



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

C 35/45 Frys

Gällivare Betong AB



EPD HUB, HUB-3696

Publishing date 25 July 2025, last updated on 25 July 2025, valid until 24 July 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	Gällivare Betong AB
Address	Box 175 98221 Gällivare, Sweden
Contact details	per@jankanpaa.se
Website	-

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
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Thorelundconsulting / Svante Karlsson
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	Magaly González Vázquez, 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	C 35/45 Frys
Additional labels	-
Product reference	-
Place(s) of raw material origin	Sverige
Place of production	Gällivare, Sweden
Place(s) of installation and use	Gällivare, Sweden
Period for data	Calendar year 2023
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	92,2

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m3 ready-mix concrete
Declared unit mass	2424 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	2,76E+02
GWP-total, A1-A3 (kgCO ₂ e)	2,77E+02
Secondary material, inputs (%)	0,4
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	756
Net freshwater use, A1-A3 (m ³)	1,05

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Gällivare Betong was founded in 2014

Production site Aitik mine 11 km south of Gällivare

We manufacture ready-mix concrete for customers in a very large geographical area consisting of

Gällivare, Kiruna, Pajala and Jokkmokk

PRODUCT DESCRIPTION

The product is a ready-mix concrete consisting of aggregates, cement, additives and water

The strength class of the product is 45 MPa at 28 days.

Typical physical properties for the product:

Density: 2424 kg/m³.

Volume: 1 cubic meter.

Water/cement ratio: <0,40

Cement: CEM II/A-V 42,5 N (Anläggningscement FA Slite)

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	100	Sweden
Fossil materials	-	-
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	-

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m ³ ready-mix concrete
Mass per declared unit	2424 kg
Functional unit	-
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	MND	MND	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 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.

Ready-mix concrete production starts by transporting the binders, aggregates and additives to the manufacturing site and storing them into closed silos and containers. The distances have been measured based on satellite information from Google Maps, and euro 6 truck vehicles are used. The aggregates are dozed onto a scale and transferred to a concrete mixer. In the mixer, cement is added to the aggregates with water and additives then followed by wet mixing. After mixing, the concrete mass is unloaded from the mixer into a rotating mixer on the concrete mixer truck, which is transported to the construction site. There is no packaging in the product. But ancillary materials are considered. Also Manufacturing Waste and respective end-of-waste scenarios for the outputs were considered and based on primary data. Finally, the transportation assumptions and distances for A3 waste-processing facilities were based on primary data, and the distances, modal and type of vehicle representative for each case. Energy sources profile is a mix of renewable energy that supplies the manufacturing site (Nuclear, Wind and Hydro). Production losses considered for concrete production is 0,5% 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)

This EPD does not cover the transport and installation phase. Air, soil, and water impacts during the use phase have not been studied.

PRODUCT USE AND MAINTENANCE (B1-B7)

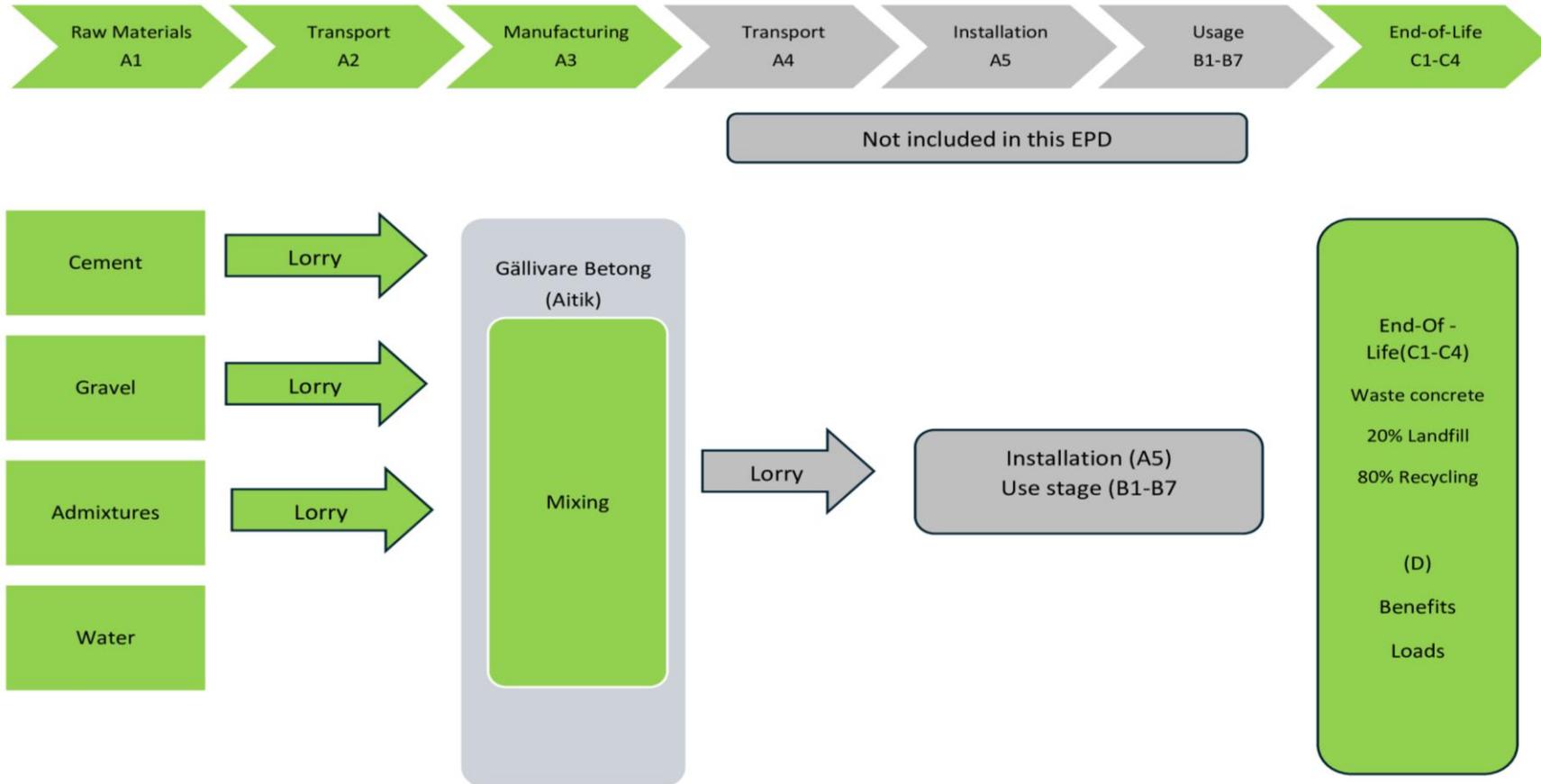
This EPD does not cover the use phase. Air, soil, and water impacts during the use phase have not been studied.

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

PRODUCT END OF LIFE (C1-C4, D)

At the end-of-life, in the demolition phase 100% of the waste is assumed to be collected as separate construction waste. The demolition process consumes energy in the form of diesel fuel used by building machines. Energy consumption of a demolition process is on the average 10 kWh/m² (Bozdağ, Ö & Seçer, M. 2007). Basing on a Level(s) project, an average mass of a reinforced concrete building is about 1000 kg/m². Therefore, energy consumption demolition is assumed to be 10 kWh/1000 kg = 0,01 kWh/kg. The source of energy is diesel fuel used by work machines (C1). The demolished concrete pieces are delivered to the nearest construction waste treatment plant. It is estimated that there is no mass loss during the use of the product, therefore the end-of-life product is assumed that it has the same weight with the declared product. Transportation distance to the closest disposal area is estimated as 50 km and the transportation method is lorry which is the most common (C2). At the waste treatment plant, waste that can be reused, recycled or recovered for energy is separated and diverted for further use. It can be assumed that 100% of the concrete are transported to a waste treatment plant, where the concrete is crushed and separated. About 80% of concrete (Betoniteollisuus ry, 2020) is recycled. The process losses of the waste treatment plant are assumed to be negligible (C3). The remaining 20% of concrete is assumed to be sent to the landfill (C4). Due to the recycling potential of concrete, it can be used as secondary raw material, which avoids the use of virgin raw materials. The 80 % of concrete going to waste processing is converted into secondary raw materials after recycling

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.

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	Allocated by mass or volume
Packaging material	Not applicable
Ancillary materials	Not applicable
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, %	-

“There is no average result considered in this study since this EPD refers to one specific product produced in one production plant

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

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	2,58E+02	1,21E+01	7,15E+00	2,77E+02	MND	8,74E+00	1,31E+01	3,03E+00	3,49E+01	0,00E+00								
GWP – fossil	kg CO ₂ e	2,57E+02	1,21E+01	6,81E+00	2,76E+02	MND	8,74E+00	1,30E+01	3,03E+00	3,49E+01	0,00E+00								
GWP – biogenic	kg CO ₂ e	2,71E-01	2,74E-03	1,06E-02	2,85E-01	MND	8,92E-04	2,96E-03	-9,63E-04	-8,57E-03	0,00E+00								
GWP – LULUC	kg CO ₂ e	2,53E-01	5,41E-03	3,26E-01	5,84E-01	MND	8,95E-04	5,84E-03	1,73E-03	1,53E-02	0,00E+00								
Ozone depletion pot.	kg CFC-11e	1,72E-06	1,79E-07	1,06E-07	2,00E-06	MND	1,34E-07	1,93E-07	8,77E-08	8,10E-07	0,00E+00								
Acidification potential	mol H ⁺ e	5,38E-01	4,12E-02	5,92E-02	6,39E-01	MND	7,89E-02	4,45E-02	2,15E-02	1,88E-01	0,00E+00								
EP-freshwater ²⁾	kg Pe	1,10E-02	9,42E-04	1,13E-03	1,31E-02	MND	2,52E-04	1,02E-03	2,49E-04	2,55E-03	0,00E+00								
EP-marine	kg Ne	1,67E-01	1,36E-02	3,78E-02	2,18E-01	MND	3,66E-02	1,46E-02	8,18E-03	7,30E-02	0,00E+00								
EP-terrestrial	mol Ne	1,98E+00	1,47E-01	2,93E-01	2,42E+00	MND	4,01E-01	1,59E-01	8,93E-02	7,97E-01	0,00E+00								
POCP (“smog”) ³⁾	kg NMVOCe	5,16E-01	6,08E-02	8,75E-02	6,65E-01	MND	1,19E-01	6,56E-02	3,20E-02	2,86E-01	0,00E+00								
ADP-minerals & metals ⁴⁾	kg Sbe	7,41E-02	3,37E-05	6,49E-06	7,41E-02	MND	3,13E-06	3,64E-05	4,81E-06	9,18E-05	0,00E+00								
ADP-fossil resources	MJ	2,10E+03	1,76E+02	2,20E+02	2,49E+03	MND	1,14E+02	1,89E+02	7,43E+01	6,23E+02	0,00E+00								
Water use ⁵⁾	m ³ e depr.	4,83E+01	8,67E-01	1,21E+01	6,13E+01	MND	2,86E-01	9,35E-01	2,14E-01	2,51E+00	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

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	3,62E-06	1,21E-06	1,66E-06	6,49E-06	MND	2,24E-06	1,31E-06	4,88E-07	4,17E-06	0,00E+00								
Ionizing radiation ⁶⁾	kBq 11235e	3,81E+01	1,53E-01	1,10E+01	4,92E+01	MND	5,06E-02	1,65E-01	4,67E-02	6,16E-01	0,00E+00								
Ecotoxicity (freshwater)	CTUe	9,92E+02	2,48E+01	3,32E+01	1,05E+03	MND	6,29E+00	2,68E+01	6,23E+00	6,76E+01	0,00E+00								
Human toxicity, cancer	CTUh	5,55E-08	2,00E-09	1,20E-09	5,87E-08	MND	8,98E-10	2,15E-09	5,58E-10	8,05E-09	0,00E+00								
Human tox. non-cancer	CTUh	7,53E-07	1,14E-07	6,55E-08	9,32E-07	MND	1,42E-08	1,23E-07	1,28E-08	2,80E-07	0,00E+00								
SQP ⁷⁾	-	3,59E+02	1,77E+02	7,70E+00	5,44E+02	MND	8,01E+00	1,91E+02	1,46E+02	8,29E+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	1,23E+02	2,41E+00	3,32E+01	1,59E+02	MND	7,24E-01	2,59E+00	7,17E-01	8,62E+00	0,00E+00								
Renew. PER as material	MJ	8,13E-01	0,00E+00	-4,05E-03	8,09E-01	MND	0,00E+00	0,00E+00	-6,48E-01	-1,62E-01	0,00E+00								
Total use of renew. PER	MJ	1,24E+02	2,41E+00	3,32E+01	1,60E+02	MND	7,24E-01	2,59E+00	6,94E-02	8,46E+00	0,00E+00								
Non-re. PER as energy	MJ	1,46E+03	1,76E+02	2,20E+02	1,85E+03	MND	1,14E+02	1,89E+02	7,43E+01	6,23E+02	0,00E+00								
Non-re. PER as material	MJ	2,55E+01	0,00E+00	-1,27E-01	2,54E+01	MND	0,00E+00	0,00E+00	-2,03E+01	-5,07E+00	0,00E+00								
Total use of non-re. PER	MJ	1,48E+03	1,76E+02	2,20E+02	1,88E+03	MND	1,14E+02	1,89E+02	5,40E+01	6,18E+02	0,00E+00								
Secondary materials	kg	9,80E+00	7,47E-02	5,19E-02	9,92E+00	MND	4,75E-02	8,06E-02	1,87E-02	2,23E-01	0,00E+00								
Renew. secondary fuels	MJ	3,00E+02	9,49E-04	1,33E-04	3,00E+02	MND	1,24E-04	1,02E-03	3,87E-04	3,36E-03	0,00E+00								
Non-ren. secondary fuels	MJ	4,10E+02	0,00E+00	0,00E+00	4,10E+02	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00								
Use of net fresh water	m ³	7,40E-01	2,60E-02	2,83E-01	1,05E+00	MND	7,56E-03	2,80E-02	7,72E-02	3,55E-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	1,11E+01	2,97E-01	1,70E-01	1,16E+01	MND	1,27E-01	3,21E-01	8,20E-02	7,98E-01	0,00E+00								
Non-hazardous waste	kg	8,41E+01	5,50E+00	6,10E+02	7,00E+02	MND	1,73E+00	5,94E+00	1,87E+00	1,74E+01	0,00E+00								
Radioactive waste	kg	1,21E-02	3,74E-05	2,29E-03	1,44E-02	MND	1,24E-05	4,04E-05	1,14E-05	1,52E-04	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00								
Materials for recycling	kg	3,16E-01	0,00E+00	1,21E+01	1,24E+01	MND	0,00E+00	0,00E+00	0,00E+00	1,94E+03	0,00E+00								
Materials for energy rec	kg	9,33E-04	0,00E+00	5,71E-06	9,38E-04	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00								
Exported energy	MJ	1,78E-02	0,00E+00	0,00E+00	1,78E-02	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	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	MND	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	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	3,04E+02	1,20E+01	7,18E+00	3,24E+02	MND	8,69E+00	1,30E+01	3,00E+00	3,47E+01	0,00E+00								
Ozone depletion Pot.	kg CFC-11e	8,51E-06	1,43E-07	8,49E-08	8,74E-06	MND	1,06E-07	1,54E-07	6,96E-08	6,44E-07	0,00E+00								
Acidification	kg SO ₂ e	7,19E-01	3,15E-02	4,19E-02	7,93E-01	MND	5,55E-02	3,40E-02	1,59E-02	1,39E-01	0,00E+00								
Eutrophication	kg PO ₄ ³ e	2,17E-01	7,68E-03	1,70E-02	2,42E-01	MND	1,30E-02	8,28E-03	5,05E-03	3,93E-02	0,00E+00								
POCP (“smog”)	kg C ₂ H ₄ e	2,94E-02	2,81E-03	3,15E-03	3,54E-02	MND	4,16E-03	3,03E-03	1,50E-03	1,25E-02	0,00E+00								
ADP-elements	kg Sbe	2,46E-03	3,29E-05	6,59E-06	2,50E-03	MND	3,05E-06	3,55E-05	4,71E-06	8,97E-05	0,00E+00								
ADP-fossil	MJ	1,69E+03	1,73E+02	8,83E+01	1,96E+03	MND	1,13E+02	1,87E+02	7,35E+01	6,13E+02	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	2,57E+02	1,21E+01	7,14E+00	2,77E+02	MND	8,74E+00	1,31E+01	3,03E+00	3,49E+01	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.

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.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited
25.07.2025

