ENVIRONMENTAL PRODUCT DECLARATION

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

Plannja Infinity
Plannja AB

EPD HUB, HUB-3349
Published on 23.05.2025, last updated on 23.05.2025, valid until 23.11.2026

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	Plannja AB
Address	Ringvägen, 577 76 Järnforsen, Sweden
Contact details	mira.laukkanen@ruukki.com
Website	https://www.plannja.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	Design phase EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Mira Laukkanen, Ruukki Construction
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Imane Uald Lamkaddam as an authorized verifier for EPD Hub

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	Plannja Infinity
Additional labels	-
Product reference	-
Place of production	Järnforsen, Landsbro & Vetlanda, Sweden
Period for data	2024 (raw materials), 2023 (other)
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3 (%)	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	1,11E+00
GWP-total, A1-A3 ($kgCO_2e$)	9,57E-01
Secondary material, inputs (%)	100
Secondary material, outputs (%)	95
Total energy use, A1-A3 (kWh)	8,05
Net freshwater use, A1-A3 (m^3)	0,05

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Plannja develops and produces roof and façade profiles, door canopies, rainwater systems and accessories, for sustainable construction in the Nordic region. Plannja's head office is located in Järnforsen, Småland and has manufacturing in Järnforsen, Landsbro and Vetlanda in Sweden.

Plannja is a brand within Ruukki Construction. Ruukki Construction has a strong presence in 10 European countries and together we are part of SSAB, with shared values and long experience in the steel and construction industry. SSAB is a Nordic and US-based steel company with employees in over 50 countries. SSAB is listed on Nasdaq Stockholm and secondarily on Nasdaq Helsinki.

Our sustainability commitment is that we will contribute to carbon-neutral buildings. We will contribute in our own way so that, together with our customers, we can create a fossil-free value chain throughout the life cycle of a building. Our ambition is to be a pioneer in sustainability for the construction industry. Plannja is certified according to ISO 9001, ISO 14001 and ISO 45001.

At Plannja, we are continuously working to improve our operations and manufacturing processes from a sustainability perspective. The goal is a 70% reduction in carbon emissions from our own operations by 2030. We use 100% fossil-free electricity in both our offices and our production facilities.

PRODUCT DESCRIPTION

Plannja Infinity is made using recycled steel that is metal and color coated. Over 80 % of its content comes from external scrap (post- and pre-consumer) and 8 % from internal scrap from the manufacturing process. The properties of Plannja Infinity are the same as traditional steel with the possibility to recycle endlessly without quality degradation.

Plannja Infinity products includes profiles for roofing and exterior walls. These may also include roof finishings and door canopies.

The steel is an alloy of mainly iron and carbon, with small amounts of alloying and trace elements. Alloying elements improve the chemical and physical properties of steel, such as strength, ductility, and durability.

GreenCoat® PRO BT colour coated steel products are typically highly resistant to corrosion, UV radiation and mechanical wear. They provide builders with a lightweight material that is easy to work with, even down to -15°C. GreenCoat® PRO BT products – BT stands for Bio-based Technology - offer a coating where rapeseed oil and other renewable raw materials have been used.

Further information can be found at https://www.plannja.com/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	96,6	EU, USA
Minerals	0	-
Fossil materials	3,4	EU
Bio-based materials	0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,0004
Biogenic carbon content in packaging, kg C	0,04

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 kg
Functional unit	-
Reference service life	50 years

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.

Plannja Infinity products are made from SSAB Zero™ steel slabs. Production is based on an electric arc furnace (EAF) using scrap steel as a raw material and primary fossil-free electricity, biocoal and biofuels. Scrap steel along with raw materials, such as charge/injection carbon, lime and other additives, are added to the EAF, where electricity is used to melt the batch and make molten steel. The molten steel is cast into slabs. The slabs are hot rolled, pickled and cold rolled after which they are metal and color coated.

Steel has many advantages over other materials – it has a very long service life and is non-combustible. Steel is a fully recyclable material and scrap steel has a strong market position: steel recovered from structures and end products at the end of their lifecycle is efficiently recycled and re-used.

The raw material is transported to Plannja´s sites in Järnforsen, Landsbro and Vetlanda where the manufacturing is carried out. The product is produced in roll forming machines.

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 Infinity products are manufactured in Järnforsen, Landsbro and Vetlanda. Having production in Sweden is a way to optimise our logistics. By being close to our customers, we can streamline our transport and thereby reduce emissions.

Transport for the finished products is chosen on the basis of providing a minimal climate impact through logistical optimisation and varies between train and truck. Transport by truck is done with electricity, HVO100 or diesel.

Installation (A5) covers estimated consumption of electricity and diesel during installation, and the waste treatment of packaging material.

PRODUCT USE AND MAINTENANCE (B1-B7)

Use phase (B) is not taken into account in this EPD. Air, soil, and water impacts during the use phase have not been studied.

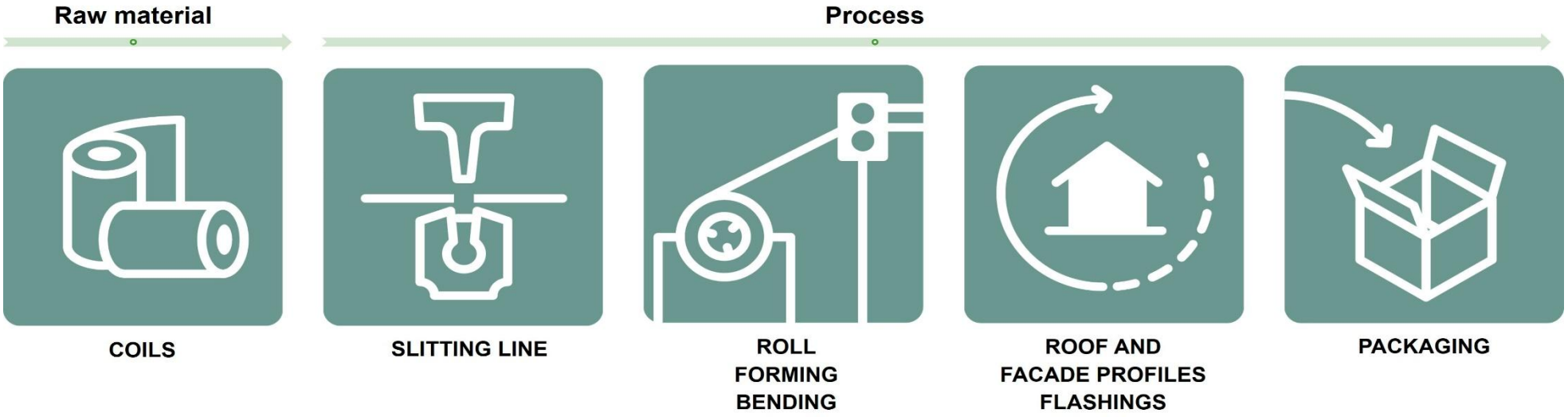
PRODUCT END OF LIFE (C1-C4, D)

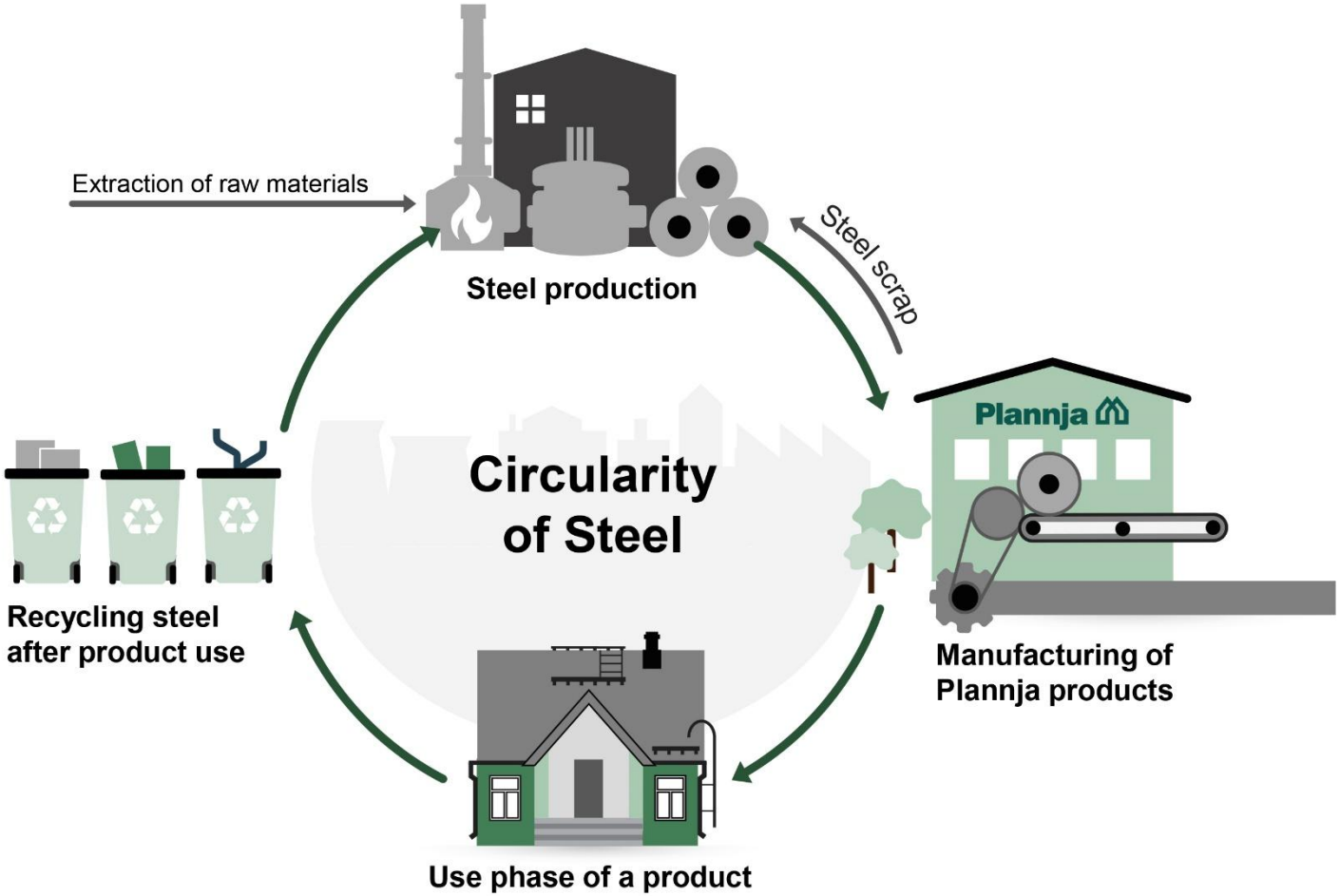
It is assumed that energy consumption of demolition process (C1) is 0,01 kWh/kg (Bozdag, Ö & Secer, M. 2007.) It is also assumed that the used energy source in C1 is diesel. After dismantling, the waste is transported to waste processing (C2). Transportation distance to waste processing is assumed to be 50 km by truck.

Waste materials are sorted and steel is cycled back to the steel industry by scrap trade. In this EPD, it is assumed that 95% of steel is recycled (C3) and 5% is landfilled (C4) (World Steel Association, 2020).

The benefits and loads of recycling and incineration of the product and packaging are included in module D.

MANUFACTURING PROCESS




Extraction of raw materials
Steel production
Steel scrap
Plannja
Circularity of Steel
Recycling steel after product use
Manufacturing of Plannja products
Use phase of a product

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	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 v3.10.1 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, 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	1,03E+00	2,64E-02	-9,55E-02	9,57E-01	6,09E-02	1,79E-01	MND	MND	MND	MND	MND	MND	MND	3,61E-03	5,38E-03	2,31E-02	1,68E-04	-3,08E-01
GWP – fossil	kg CO_2e	1,02E+00	2,64E-02	6,02E-02	1,11E+00	6,08E-02	2,29E-02	MND	MND	MND	MND	MND	MND	MND	3,60E-03	5,38E-03	2,58E-02	3,12E-04	-3,12E-01
GWP – biogenic	kg CO_2e	2,88E-03	0,00E+00	-1,56E-01	-1,53E-01	0,00E+00	1,56E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-2,74E-03	-1,44E-04	4,45E-03
GWP – LULUC	kg CO_2e	3,08E-03	1,18E-05	4,90E-04	3,58E-03	2,73E-05	7,86E-06	MND	MND	MND	MND	MND	MND	MND	3,69E-07	2,41E-06	3,04E-05	1,78E-07	-7,29E-04
Ozone depletion pot.	kg $CFC\text{-}_{11}e$	1,09E-08	3,90E-10	1,75E-09	1,30E-08	8,98E-10	2,80E-10	MND	MND	MND	MND	MND	MND	MND	5,52E-11	7,95E-11	2,78E-10	9,04E-12	-2,93E-09
Acidification potential	mol H^+e	3,95E-03	1,06E-04	3,42E-04	4,40E-03	2,63E-04	1,51E-04	MND	MND	MND	MND	MND	MND	MND	3,25E-05	1,84E-05	2,76E-04	2,21E-06	-2,31E-03
EP-freshwater[2)]	kg Pe	3,29E-05	2,03E-06	1,82E-05	5,31E-05	4,63E-06	1,84E-06	MND	MND	MND	MND	MND	MND	MND	1,04E-07	4,19E-07	1,40E-05	2,57E-08	-2,67E-04
EP-marine	kg Ne	1,04E-03	3,34E-05	1,32E-04	1,21E-03	8,16E-05	8,31E-05	MND	MND	MND	MND	MND	MND	MND	1,51E-05	6,03E-06	6,14E-05	8,44E-07	-5,45E-04
EP-terrestrial	mol Ne	1,13E-02	3,64E-04	1,18E-03	1,28E-02	8,92E-04	7,36E-04	MND	MND	MND	MND	MND	MND	MND	1,65E-04	6,56E-05	6,92E-04	9,21E-06	-5,82E-03
POCP ("smog")[3)]	kg NMVOCe	3,01E-03	1,43E-04	4,09E-04	3,56E-03	3,43E-04	2,22E-04	MND	MND	MND	MND	MND	MND	MND	4,93E-05	2,70E-05	2,04E-04	3,30E-06	-1,68E-03
ADP-minerals & metals[4)]	kg Sbe	1,05E-04	7,26E-08	4,34E-07	1,06E-04	1,66E-07	2,11E-08	MND	MND	MND	MND	MND	MND	MND	1,29E-09	1,50E-08	1,52E-06	4,96E-10	-1,07E-04
ADP-fossil resources	MJ	1,57E+01	3,82E-01	2,85E+00	1,89E+01	8,78E-01	2,45E-01	MND	MND	MND	MND	MND	MND	MND	4,72E-02	7,81E-02	3,05E-01	7,66E-03	-3,94E+00
Water use[5)]	m^3e depr.	1,88E+00	1,87E-03	4,26E-02	1,92E+00	4,28E-03	2,14E-03	MND	MND	MND	MND	MND	MND	MND	1,18E-04	3,86E-04	4,82E-03	2,21E-05	-2,61E-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.

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[6)]	MJ	9,53E+00	5,19E-03	1,61E+00	1,11E+01	1,19E-02	-1,36E+00	MND	MND	MND	MND	MND	MND	MND	2,99E-04	1,07E-03	4,74E-02	7,39E-05	-3,18E-01
Renew. PER as material	MJ	2,43E-02	0,00E+00	1,34E+00	1,37E+00	0,00E+00	-1,34E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-2,31E-02	-1,22E-03	9,44E-02
Total use of renew. PER	MJ	9,55E+00	5,19E-03	2,95E+00	1,25E+01	1,19E-02	-2,70E+00	MND	MND	MND	MND	MND	MND	MND	2,99E-04	1,07E-03	2,43E-02	-1,14E-03	-2,23E-01
Non-re. PER as energy	MJ	1,48E+01	3,82E-01	2,62E+00	1,78E+01	8,78E-01	8,37E-02	MND	MND	MND	MND	MND	MND	MND	4,72E-02	7,81E-02	3,05E-01	7,66E-03	-3,94E+00
Non-re. PER as material	MJ	9,26E-01	0,00E+00	2,10E-01	1,14E+00	0,00E+00	-2,10E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-8,80E-01	-4,63E-02	8,66E-02
Total use of non-re. PER	MJ	1,57E+01	3,82E-01	2,83E+00	1,89E+01	8,78E-01	-1,26E-01	MND	MND	MND	MND	MND	MND	MND	4,72E-02	7,81E-02	-5,75E-01	-3,86E-02	-3,86E+00
Secondary materials	kg	1,07E+00	1,63E-04	1,49E-02	1,09E+00	3,74E-04	1,18E-04	MND	MND	MND	MND	MND	MND	MND	1,96E-05	3,32E-05	3,53E-04	1,93E-06	1,63E-01
Renew. secondary fuels	MJ	0,00E+00	2,03E-06	2,27E-02	2,27E-02	4,63E-06	5,87E-07	MND	MND	MND	MND	MND	MND	MND	5,12E-08	4,22E-07	1,60E-05	3,99E-08	-1,07E-05
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	2,96E-06	2,96E-06	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	4,69E-02	5,59E-05	9,62E-04	4,79E-02	1,28E-04	-7,68E-05	MND	MND	MND	MND	MND	MND	MND	3,12E-06	1,15E-05	1,33E-04	7,97E-06	-5,82E-03

6) 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	5,13E-06	6,44E-04	3,90E-03	4,55E-03	1,48E-03	6,13E-04	MND	MND	MND	MND	MND	MND	MND	5,25E-05	1,32E-04	2,38E-03	8,46E-06	-4,67E-02
Non-hazardous waste	kg	1,29E-01	1,19E-02	1,44E-01	2,85E-01	2,71E-02	1,93E-01	MND	MND	MND	MND	MND	MND	MND	7,15E-04	2,45E-03	6,69E-02	5,00E-02	-1,02E+00
Radioactive waste	kg	9,49E-04	8,06E-08	3,50E-05	9,84E-04	1,84E-07	1,60E-07	MND	MND	MND	MND	MND	MND	MND	5,12E-09	1,67E-08	2,69E-07	1,17E-09	-8,08E-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	8,76E-09	8,76E-09	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	5,77E-03	5,77E-03	0,00E+00	3,92E-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	6,31E-03	6,31E-03	0,00E+00	2,55E-02	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	1,98E-03	1,98E-03	0,00E+00	1,49E-01	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	6,31E-02	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	8,63E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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[7)]	kg CO_2e	1,02E+00	2,64E-02	6,07E-02	1,11E+00	6,09E-02	2,29E-02	MND	MND	MND	MND	MND	MND	MND	3,61E-03	5,38E-03	2,58E-02	3,12E-04	-3,12E-01

7) 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.

Imane Uald Lamkaddam as an authorized verifier for EPD Hub Limited
23.05.2025