ENVIRONMENTAL PRODUCT DECLARATION

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

Pre-galvanized products From Stago BV

Stago BV

EPD HUB, HUB-1623

Publishing date 06 October 2024, last updated on 06 October 2024, valid until 06 October 2029.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Stago BV
Address	Electronweg 1, 1627 LB Hoorn, The Netherland
Contact details	inquiry-INT@wibe-group.com
Website	https://wibe-group.com/

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
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	Jeremy MELUN
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

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	Pre-galvanized products From Stago BV
Additional labels	-
Product reference	-
Place of production	Hoorn / Netherlands
Period for data	01/01/2023-31/12/2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg PG Cable Support Product
Declared unit mass	1 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	2,51E+00
GWP-total, A1-A3 ($kgCO_2e$)	2,47E+00
Secondary material, inputs (%)	26.8
Secondary material, outputs (%)	95
Total energy use, A1-A3 (kWh)	8.24
Net freshwater use, A1-A3 (m^3)	0.02

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Wibe Group has nearly a 100-year-long history of continuous development. It started in Mora with Anders Wikstrand's invention of the hexagon shaped ladder. Today we are in a new and exciting development phase with renewed vigor and a desire to show what we can do together with our customers. With our four strong brands Wibe, Stago, Mita and Defem, we offer a complete, innovative range of cable ladders, cable trays, mesh trays and installation system – for applications ranging from commercial buildings to extreme demanding industrial environments.

PRODUCT DESCRIPTION

The cable support system is as essential for the building's infrastructure as the bone structure is for the body. Stago pre-galvanized cable support systems are suitable for areas with low levels of environmental corrosion, humidity and airborne pollution. Typical applications are non-heated indoor industrial areas, sports halls, warehouses or shopping centers.

This EPD covers the cable support products made from pre-galvanized material, produced at Wibe Group / Stago production plant located in Hoorn, the Netherlands. The cable support system consists of cable trays, cable ladders, joints, pendants, cantilevers and accessories.

Galvanization is the process of coating iron and steel with zinc, which alloys with the surface of the base metal when immersing the metal in a bath of molten zinc at a temperature of around 450 °C (842 °F). When exposed to the atmosphere, the pure zinc (Zn) reacts with oxygen (O2) to form zinc oxide (ZnO), which further reacts with carbon dioxide (CO2) to form zinc carbonate (ZnCO3), a usually dull grey, fairly strong material that protects the steel underneath from further corrosion in many circumstances.

Galvanized steel is widely used in applications where corrosion resistance is needed and is considered superior in terms of cost and life-cycle. Pre-galvanization is a form of galvanization which is done already at the steel mill directly on the flat steel raw material. This process results in lower layer thickness compared Hot dip galvanization post-processing.

Cable support systems
Manufacturer of cable trays, cable ladders, mesh trays and installation systems. Our brands: Stago, Wibe, Defem, Mita.

Further information can be found at https://wibe-group.com/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals (Steel and Zinc)	100	Europe
Minerals	-	-
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	0.00808

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg PG Cable Support Product
Mass per declared unit	1 kg
Functional unit	-
Reference service life	Experience shows +20 years in C2 environment according to EN ISO 12944-2

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 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.

Raw material consists of steel purchased in tubes, coils or sheets. The distance between exact manufacturer location and Stago factory has been considered. Raw materials are delivered by trucks, mainly via EURO6. The manufacturing process includes a variation of process steps like cutting, punching and forming of the steel raw material. During manufacturing of 1 kg final product, 0.125kg production loss has been considered in the calculations. All production waste is being sent to several different recycling facilities. 100% renewable energy - wind- and solar powered electricity is being used for manufacturing. Finally, the products are stored as is, or packed in either wood crates, pallets, cardboard boxes or plastic bags.

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 assumed as 348 km by lorry based on 1 year delivery data. Vehicle capacity utilization volume factor is assumed to be 100% which means full load. In reality, this may vary but as the role of transportation emissions on the 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 as products are packaged properly. For installation of the product, a small hand drill will be enough. 0.01 kWh is required to assemble 1kg of PG product. As manufacturing waste packaging materials has been considered. 95% of packaging (Plastic, wood, paper) considered to be recycled and 5% has been considered as landfill.

PRODUCT USE AND MAINTENANCE (B1-B7)

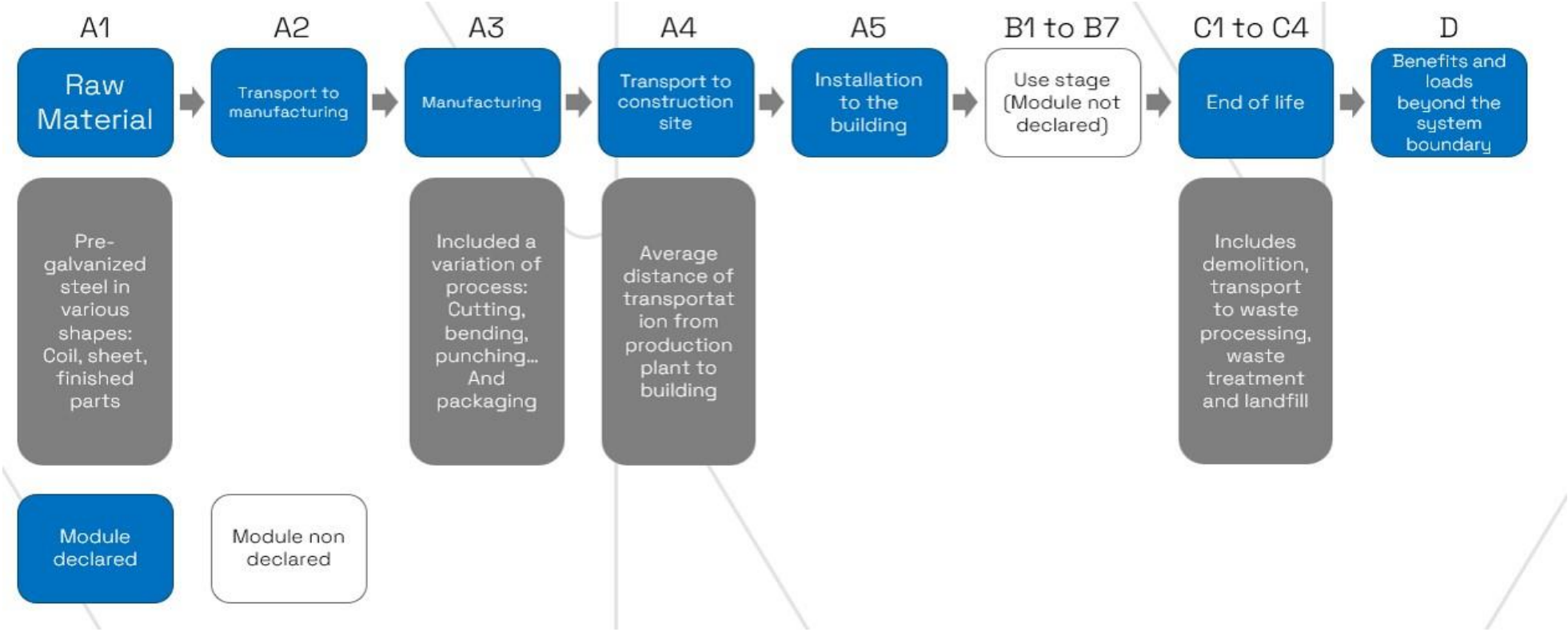
This EPD does not cover the use phase.

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

PRODUCT END OF LIFE (C1-C4, D)

Disassembly is assumed to consume 0,001 kWh/kg of product. Small hand drill have been considered similar to mounting of the product. Transportation distance to treatment is assumed as 30 km and the transportation method is assumed to be lorry (C2). Approximately 95% of steel is assumed to be recycled based on World Steel Association, 2020 (C3). It is assumed that the remaining 5% of steel is taken to landfill for final disposal (C4). Due to the recycling process, the end-of-life product is converted into recycled steel, while the wooden pallet is incinerated for energy recovery (D).

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	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

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 v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases as sources of environmental data.

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	2,36E+00	2,01E-02	9,31E-02	2,47E+00	5,78E-02	3,71E-02	MND	MND	MND	MND	MND	MND	MND	6,02E-05	8,15E-03	2,08E-02	2,64E-04	-1,41E+00
GWP – fossil	kg CO_2e	2,36E+00	2,01E-02	1,30E-01	2,51E+00	5,78E-02	5,63E-04	MND	MND	MND	MND	MND	MND	MND	6,01E-05	8,14E-03	2,08E-02	2,63E-04	-1,41E+00
GWP – biogenic	kg CO_2e	1,46E-03	0,00E+00	-3,65E-02	-3,50E-02	0,00E+00	3,65E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,95E-03
GWP – LULUC	kg CO_2e	1,25E-03	7,40E-06	8,42E-05	1,34E-03	2,31E-05	5,62E-07	MND	MND	MND	MND	MND	MND	MND	8,92E-08	3,26E-06	2,73E-05	2,49E-07	-3,17E-04
Ozone depletion pot.	kg CFC-$_{11}$e	1,16E-07	4,61E-09	8,92E-09	1,30E-07	1,34E-08	4,75E-11	MND	MND	MND	MND	MND	MND	MND	2,95E-12	1,89E-09	2,57E-09	1,07E-10	-3,79E-08
Acidification potential	mol H^+e	2,14E-02	8,48E-05	2,91E-04	2,17E-02	1,64E-04	1,99E-06	MND	MND	MND	MND	MND	MND	MND	3,42E-07	2,31E-05	2,64E-04	2,48E-06	-5,35E-03
EP-freshwater[2)]	kg Pe	1,07E-04	1,64E-07	5,83E-06	1,13E-04	4,12E-07	2,47E-08	MND	MND	MND	MND	MND	MND	MND	7,46E-09	5,81E-08	1,12E-06	2,76E-09	-1,04E-05
EP-marine	kg Ne	2,28E-03	2,52E-05	7,44E-05	2,38E-03	3,27E-05	4,13E-07	MND	MND	MND	MND	MND	MND	MND	4,25E-08	4,62E-06	5,58E-05	8,57E-07	-1,07E-03
EP-terrestrial	mol Ne	7,76E-02	2,78E-04	7,41E-04	7,87E-02	3,64E-04	4,44E-06	MND	MND	MND	MND	MND	MND	MND	4,82E-07	5,13E-05	6,45E-04	9,43E-06	-1,23E-02
POCP ("smog")[3)]	kg NMVOCe	1,05E-02	8,89E-05	2,40E-04	1,08E-02	1,40E-04	1,35E-06	MND	MND	MND	MND	MND	MND	MND	1,34E-07	1,97E-05	1,77E-04	2,74E-06	-6,39E-03
ADP-minerals & metals[4)]	kg Sbe	4,41E-05	4,72E-08	6,99E-07	4,48E-05	2,09E-07	2,47E-09	MND	MND	MND	MND	MND	MND	MND	5,24E-10	2,94E-08	2,80E-06	6,05E-10	-2,10E-05
ADP-fossil resources	MJ	2,54E+01	3,01E-01	1,80E+00	2,75E+01	8,60E-01	6,81E-03	MND	MND	MND	MND	MND	MND	MND	1,20E-03	1,21E-01	2,82E-01	7,22E-03	-1,15E+01
Water use[5)]	m^3e depr.	1,02E+00	1,35E-03	2,30E-02	1,05E+00	4,02E-03	1,94E-04	MND	MND	MND	MND	MND	MND	MND	2,75E-05	5,67E-04	5,47E-03	2,29E-05	-3,11E-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, 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	2,66E-07	2,31E-09	1,98E-09	2,70E-07	4,65E-09	5,63E-11	MND	MND	MND	MND	MND	MND	MND	1,07E-12	6,56E-10	3,45E-09	4,99E-11	-8,36E-08
Ionizing radiation[6)]	kBq U235e	1,43E-01	1,44E-03	8,92E-03	1,54E-01	4,51E-03	1,18E-04	MND	MND	MND	MND	MND	MND	MND	2,91E-05	6,36E-04	3,15E-03	3,27E-05	-3,61E-02
Ecotoxicity (freshwater)	CTUe	7,88E+01	2,71E-01	1,60E+00	8,07E+01	7,17E-01	1,10E-02	MND	MND	MND	MND	MND	MND	MND	8,05E-04	1,01E-01	1,28E+00	4,71E-03	-4,88E+01
Human toxicity, cancer	CTUh	1,29E-08	6,66E-12	5,88E-11	1,29E-08	2,21E-11	6,03E-13	MND	MND	MND	MND	MND	MND	MND	2,75E-14	3,11E-12	3,91E-11	1,18E-13	-3,45E-09
Human tox. non-cancer	CTUh	5,79E-08	2,68E-10	1,15E-09	5,93E-08	7,02E-10	8,99E-12	MND	MND	MND	MND	MND	MND	MND	9,46E-13	9,90E-11	1,75E-09	3,08E-12	2,08E-07
SQP[7)]	-	5,53E+00	3,46E-01	3,41E+00	9,29E+00	6,10E-01	3,10E-03	MND	MND	MND	MND	MND	MND	MND	1,79E-04	8,61E-02	5,67E-01	1,54E-02	-4,90E+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	1,25E+00	3,40E-03	9,79E-01	2,23E+00	1,25E-02	7,86E-04	MND	MND	MND	MND	MND	MND	MND	2,14E-04	1,76E-03	5,00E-02	6,27E-05	-1,10E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,99E-01	2,99E-01	0,00E+00	-2,99E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,07E-01
Total use of renew. PER	MJ	1,25E+00	3,40E-03	1,28E+00	2,53E+00	1,25E-02	-2,99E-01	MND	MND	MND	MND	MND	MND	MND	2,14E-04	1,76E-03	5,00E-02	6,27E-05	-9,97E-01
Non-re. PER as energy	MJ	2,54E+01	3,01E-01	1,74E+00	2,74E+01	8,60E-01	6,81E-03	MND	MND	MND	MND	MND	MND	MND	1,20E-03	1,21E-01	2,82E-01	7,22E-03	-1,15E+01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	5,27E-03	5,27E-03	0,00E+00	-5,27E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,63E-04
Total use of non-re. PER	MJ	2,54E+01	3,01E-01	1,74E+00	2,74E+01	8,60E-01	1,53E-03	MND	MND	MND	MND	MND	MND	MND	1,20E-03	1,21E-01	2,82E-01	7,22E-03	-1,15E+01
Secondary materials	kg	2,68E-01	8,37E-05	1,44E-03	2,69E-01	2,93E-04	5,00E-06	MND	MND	MND	MND	MND	MND	MND	1,24E-07	4,13E-05	3,14E-04	1,52E-06	5,60E-01
Renew. secondary fuels	MJ	7,82E-05	8,45E-07	2,74E-03	2,82E-03	3,22E-06	3,36E-08	MND	MND	MND	MND	MND	MND	MND	1,11E-09	4,54E-07	1,63E-05	3,96E-08	-2,01E-04
Non-ren. secondary fuels	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
Use of net fresh water	m^3	2,29E-02	3,90E-05	8,15E-04	2,37E-02	1,10E-04	3,81E-06	MND	MND	MND	MND	MND	MND	MND	9,54E-07	1,55E-05	1,65E-04	7,90E-06	-9,09E-03

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	4,36E-01	3,99E-04	8,11E-03	4,45E-01	9,78E-04	2,78E-05	MND	MND	MND	MND	MND	MND	MND	4,41E-06	1,38E-04	1,92E-03	0,00E+00	-6,56E-01
Non-hazardous waste	kg	4,22E+00	6,56E-03	2,22E-01	4,45E+00	1,74E-02	2,06E-03	MND	MND	MND	MND	MND	MND	MND	3,42E-04	2,45E-03	6,12E-02	5,00E-02	-2,20E+00
Radioactive waste	kg	6,62E-05	2,02E-06	3,30E-06	7,15E-05	5,92E-06	4,47E-08	MND	MND	MND	MND	MND	MND	MND	8,21E-09	8,34E-07	1,65E-06	0,00E+00	-2,33E-06

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	0,00E+00	0,00E+00	5,50E-01	5,50E-01	0,00E+00	1,80E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,50E-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	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	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	2,52E+00	7,42E-03	1,26E-01	2,65E+00	5,72E-02	5,78E-04	MND	MND	MND	MND	MND	MND	MND	5,96E-05	8,07E-03	2,05E-02	2,58E-04	-1,34E+00
Ozone depletion Pot.	kg CFC_{-11}e	7,73E-08	1,37E-09	7,41E-09	8,61E-08	1,06E-08	3,86E-11	MND	MND	MND	MND	MND	MND	MND	2,55E-12	1,50E-09	2,08E-09	8,43E-11	-4,24E-08
Acidification	kg SO_2e	1,36E-02	2,46E-05	2,28E-04	1,39E-02	1,35E-04	1,63E-06	MND	MND	MND	MND	MND	MND	MND	2,92E-07	1,90E-05	2,13E-04	1,87E-06	-4,55E-03
Eutrophication	kg PO_4^3e	4,45E-03	5,59E-06	1,94E-04	4,65E-03	2,90E-05	2,03E-06	MND	MND	MND	MND	MND	MND	MND	2,60E-07	4,10E-06	7,05E-05	4,03E-07	-2,40E-03
POCP (“smog”)	kg C_2H_4e	1,00E-03	9,61E-07	1,60E-05	1,02E-03	6,80E-06	9,80E-08	MND	MND	MND	MND	MND	MND	MND	1,19E-08	9,59E-07	8,07E-06	7,84E-08	-7,15E-04
ADP-elements	kg Sbe	4,76E-05	1,71E-08	6,94E-07	4,83E-05	2,04E-07	2,44E-09	MND	MND	MND	MND	MND	MND	MND	5,23E-10	2,88E-08	2,80E-06	5,96E-10	-2,08E-05
ADP-fossil	MJ	1,51E+01	1,13E-01	1,80E+00	1,71E+01	8,60E-01	6,80E-03	MND	MND	MND	MND	MND	MND	MND	1,20E-03	1,21E-01	2,82E-01	7,22E-03	-1,15E+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

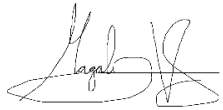
I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried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

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited
06.10.2024



VERIFIED ISO 14025