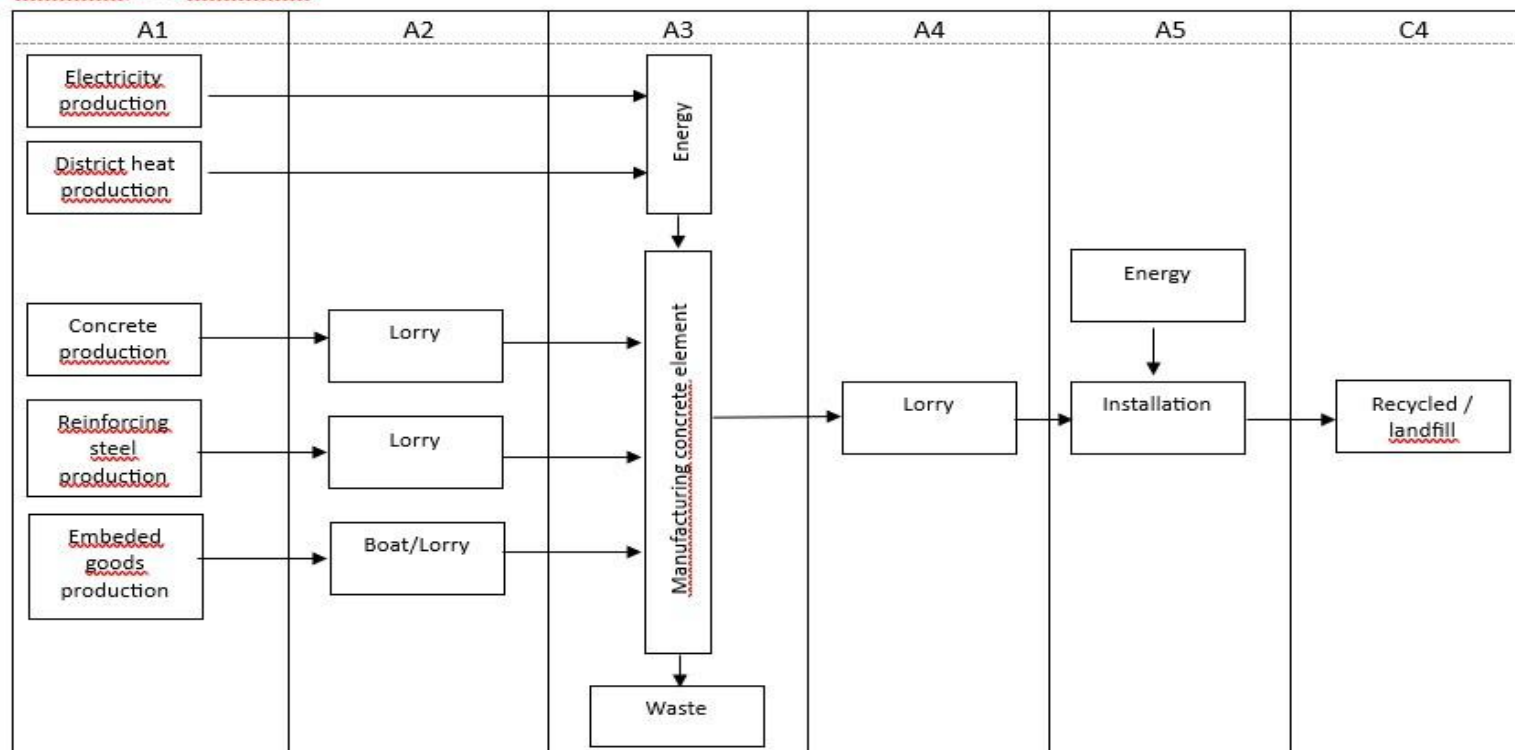
No impact as the pile is expected to remain where it has been placed.

Benefits and loads outside the system boundary (D)

No impact as the pile is not sent for recycling.

MANUFACTURING PROCESS

Flowchart over production



Modul A1: Manufacturing materials

Modul A2: Transport of manufactured materials to Byggelement.

Modul A3: Manufacturing.

Modul A4: Transport to building site.

Modul A5: Installation.

Modul C4: Waste disposal.

Not. Module C1-C3 and D excluded because they do not contribute to any environmental impact since the product remains in the ground.

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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

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	Not applicable
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	

This EPD is product and factory specific.

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

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

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	1,63E+02	1,49E+00	3,58E+00	1,68E+02	1,62E+01	6,60E+00	MND	MND	MND	MND	MND	MND	MND	6,60E+00	9,80E-04	1,46E+00	6,24E+00	0,00E+00
GWP – fossil	kg CO ₂ e	1,61E+02	1,49E+00	3,17E+00	1,66E+02	1,61E+01	6,60E+00	MND	MND	MND	MND	MND	MND	MND	6,60E+00	9,79E-04	1,08E+00	6,24E+00	0,00E+00
GWP – biogenic	kg CO ₂ e	1,45E+00	2,80E-04	3,88E-01	1,84E+00	0,00E+00	6,73E-04	MND	MND	MND	MND	MND	MND	MND	6,73E-04	2,22E-07	3,83E-01	-1,99E-03	0,00E+00
GWP – LULUC	kg CO ₂ e	1,19E-01	6,95E-04	2,07E-02	1,41E-01	7,22E-03	6,76E-04	MND	MND	MND	MND	MND	MND	MND	6,76E-04	4,38E-07	5,49E-06	3,57E-03	0,00E+00
Ozone depletion pot.	kg CFC-11e	7,31E-06	2,18E-08	8,93E-08	7,42E-06	2,38E-07	1,01E-07	MND	MND	MND	MND	MND	MND	MND	1,01E-07	1,45E-11	2,22E-10	1,81E-07	0,00E+00
Acidification potential	mol H ⁺ e	9,22E+00	2,34E-02	2,83E-02	9,27E+00	5,51E-02	5,96E-02	MND	MND	MND	MND	MND	MND	MND	5,96E-02	3,34E-06	1,41E-04	4,43E-02	0,00E+00
EP-freshwater ²⁾	kg Pe	8,06E-04	8,17E-05	2,78E-04	1,17E-03	1,26E-03	1,90E-04	MND	MND	MND	MND	MND	MND	MND	1,90E-04	7,63E-08	7,16E-05	5,13E-04	0,00E+00
EP-marine	kg Ne	1,67E-01	6,12E-03	1,16E-02	1,85E-01	1,81E-02	2,76E-02	MND	MND	MND	MND	MND	MND	MND	2,76E-02	1,10E-06	5,99E-05	1,69E-02	0,00E+00
EP-terrestrial	mol Ne	1,65E+00	6,78E-02	1,33E-01	1,86E+00	1,97E-01	3,02E-01	MND	MND	MND	MND	MND	MND	MND	3,02E-01	1,19E-05	6,70E-04	1,84E-01	0,00E+00
POCP (“smog”) ³⁾	kg NMVOCe	9,95E+00	1,97E-02	4,73E-02	1,00E+01	8,11E-02	9,02E-02	MND	MND	MND	MND	MND	MND	MND	9,02E-02	4,92E-06	1,58E-04	6,60E-02	0,00E+00
ADP-minerals & metals ⁴⁾	kg Sbe	1,27E-02	2,83E-06	7,56E-06	1,27E-02	4,50E-05	2,37E-06	MND	MND	MND	MND	MND	MND	MND	2,37E-06	2,73E-09	8,41E-08	9,92E-06	0,00E+00
ADP-fossil resources	MJ	1,30E+03	2,01E+01	7,74E+01	1,39E+03	2,34E+02	8,63E+01	MND	MND	MND	MND	MND	MND	MND	8,63E+01	1,42E-02	1,56E-01	1,53E+02	0,00E+00
Water use ⁵⁾	m ³ e depr.	4,52E+01	7,89E-02	1,58E+00	4,69E+01	1,16E+00	2,16E-01	MND	MND	MND	MND	MND	MND	MND	2,16E-01	7,02E-05	2,36E-02	4,42E-01	0,00E+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, EF 3.1

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	5,06E-06	9,96E-08	6,88E-07	5,85E-06	1,62E-06	1,69E-06	MND	MND	MND	MND	MND	MND	MND	1,69E-06	9,81E-11	4,63E-09	1,01E-06	0,00E+00
Ionizing radiation ⁶⁾	kBq 11235a	5,44E+00	1,35E-02	1,70E+00	7,15E+00	2,04E-01	3,82E-02	MND	MND	MND	MND	MND	MND	MND	3,82E-02	1,24E-05	4,08E-04	9,63E-02	0,00E+00
Ecotoxicity (freshwater)	CTUe	1,96E+03	2,23E+00	5,28E+00	1,97E+03	3,31E+01	4,75E+00	MND	MND	MND	MND	MND	MND	MND	4,75E+00	2,01E-03	1,76E-01	1,29E+01	0,00E+00
Human toxicity, cancer	CTUh	8,70E-08	2,75E-10	8,36E-10	8,81E-08	2,66E-09	6,78E-10	MND	MND	MND	MND	MND	MND	MND	6,78E-10	1,62E-13	1,08E-10	1,15E-09	0,00E+00
Human tox. non-cancer	CTUh	1,47E-06	9,47E-09	2,58E-08	1,51E-06	1,52E-07	1,07E-08	MND	MND	MND	MND	MND	MND	MND	1,07E-08	9,20E-12	1,91E-09	2,64E-08	0,00E+00
SQP ⁷⁾	-	8,67E+02	1,22E+01	1,02E+02	9,81E+02	2,36E+02	6,05E+00	MND	MND	MND	MND	MND	MND	MND	6,05E+00	1,43E-02	5,19E-02	3,02E+02	0,00E+00

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	1,70E+02	2,17E-01	5,34E+01	2,23E+02	3,21E+00	5,47E-01	MND	MND	MND	MND	MND	MND	MND	5,47E-01	1,95E-04	-4,43E+00	1,48E+00	0,00E+00
Renew. PER as material	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
Total use of renew. PER	MJ	1,70E+02	2,17E-01	5,34E+01	2,23E+02	3,21E+00	5,47E-01	MND	MND	MND	MND	MND	MND	MND	5,47E-01	1,95E-04	-4,43E+00	1,48E+00	0,00E+00
Non-re. PER as energy	MJ	1,28E+03	2,01E+01	6,23E+01	1,36E+03	2,34E+02	8,63E+01	MND	MND	MND	MND	MND	MND	MND	8,63E+01	1,42E-02	-1,29E+01	1,53E+02	0,00E+00
Non-re. PER as material	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
Total use of non-re. PER	MJ	1,28E+03	2,01E+01	6,23E+01	1,36E+03	2,34E+02	8,63E+01	MND	MND	MND	MND	MND	MND	MND	8,63E+01	1,42E-02	-1,29E+01	1,53E+02	0,00E+00
Secondary materials	kg	4,06E+01	8,63E-03	2,25E-02	4,07E+01	9,97E-02	3,58E-02	MND	MND	MND	MND	MND	MND	MND	3,58E-02	6,05E-06	3,85E-04	3,85E-02	0,00E+00
Renew. secondary fuels	MJ	3,90E-03	7,04E-05	3,55E-04	4,33E-03	1,27E-03	9,37E-05	MND	MND	MND	MND	MND	MND	MND	9,37E-05	7,69E-08	1,55E-06	7,97E-04	0,00E+00
Non-ren. secondary fuels	MJ	5,54E+00	0,00E+00	0,00E+00	5,54E+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
Use of net fresh water	m ³	3,62E+00	2,24E-03	3,63E-02	3,66E+00	3,46E-02	5,71E-03	MND	MND	MND	MND	MND	MND	MND	5,71E-03	2,10E-06	4,08E-04	1,59E-01	0,00E+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	3,90E+00	2,99E-02	8,52E-02	4,01E+00	3,97E-01	9,61E-02	MND	MND	MND	MND	MND	MND	MND	9,61E-02	2,41E-05	1,31E-02	1,69E-01	0,00E+00
Non-hazardous waste	kg	1,40E+02	5,00E-01	2,02E+00	1,42E+02	7,35E+00	1,31E+00	MND	MND	MND	MND	MND	MND	MND	1,31E+00	4,46E-04	3,20E-01	3,87E+00	0,00E+00
Radioactive waste	kg	9,50E-03	3,29E-06	3,66E-04	9,87E-03	5,00E-05	9,38E-06	MND	MND	MND	MND	MND	MND	MND	9,38E-06	3,03E-09	1,06E-07	2,35E-05	0,00E+00

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	2,49E+00	0,00E+00	0,00E+00	2,49E+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	4,22E+00	0,00E+00	0,00E+00	4,22E+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 energy rec	kg	1,15E-01	0,00E+00	0,00E+00	1,15E-01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	6,50E-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	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 – 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 ₂ e	1,70E+02	1,48E+00	3,17E+00	1,75E+02	1,61E+01	6,56E+00	MND	MND	MND	MND	MND	MND	MND	6,56E+00	9,74E-04	1,08E+00	6,19E+00	0,00E+00
Ozone depletion Pot.	kg CFC-11e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Acidification	kg SO ₂ e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Eutrophication	kg PO ₄ ³ e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
POCP (“smog”)	kg C ₂ H ₄ e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ADP-elements	kg Sbe	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ADP-fossil	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ADDITIONAL INDICATOR – GWP-GHG

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	1,61E+02	1,49E+00	3,19E+00	1,66E+02	1,62E+01	6,60E+00	MND	MND	MND	MND	MND	MND	MND	6,60E+00	9,80E-04	1,08E+00	6,25E+00	0,00E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO₂ is set to zero.

THIRD-PARTY 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.

Imane Uald Lamkaddam as an authorized verifier for EPD Hub Limited
14.08.2025

