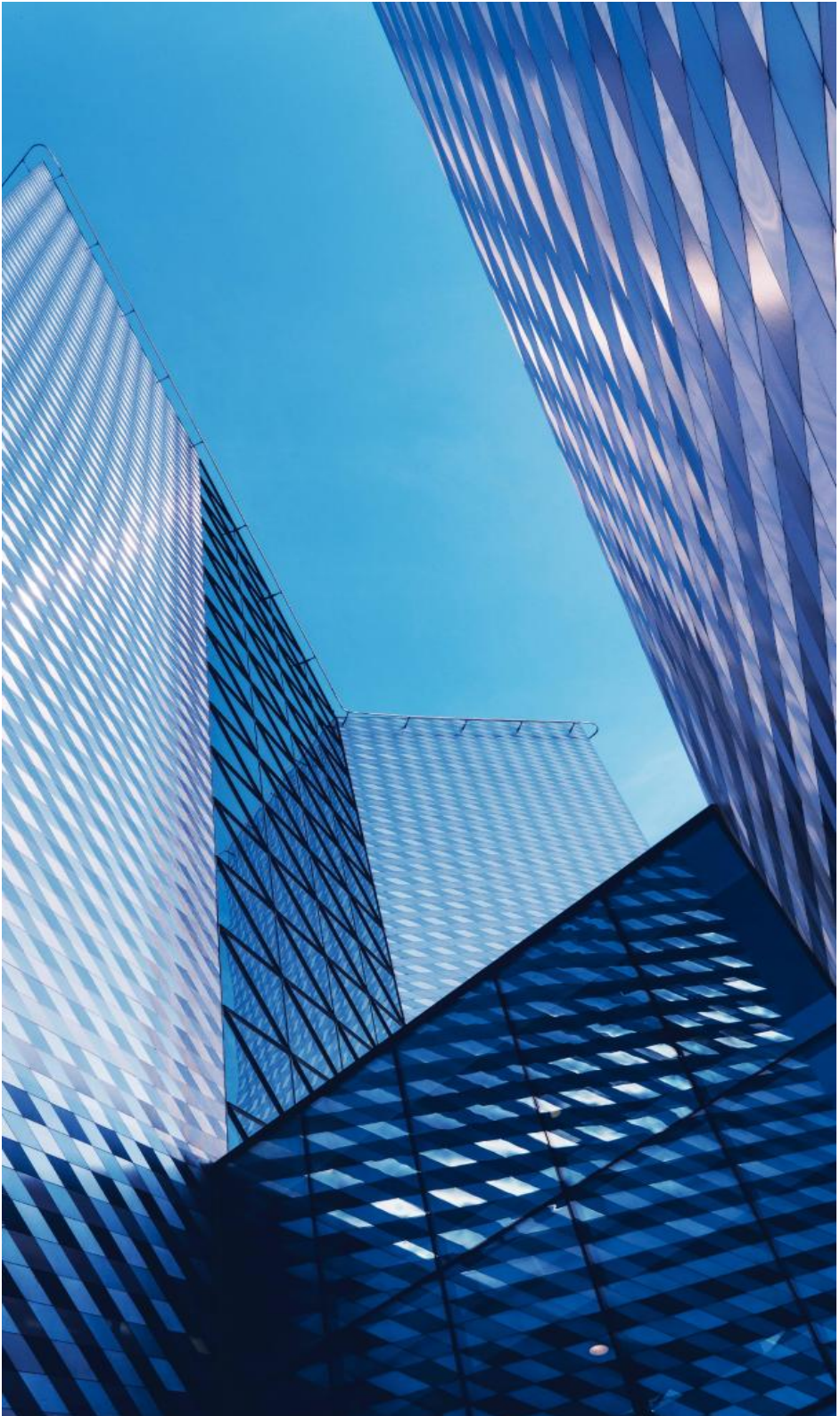
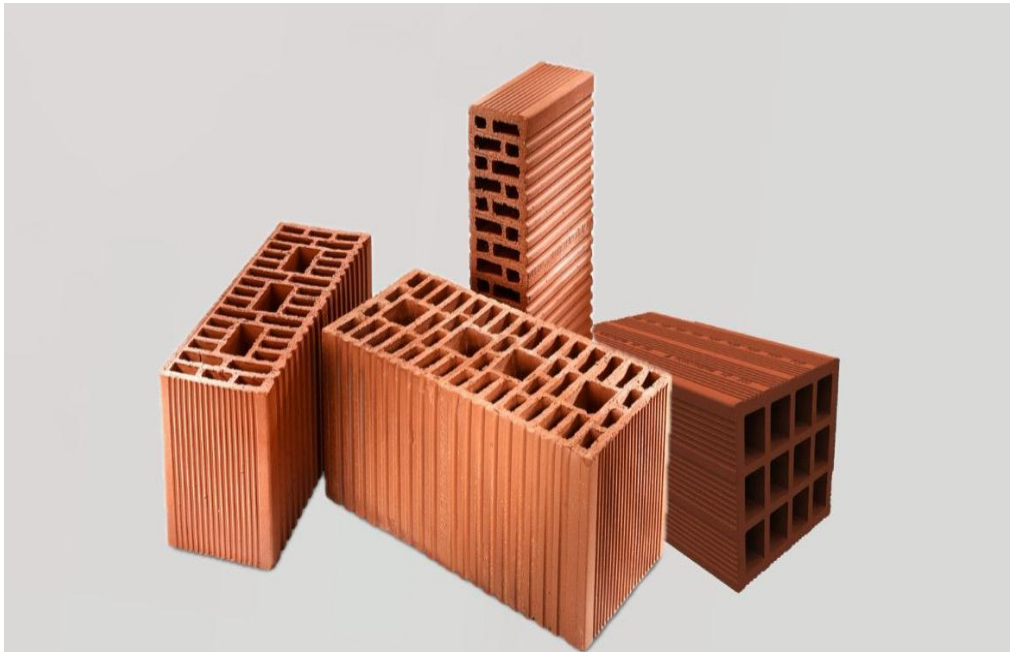


ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Porotherm Bricks

Wienerberger India Private Limited



EPD HUB, HUB-4022

Publishing date 28 September 2025, last updated on 28 September 2025, valid until 27 September 2030.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Wienerberger India Private Limited
Address	Wienerberger India Private Limited Factory, Kunigal Industrial Area, Kunigal , Karnataka, India - 572130
Contact details	Sales.India@wienerberger.com Prashanth.Venkatasubbaiah@wienerberger.com
Website	https://www.wienerberger.in/

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-A5 and modules C1-C4, D
EPD author	Selvarasu M. LEAD Consultancy and Engineering services (India) private Limited
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Magaly Gonzalez Vazquez, as an authorised 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	Porotherm Bricks
Additional labels	POROTHERM HP 200 POROTHERM HP 150 POROTHERM HP 100 POROTHERM VP 200 POROTHERM VP 150 POROTHERM VP 100 POROTHERM HP 200 G POROTHERM HP 150 G POROTHERM HP 100 G POROTHERM VP 200 G POROTHERM VP 150 G POROTHERM VP 100 G POROTHERM FB 200 POROTHERM FB 150
Product reference	-
Place of production	Kunigal, Karnataka, India
Period for data	Jan - 2023 to Dec 2023
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 Ton
Declared unit mass	1000 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	6.75E+01
GWP-total, A1-A3 ($kgCO_2e$)	6.60E+01
Secondary material, inputs (%)	28
Secondary material, outputs (%)	100
Total energy use, A1-A3 (kWh)	463
Net freshwater use, A1-A3 (m^3)	0.21

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Wienerberger is a global provider of building materials and infrastructure solutions with its headquarters in Vienna. We are the only multinational producer of clay bricks for walls, bricks for facades and clay roof tiles, of plastic and ceramic pipe systems as well as of concrete and clay pavers. We are the world's largest producer of clay bricks and the company holds leading market positions in our other business segments as well. Founded in 1819, we can look back on more than 200 years of successful business with over 195 production units across 30 countries.

PRODUCT DESCRIPTION

The EPD covers Porotherm clay bricks which are available under different categories. These can be grouped together under single EPD as the product composition, purpose, manufacturing process, location remain same.
The Hollow clay bricks by Porotherm Smart Bricks are designed to provide better efficiency, durability, ease of use, and a host of other benefits that aid in cost-effective wall construction and comes in two types: Non-Load Bearing Clay Hollow Bricks (Horizontal Perforated bricks) and Load Bearing Clay Hollow Bricks (Vertical perforated bricks).

Types & Application - Under the brand name Porotherm Smart Bricks, Wienerberger India has been producing a range of perforated/ Hollow Clay Bricks that aid in cost-effective wall construction. All Porotherm bricks are available in 3 sizes (400*200/150/100*200) and come in half-brick versions as well. List of products available is as below:

POROTHERM HP 200	POROTHERM HP 150 G
POROTHERM HP 150	POROTHERM HP 100 G
POROTHERM HP 100	POROTHERM VP 200 G
POROTHERM VP 200	POROTHERM VP 150 G
POROTHERM VP 150	POROTHERM VP 100 G
POROTHERM VP 100	POROTHERM FB 200
POROTHERM HP 200 G	POROTHERM FB 150

Further information can be found at https://www.wienerberger.in/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	87.5%	South Asia - India
Fossil materials	2%	South Asia-India
Bio-based materials	10.5%	South Asia - India

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	20.089764Kg C
Biogenic carbon content in packaging, kg C	0.4

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 Ton
Mass per declared unit	1000 kg
Functional unit	1 tonne of brick
Reference service life	150 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.

The Porotherm products has tank clay as the major composition. The components are manufactured in Indian country and delivered to the manufacturer's site. The manufacturing process requires electricity and fuels for the different equipment and heating. A corrugated Sheet, PET straps are used as packaging material for transporting the bricks to the dedicated marketplace or project site.

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 the production plant to the retail site is assumed as 220 km based on the average distances assessment and the transportation method is assumed to be a lorry. The vehicle capacity utilization volume factor is assumed to be 1 means full load. In reality, it may vary but as the role of transportation emissions in total results is small, the variety in load is assumed to be negligible. Empty returns are not considered as it is assumed that the return trip is used by the transportation company to serve the needs of other clients. (Empty returns are considered in the ecoinvent database.) Transportation does not cause losses as the product is packaged properly. Environmental impacts from installation into the building include generation of waste packaging materials and the material loss during installation(A5). The impacts of material production, its processing, and its disposal as installation waste are also included. PET straps and corrugated sheets used for packaging are called back and disposed for recycling. The product installation waste will be used a filler material in other construction activities in the site.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

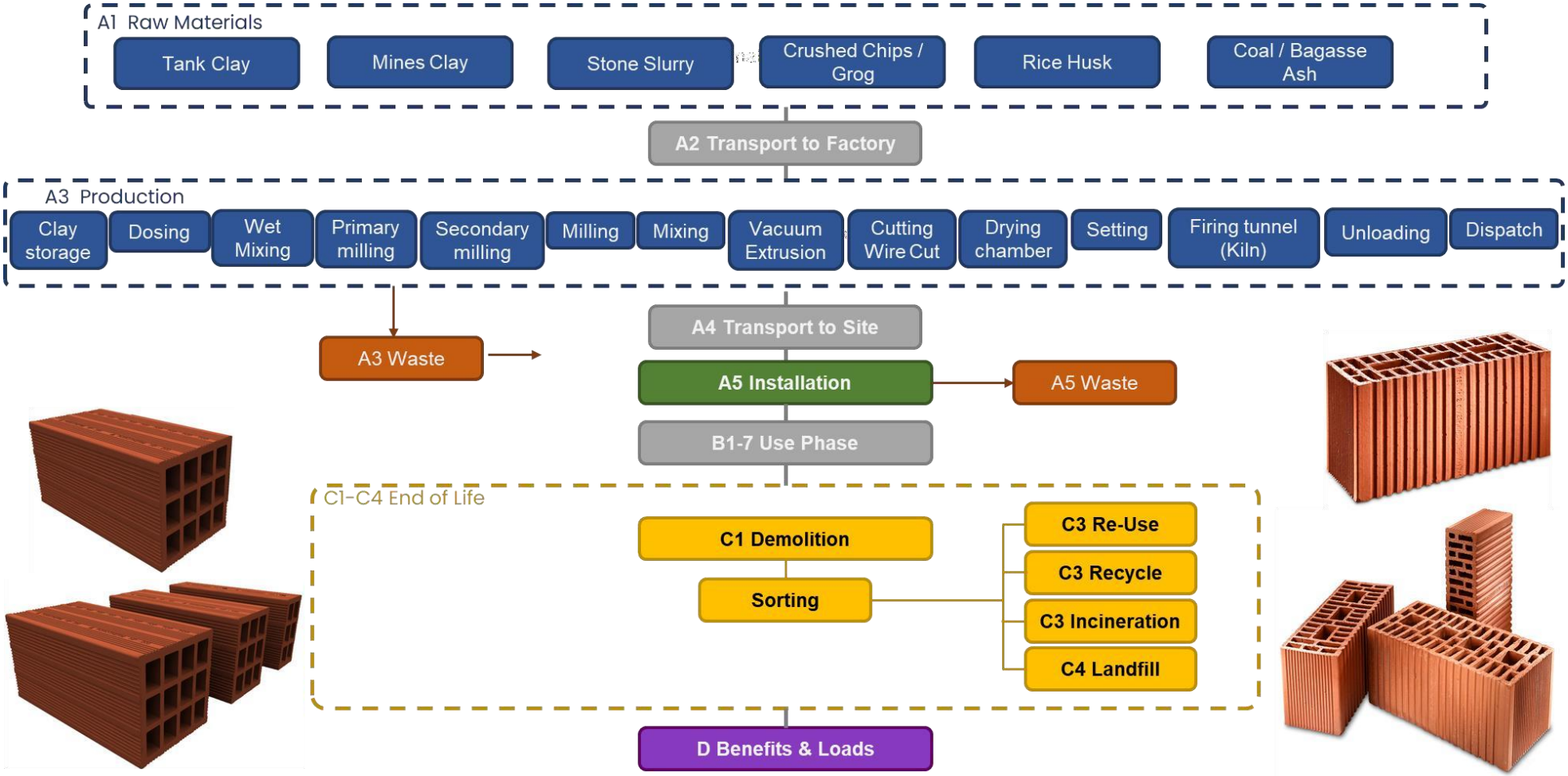
Air, soil, and water impacts during the use phase have not been studied.

B1 – Use	Bricks do not emit any emissions to air during their use, so this module is not relevant (MNR)
B2 – Maintenance	Bricks once installed require no maintenance themselves, so this module is not relevant (MNR)
B3 – Repair	It is assumed that the brick should not need any repair during its service life or the study period, so this module is not relevant (MNR)
B4 – Replacement	The service life of the brick is at least as long as the 60-year study period and likely life of the building. So no replacements are expected. Therefore, this module is not relevant (MNR)
B5 – Refurbishment	It is assumed that no refurbishment action that relates to the brick will be required during the 60-year study period, so this module is not relevant (MNR)
Reference service Life	150 years
B6 – Use of Energy	No energy is required for the brick to operate during its use. So this module is not relevant (MNR)
B7 – Use of water	No water is required for the brick to operate during its use. So, this module is not relevant (MNR)

PRODUCT END OF LIFE (C1-C4, D)

Consumption of energy in the de-construction process is considered. It is assumed that the waste is collected separately and transported to the waste treatment plant. The transportation distance to treatment is assumed to be 50 km and the transportation method is assumed to be a lorry (C2). Module C3 accounts for energy and resource inputs for sorting and treating these waste streams for recycling. Due to the material recovery potential at the end of life product, there are a number of common scenarios for brickwork. Firstly, brickwork can be dismantled, with the individual units being separated, clean and reused. Secondly the brickwork can be demolished, broken down to a smaller aggregate size and used for a variety of purposes, such as foundation construction. The benefits and loads of reuse and recycling are included in Module 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	No allocation
Packaging material	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	Allocated by mass

AVERAGES AND VARIABILITY

Type of average	No grouping
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.

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_2e	1.19E+01	4.61E+00	4.95E+01	6.60E+01	2.07E+01	4.14E+00	MND	MND	MND	MND	MND	MND	MND	3.31E+00	4.69E+00	4.73E-01	0.00E+00	-3.63E+00
GWP – fossil	kg CO_2e	1.19E+01	4.61E+00	5.09E+01	6.75E+01	2.07E+01	2.68E+00	MND	MND	MND	MND	MND	MND	MND	3.31E+00	4.69E+00	4.72E-01	0.00E+00	-3.62E+00
GWP – biogenic	kg CO_2e	2.80E-03	1.61E-03	-1.44E+00	-1.43E+00	8.01E-03	1.46E+00	MND	MND	MND	MND	MND	MND	MND	6.06E-04	0.00E+00	-1.83E-05	0.00E+00	-9.36E-03
GWP – LULUC	kg CO_2e	2.23E-03	1.74E-03	1.92E-02	2.32E-02	7.64E-03	1.50E-03	MND	MND	MND	MND	MND	MND	MND	3.30E-04	1.73E-03	8.61E-04	0.00E+00	-3.69E-03
Ozone depletion pot.	kg CFC_{-11}e	2.40E-07	1.02E-06	4.61E-06	5.87E-06	4.77E-06	3.67E-07	MND	MND	MND	MND	MND	MND	MND	7.07E-07	1.08E-06	1.63E-08	0.00E+00	-3.80E-07
Acidification potential	mol H^+e	1.30E-01	2.01E-02	1.76E-01	3.26E-01	8.77E-02	1.29E-02	MND	MND	MND	MND	MND	MND	MND	3.44E-02	1.99E-02	2.36E-03	0.00E+00	-2.71E-02
EP-freshwater[2)]	kg Pe	4.12E-03	4.64E-05	8.86E-04	5.05E-03	1.70E-04	1.35E-04	MND	MND	MND	MND	MND	MND	MND	1.10E-05	3.84E-05	2.76E-05	0.00E+00	-1.15E-04
EP-marine	kg Ne	1.60E-02	5.98E-03	2.34E-02	4.53E-02	2.61E-02	4.80E-03	MND	MND	MND	MND	MND	MND	MND	1.52E-02	5.90E-03	4.01E-04	0.00E+00	-8.16E-03
EP-terrestrial	mol Ne	2.40E-01	6.61E-02	2.39E-01	5.45E-01	2.88E-01	3.00E-02	MND	MND	MND	MND	MND	MND	MND	1.67E-01	6.51E-02	4.47E-03	0.00E+00	-9.45E-02
POCP ("smog")[3)]	kg NMVOCe	5.25E-02	2.08E-02	8.59E-02	1.59E-01	9.20E-02	9.39E-03	MND	MND	MND	MND	MND	MND	MND	4.59E-02	2.08E-02	1.24E-03	0.00E+00	-2.62E-02
ADP-minerals & metals[4)]	kg Sbe	1.90E-05	1.09E-05	2.89E-04	3.19E-04	4.86E-05	1.01E-05	MND	MND	MND	MND	MND	MND	MND	1.68E-06	1.10E-05	7.87E-07	0.00E+00	-3.30E-05
ADP-fossil resources	MJ	9.92E+02	6.86E+01	7.09E+02	1.77E+03	3.11E+02	5.90E+01	MND	MND	MND	MND	MND	MND	MND	4.45E+01	7.05E+01	6.54E+00	0.00E+00	-4.49E+01
Water use[5)]	m^3e depr.	1.64E+00	3.26E-01	2.66E+01	2.86E+01	1.39E+00	7.83E-01	MND	MND	MND	MND	MND	MND	MND	1.20E-01	3.15E-01	1.37E-01	0.00E+00	-6.47E-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, 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	5.13E-07	5.19E-07	1.29E-06	2.32E-06	2.39E-06	2.26E-07	MND	MND	MND	MND	MND	MND	MND	9.22E-07	5.41E-07	1.78E-08	0.00E+00	-5.14E-07
Ionizing radiation[6)]	kBq U235e	1.14E-01	3.23E-01	7.59E-01	1.20E+00	1.48E+00	1.00E-01	MND	MND	MND	MND	MND	MND	MND	2.05E-01	3.36E-01	9.07E-02	0.00E+00	-3.43E-01
Ecotoxicity (freshwater)	CTUe	2.65E+03	6.47E+01	5.18E+02	3.23E+03	2.80E+02	1.03E+02	MND	MND	MND	MND	MND	MND	MND	2.68E+01	6.34E+01	8.74E+00	0.00E+00	-7.23E+01
Human toxicity, cancer	CTUh	2.41E-09	1.60E-09	1.41E-08	1.81E-08	6.88E-09	9.98E-10	MND	MND	MND	MND	MND	MND	MND	1.03E-09	1.56E-09	2.99E-10	0.00E+00	-3.09E-09
Human tox. non-cancer	CTUh	7.05E-08	6.19E-08	3.30E-07	4.63E-07	2.77E-07	2.64E-08	MND	MND	MND	MND	MND	MND	MND	1.94E-08	6.27E-08	6.84E-09	0.00E+00	-6.97E-08
SQP[7)]	-	1.33E+02	7.73E+01	6.84E+02	8.95E+02	3.58E+02	4.28E+01	MND	MND	MND	MND	MND	MND	MND	5.79E+00	8.12E+01	1.02E+00	0.00E+00	-6.62E+01

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	1.03E+01	8.64E-01	2.48E+02	2.59E+02	3.51E+00	6.67E+00	MND	MND	MND	MND	MND	MND	MND	2.54E-01	7.94E-01	8.29E-01	0.00E+00	-3.01E+00
Renew. PER as material	MJ	0.00E+00	0.00E+00	1.28E+01	1.28E+01	0.00E+00	-1.28E+01	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	1.03E+01	8.64E-01	2.61E+02	2.72E+02	3.51E+00	-6.08E+00	MND	MND	MND	MND	MND	MND	MND	2.54E-01	7.94E-01	8.29E-01	0.00E+00	-3.01E+00
Non-re. PER as energy	MJ	4.34E+02	6.86E+01	7.04E+02	1.21E+03	3.11E+02	4.49E+01	MND	MND	MND	MND	MND	MND	MND	4.45E+01	7.05E+01	6.54E+00	0.00E+00	-4.49E+01
Non-re. PER as material	MJ	0.00E+00	0.00E+00	1.04E-01	1.04E-01	0.00E+00	-1.04E-01	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	4.34E+02	6.86E+01	7.04E+02	1.21E+03	3.11E+02	4.48E+01	MND	MND	MND	MND	MND	MND	MND	4.45E+01	7.05E+01	6.54E+00	0.00E+00	-4.49E+01
Secondary materials	kg	2.80E+02	2.04E-02	1.14E+00	2.81E+02	8.64E-02	7.03E+00	MND	MND	MND	MND	MND	MND	MND	1.74E-02	1.96E-02	3.39E-03	0.00E+00	-4.94E-02
Renew. secondary fuels	MJ	5.91E-04	1.91E-04	2.01E+02	2.01E+02	8.72E-04	5.03E+00	MND	MND	MND	MND	MND	MND	MND	5.70E-05	1.97E-04	4.21E-06	0.00E+00	-2.82E-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	-2.91E-04	9.31E-03	1.97E-01	2.06E-01	4.03E-02	1.09E-02	MND	MND	MND	MND	MND	MND	MND	2.70E-03	9.13E-03	3.83E-03	0.00E+00	-1.41E+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	3.72E+00	1.05E-01	9.20E-01	4.74E+00	4.13E-01	1.39E-01	MND	MND	MND	MND	MND	MND	MND	5.96E-02	9.34E-02	4.14E-02	0.00E+00	-2.71E-01
Non-hazardous waste	kg	1.58E+02	1.85E+00	2.16E+02	3.77E+02	6.78E+00	9.76E+00	MND	MND	MND	MND	MND	MND	MND	4.19E-01	1.54E+00	1.19E+00	0.00E+00	-4.89E+00
Radioactive waste	kg	8.63E-05	4.47E-04	3.58E-04	8.92E-04	2.08E-03	1.20E-04	MND	MND	MND	MND	MND	MND	MND	3.13E-04	4.71E-04	2.52E-05	0.00E+00	-2.10E-04

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	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	1.00E+03	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

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	1.13E+01	4.56E+00	5.00E+01	6.58E+01	2.05E+01	3.66E+00	MND	MND	MND	MND	MND	MND	MND	3.27E+00	4.64E+00	4.62E-01	0.00E+00	-3.52E+00
Ozone depletion Pot.	kg $CFC_{-11}e$	2.07E-07	8.10E-07	3.80E-06	4.82E-06	3.77E-06	2.94E-07	MND	MND	MND	MND	MND	MND	MND	5.60E-07	8.55E-07	1.37E-08	0.00E+00	-3.08E-07
Acidification	kg SO_2e	1.05E-01	1.56E-02	1.51E-01	2.72E-01	6.81E-02	1.04E-02	MND	MND	MND	MND	MND	MND	MND	2.45E-02	1.54E-02	1.97E-03	0.00E+00	-2.06E-02
Eutrophication	kg PO_4^3e	1.10E-01	3.73E-03	2.35E-02	1.37E-01	1.55E-02	1.55E-02	MND	MND	MND	MND	MND	MND	MND	5.69E-03	3.52E-03	9.63E-04	0.00E+00	-6.56E-03
POCP (“smog”)	kg C_2H_4e	3.93E-03	6.03E-04	8.27E-03	1.28E-02	2.66E-03	7.24E-04	MND	MND	MND	MND	MND	MND	MND	5.36E-04	6.03E-04	8.34E-05	0.00E+00	-1.34E-03
ADP-elements	kg Sbe	1.88E-05	1.06E-05	2.86E-04	3.16E-04	4.70E-05	1.00E-05	MND	MND	MND	MND	MND	MND	MND	1.65E-06	1.07E-05	7.84E-07	0.00E+00	-3.28E-05
ADP-fossil	MJ	9.92E+02	6.86E+01	7.09E+02	1.77E+03	3.11E+02	5.90E+01	MND	MND	MND	MND	MND	MND	MND	4.45E+01	7.05E+01	6.54E+00	0.00E+00	-4.49E+01

ENVIRONMENTAL IMPACTS – 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_2e	1.19E+01	4.61E+00	5.10E+01	6.75E+01	2.07E+01	2.69E+00	MND	MND	MND	MND	MND	MND	MND	3.31E+00	4.69E+00	4.73E-01	0.00E+00	-3.62E+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
28.09.2025