ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

High Mast - Section
AB Varmförzinkning

EPD HUB, HUB-3441
Publishing date 13 June 2025, last updated on 13 June 2025, valid until 12 June 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	AB Varmförzinkning
Address	Fållinge Industriområde 1, 333 91 Smålandsstenar, Sweden
Contact details	info@varmforzinkning.se
Website	www.varmforzinkning.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
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4, and modules C1-C4, D
EPD author	Therese Nygren
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ 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	High Mast - Section
Additional labels	-
Product reference	-
Place(s) of raw material origin	EU
Place of production	Smålandsstenar, Sweden
Place(s) of installation and use	Sweden
Period for data	01/01/2024 - 31/12/2024
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 (%)	46,4

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	1,50E+00
GWP-total, A1-A3 ($kgCO_2e$)	1,54E+00
Secondary material, inputs (%)	116
Secondary material, outputs (%)	85,9
Total energy use, A1-A3 (kWh)	10,7
Net freshwater use, A1-A3 (m^3)	0,05

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

AB Varmförzinkning is since the 1960s located in Smålandsstenar, Sweden. We are a family-owned company that now has the third generation engaged in the company to build towards the future.
With hot dip galvanized steel products such as lightning poles, mast and railing we´re looking for solutions and prefer a close collaboration with our clients. AB Varmförzinkning develop, produce and sell our products with trust, vicinity and simplicity.
In our factory we have the whole chain, from the first raw material to the finished galvanized product.
This gives us the opportunity for a delivery to be correctly executed and to be more environmentally friendly.
AB Varmförzinkning is driven towards new goals and to continuously improve ourselves in order to fulfill our clients´ expectations and requirements.

PRODUCT DESCRIPTION

A hot dip galvanized steel high mast, that comes in section of 6 meters and has 3 sides. The mast can be as high as up to 48 meters depending on the preference of the customer. The high mast sections are CE-certified according to SS-EN 1090 - 2, EXC. 2 - Execution of steel structures and aluminium structures, calculated according to SS-EN 1993 - 3 Design of steel structures and is categorized in security class 3.

Our mast is often used for lightning or camera surveillance at public spaces; they can also be used to hold for example safety net at golf courses.

Further information can be found at www.varmforzinkning.se

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	100	EU
Minerals	0	-
Fossil materials	0	-
Bio-based materials	0	-

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	1,73

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 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	x	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 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 details that are produced to become the finished product go through different stages; they are cut, shaped and welded together before being hot dipped galvanized (HDG).
In the producing process the use of hydraulic oils, cutting emulsions and other lubrication oils are to reduce the wear and to protect the machines.
The manufacturing process requires electricity (in our case 100 % renewable) for powering the machinery and also fuels for heating the facility.
The finished product is being packed and prepared for distribution, which sometimes includes wooden litter.
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-rules. Our calculated average transportation distance from the manufacturing site to building site is estimated to 255 km and the assumed transportation method is lorry.
The lorry´s capacity assumes to be a full load; in reality it may differ although in the end with a negligible result.
The return trip for the lorry is not taken into account due to that assumption is that the transportation company use this trip to accommodate other clients´ need for transportation.
This EPD does not cover A5 the installation.

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.

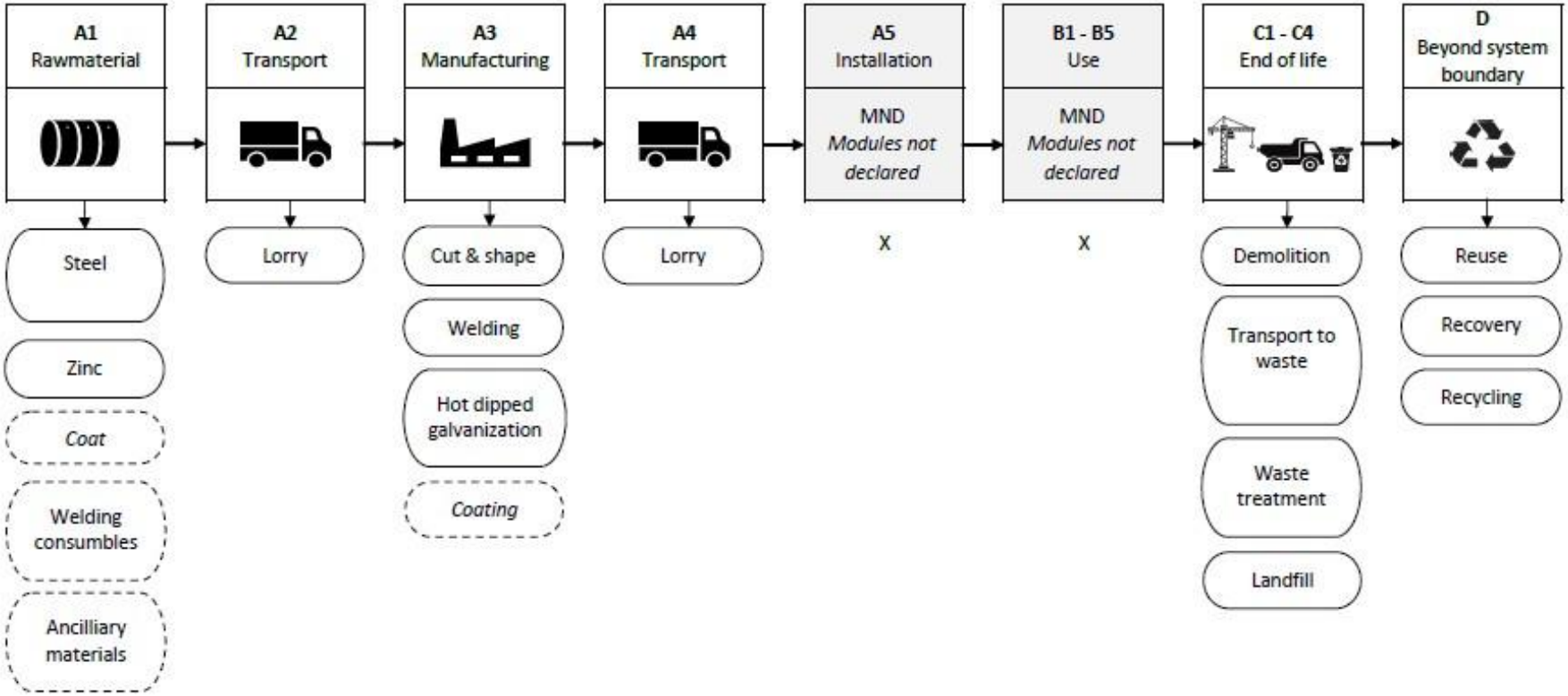
PRODUCT END OF LIFE (C1-C4, D)

Demolition and dismantling of the product are assumed to consume 0,01 kWh / kg. The source of energy is diesel fuel used by construction machines (C1).
We assume that all waste is being collected and transported to a waste treatment center and assume that the transportation distance is 50 km. The assumed method of transportation is lorry.

According to the World steel association that assumes that 85 % of the waste from the steel product is transported for recycling (C3) and 15 % is used for landfill as a final disposal (C4). When looking at the recycling process, the end-of-life product is converted into recycled steel (D).

The packaging (wood litter) is divided into several end of life scenarios according to "Eurostat & BuildLCA 2020", 50 % goes to energy recovery, 26 % goes to recycling and 24 % goes to landfill.

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.

This LCA study includes the provision of all materials, transportation, energy and emission flows, and end of life processing of product. All industrial processes from raw material acquisition and pre-processing, production, product distribution and end-of-life management are included. Due to lack of data, some ancillary materials are excluded but they do not exceed the 1% cut-off criteria. These include materials which are used in the product manufacturing only in very small amounts and have a negligible impact on the emissions of the product. 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	Allocated by mass or volume
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

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	9,72E-01	5,11E-02	5,18E-01	1,54E+00	2,85E-02	MND	MND	MND	MND	MND	MND	MND	MND	3,61E-03	5,96E-03	1,96E-02	1,03E-03	-1,35E+00
GWP – fossil	kg CO_2e	9,71E-01	5,10E-02	4,76E-01	1,50E+00	2,85E-02	MND	MND	MND	MND	MND	MND	MND	MND	3,60E-03	5,96E-03	1,96E-02	1,03E-03	-1,33E+00
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,50E-02
GWP – LULUC	kg CO_2e	1,34E-03	2,28E-05	4,17E-02	4,31E-02	1,27E-05	MND	MND	MND	MND	MND	MND	MND	MND	3,69E-07	2,67E-06	2,40E-05	5,96E-07	-2,10E-03
Ozone depletion pot.	kg CFC_{-11}e	7,93E-09	7,53E-10	1,01E-08	1,87E-08	4,21E-10	MND	MND	MND	MND	MND	MND	MND	MND	5,52E-11	8,80E-11	2,62E-10	2,95E-11	-7,25E-09
Acidification potential	mol H^+e	4,31E-03	1,74E-04	2,85E-03	7,33E-03	9,71E-05	MND	MND	MND	MND	MND	MND	MND	MND	3,25E-05	2,03E-05	2,32E-04	7,30E-06	-6,25E-03
EP-freshwater[2)]	kg Pe	4,37E-04	3,97E-06	1,02E-04	5,42E-04	2,22E-06	MND	MND	MND	MND	MND	MND	MND	MND	1,04E-07	4,64E-07	1,25E-05	1,50E-07	-6,60E-04
EP-marine	kg Ne	9,85E-04	5,72E-05	1,54E-03	2,59E-03	3,19E-05	MND	MND	MND	MND	MND	MND	MND	MND	1,51E-05	6,68E-06	5,22E-05	5,61E-06	-1,22E-03
EP-terrestrial	mol Ne	1,03E-02	6,22E-04	8,82E-03	1,97E-02	3,47E-04	MND	MND	MND	MND	MND	MND	MND	MND	1,65E-04	7,27E-05	5,87E-04	3,04E-05	-1,31E-02
POCP ("smog")[3)]	kg NMVOCe	3,05E-03	2,56E-04	1,31E-03	4,62E-03	1,43E-04	MND	MND	MND	MND	MND	MND	MND	MND	4,93E-05	3,00E-05	1,73E-04	1,10E-05	-4,42E-03
ADP-minerals & metals[4)]	kg Sbe	8,51E-05	1,42E-07	3,92E-06	8,91E-05	7,95E-08	MND	MND	MND	MND	MND	MND	MND	MND	1,29E-09	1,66E-08	1,36E-06	1,70E-09	-7,19E-05
ADP-fossil resources	MJ	1,27E+01	7,41E-01	1,12E+01	2,47E+01	4,13E-01	MND	MND	MND	MND	MND	MND	MND	MND	4,72E-02	8,65E-02	2,62E-01	2,51E-02	-1,37E+01
Water use[5)]	m^3e depr.	5,03E-01	3,66E-03	1,63E+00	2,13E+00	2,04E-03	MND	MND	MND	MND	MND	MND	MND	MND	1,18E-04	4,27E-04	5,26E-03	7,63E-05	-4,67E-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	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	5,91E-08	5,11E-09	2,55E-08	8,98E-08	2,85E-09	MND	MND	MND	MND	MND	MND	MND	MND	9,25E-10	5,97E-10	3,14E-09	1,66E-10	-9,84E-08
Ionizing radiation[6)]	kBq U235e	1,71E-01	6,45E-04	5,14E-01	6,85E-01	3,60E-04	MND	MND	MND	MND	MND	MND	MND	MND	2,09E-05	7,54E-05	2,23E-03	1,65E-05	-4,13E-02
Ecotoxicity (freshwater)	CTUe	2,45E+01	1,05E-01	5,11E+00	2,97E+01	5,85E-02	MND	MND	MND	MND	MND	MND	MND	MND	2,60E-03	1,22E-02	1,52E-01	2,92E-03	-2,01E+01
Human toxicity, cancer	CTUh	3,34E-09	8,42E-12	3,29E-10	3,67E-09	4,70E-12	MND	MND	MND	MND	MND	MND	MND	MND	3,71E-13	9,84E-13	1,77E-11	2,01E-13	-2,07E-09
Human tox. non-cancer	CTUh	2,51E-08	4,79E-10	9,35E-09	3,49E-08	2,68E-10	MND	MND	MND	MND	MND	MND	MND	MND	5,87E-12	5,60E-11	1,20E-09	6,20E-12	-2,34E-08
SQP[7)]	-	2,99E+00	7,46E-01	1,66E+01	2,03E+01	4,16E-01	MND	MND	MND	MND	MND	MND	MND	MND	3,30E-03	8,71E-02	5,03E-01	5,01E-02	-4,40E+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	1,82E+00	1,01E-02	1,32E+01	1,50E+01	5,67E-03	MND	MND	MND	MND	MND	MND	MND	MND	2,99E-04	1,19E-03	-2,56E-01	-1,42E-01	-1,82E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,10E-01
Total use of renew. PER	MJ	1,82E+00	1,01E-02	1,32E+01	1,50E+01	5,67E-03	MND	MND	MND	MND	MND	MND	MND	MND	2,99E-04	1,19E-03	-2,56E-01	-1,42E-01	-1,71E+00
Non-re. PER as energy	MJ	1,27E+01	7,41E-01	1,02E+01	2,36E+01	4,13E-01	MND	MND	MND	MND	MND	MND	MND	MND	4,72E-02	8,65E-02	2,62E-01	2,51E-02	-1,37E+01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	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	1,27E+01	7,41E-01	1,02E+01	2,36E+01	4,13E-01	MND	MND	MND	MND	MND	MND	MND	MND	4,72E-02	8,65E-02	2,62E-01	2,51E-02	-1,37E+01
Secondary materials	kg	1,16E+00	3,15E-04	3,73E-03	1,16E+00	1,76E-04	MND	MND	MND	MND	MND	MND	MND	MND	1,96E-05	3,68E-05	3,21E-04	6,53E-06	-5,06E-02
Renew. secondary fuels	MJ	1,11E-04	4,00E-06	4,20E-05	1,57E-04	2,24E-06	MND	MND	MND	MND	MND	MND	MND	MND	5,12E-08	4,68E-07	1,46E-05	1,34E-07	-1,43E-04
Non-ren. secondary fuels	MJ	1,83E-20	0,00E+00	0,00E+00	1,83E-20	0,00E+00	MND	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	1,44E-02	1,09E-04	3,82E-02	5,27E-02	6,11E-05	MND	MND	MND	MND	MND	MND	MND	MND	3,12E-06	1,28E-05	1,42E-04	-7,18E-06	-1,05E-02

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	4,17E-01	1,25E-03	6,35E-02	4,82E-01	7,00E-04	MND	MND	MND	MND	MND	MND	MND	MND	5,25E-05	1,47E-04	1,81E-03	2,90E-05	-5,48E-01
Non-hazardous waste	kg	1,70E+00	2,32E-02	4,57E-01	2,18E+00	1,30E-02	MND	MND	MND	MND	MND	MND	MND	MND	7,15E-04	2,71E-03	7,96E-02	4,23E-02	-3,39E+00
Radioactive waste	kg	1,08E-04	1,58E-07	1,10E-04	2,18E-04	8,81E-08	MND	MND	MND	MND	MND	MND	MND	MND	5,12E-09	1,84E-08	5,71E-07	4,02E-09	-1,06E-05

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	MND	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	0,00E+00	0,00E+00	1,86E-01	1,86E-01	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,59E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	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	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	3,50E-02	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	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,80E-02	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	1,51E+00	5,08E-02	5,07E-01	2,06E+00	2,83E-02	0,00E+00	MND	MND	MND	MND	MND	MND	MND	3,59E-03	5,93E-03	1,95E-02	1,51E-03	-1,33E+00
Ozone depletion Pot.	kg CFC_{-11}e	3,58E-08	6,01E-10	9,36E-09	4,58E-08	3,36E-10	0,00E+00	MND	MND	MND	MND	MND	MND	MND	4,37E-11	7,02E-11	2,16E-10	2,35E-11	-6,92E-09
Acidification	kg SO_2e	7,51E-03	1,33E-04	1,68E-03	9,32E-03	7,42E-05	0,00E+00	MND	MND	MND	MND	MND	MND	MND	2,29E-05	1,55E-05	1,86E-04	5,41E-06	-5,13E-03
Eutrophication	kg PO_4^3e	7,45E-04	3,24E-05	3,72E-03	4,50E-03	1,81E-05	0,00E+00	MND	MND	MND	MND	MND	MND	MND	5,34E-06	3,78E-06	2,74E-05	1,95E-06	-8,10E-04
POCP (“smog”)	kg C_2H_4e	5,58E-04	1,18E-05	8,69E-05	6,57E-04	6,61E-06	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,71E-06	1,38E-06	1,11E-05	6,09E-07	-6,22E-04
ADP-elements	kg Sbe	8,35E-05	1,39E-07	2,90E-06	8,66E-05	7,75E-08	0,00E+00	MND	MND	MND	MND	MND	MND	MND	1,26E-09	1,62E-08	1,36E-06	1,66E-09	-7,18E-05
ADP-fossil	MJ	1,85E+01	7,30E-01	4,26E+00	2,35E+01	4,08E-01	0,00E+00	MND	MND	MND	MND	MND	MND	MND	4,68E-02	8,53E-02	2,23E-01	2,48E-02	-1,30E+01

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	9,72E-01	5,11E-02	5,18E-01	1,54E+00	2,85E-02	MND	MND	MND	MND	MND	MND	MND	MND	3,61E-03	5,96E-03	1,96E-02	1,03E-03	-1,33E+00

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

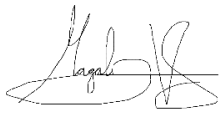
I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried 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.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited
13.06.2025



VERIFIED ISO 14025