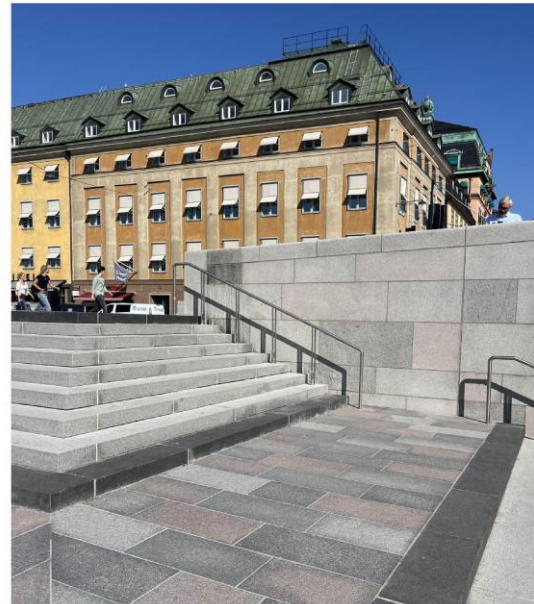


ENVIRONMENTAL PRODUCT DECLARATION

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

Floor and facade stone / Brick/wall- and stones for stairs, paving stone made of granite
HALLINDENS GRANIT AB



EPD HUB, HUB-2126

Publishing date 15 November 2024, last updated on 15 November 2024, valid until 15 November 2029.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	HALLINDENS GRANIT AB
Address	Stenbrottet Skarstad 501, Sweden
Contact details	info@hallindensgranit.se
Website	www.hallindensgranit.se

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 options, A5, and modules C1-C4, D
EPD author	Maria Silvstrand
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

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	Floor and facade stone / Brick/wall- and stones for stairs, paving stone made of granite
Additional labels	-
Product reference	-
Place of production	Brastad, Sweden
Period for data	Calendar year 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 tonne natural stone
Declared unit mass	1000 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	2,93E+01
GWP-total, A1-A3 (kgCO ₂ e)	2,92E+01
Secondary material, inputs (%)	0
Secondary material, outputs (%)	80
Total energy use, A1-A3 (kWh)	223
Net freshwater use, A1-A3 (m ³)	0.45

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Hallindens Granit is a supplier of natural stone operating in 8 different quarries in Sweden. The head office, where the factory for the manufacture of stone products is also located, is in Hallinden (Brastad), which is one of the quarries. 4 quarries are in Bohuslän, 2 quarries with grey Bohus granite and 2 quarries with red Bohus granite.

In the factory in Hallinden, Hallindens Granit manufactures natural stone which can be used for products mainly for outdoor environments with flamed and bush-hammered surface treatment. This EPD refers to 1 ton of natural stone.

PRODUCT DESCRIPTION

This EPD (Environmental Product Declaration), is for 1 ton of natural stone which has several use applications:

- Flamed or bush-hammered granite slab which withstands hard wear and is often used in public outdoor environments as floor slabs.
- Flamed or bush-hammered facade stone from granite which withstands hard wear and is often used in public outdoor environments as facade cladding.
- Flamed or bush-hammered brick from granite which withstands hard wear and is often used in public outdoor environments as walls.
- Flamed or bush-hammered stair stones from granite which withstands hard wear and is often used in public outdoor environments as a wall.
- Flamed or bush-hammered paving stone from granite.

All five applications are made of 100% natural stone from one of Hallindens Granit's quarries in Sweden. No other materials have been added. The difference in energy and material consumption for the different applications is minimal as the same machines are used with different nozzles for the

different surface treatments. The product can be reused after use and the estimation in this EPD is 80% reuse.

Further information can be found at www.hallindensgranit.se.

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	0
Biogenic carbon content in packaging, kg C	0.233727273

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 tonne natural stone
Mass per declared unit	1000 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	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 material used for the functional unit is Granite. It is mined at 8 different quarries in Sweden. The data considered is for 2 quarries with 4 sub-quarries each (8 quarries in total).

The mining occurs through drilling and sawing to loosen the stone from the rock. Blasting rarely or never occurs depending on the quarry. When the stone is loosened, it is split and shaped by sawing or wedging into ton- and block stone. No losses of granite occur at extraction.

Materials considered in A1-A3 include the Granite as well as input for mining, production and packaging. Ancillary materials and capital goods included in the EPD pertain to steel wires, drills, saws and saw wires, saw blades, nozzle and cross hammering tools, liquefied petroleum gas, oxygen used when flaming stone, lubricating oil for the machinery and grease, drilling rigs, excavators, loaders, generators and compressors. Water is extracted from Hallindens Granit's own well, however, no water waste is wasted.

The Granite from several of the quarries (the factory is located in one of the quarries) is transported to the production facility in Sweden by truck or directly to the customer. The stones that are transported to the factory are sawn into slabs. A specific transport distance to the production facility from the different quarries has been applied based on data from the commissioner of the study. At the production facility, the final product is produced through sawing, machining (flaming and bush-hammering). Data regarding ancillary materials, energy use and waste amounts and waste treatment that occurs at the production has been provided by the commissioner of the study. The data is based on data from the year 2023. Waste at production is included in the EPD. The electricity provider has provided a certificate for the renewable energy source of electricity. The certificate specifies that 56.8% of the electricity is sourced from wind turbines, 36.2% from hydro sources, 1.6% from solar panels, and 5.4% from biowaste sources. After the surface processing and sawing into desired format at the production facility, they are packed on a pallet. Packaging material included in the EPD is Polyester tape (32.5% recycled, 42.5% incinerated with ER, 25% landfilled) and pallets. The waste treatment of steel products from quarrying and production, e.g., drilling material, is based on the source

World Steel Association (2020), where 85% is assumed to be recycled and 15% landfilled. The end-of-life of the lubrication oil is assumed to be incineration, and diesel as direct emissions. Wastewater treatment is included in the energy use. 100% waste stone utilized by Hallindens Granit where as much as possible is used for trade blocks, ton-stone, stone for paving stone or reused in their own production. The waste stone that cannot be used for this, is sold either as ballast or stone for coastal protection. What remains after this is used for Hallinden Granit's own roads, dikes, work and storage areas and for continuous restoration. The distance and transport type to the waste treatment of the steel products from quarrying and production, waste stone and lubricating oil is based on assumptions.

All data input regarding raw materials, ancillary, energy use and waste at the quarries has been based on data from the commissioner of the study. The data is based on data from the year 2023. Some processes from the database have been included as proxies.

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.

This EPD excludes module A4, thus, the transportation distance from the manufacturing site to the installation site is not considered. Additionally, no energy, installation materials, or material losses are assumed during installation.

The packaging materials waste treatment are included in this section. Waste treatment of wood pallet is based on the scenario specified by Eurostat & PSR-0014 v2 (2023): 31% recycled, 31% incinerated with ER, 38% landfill. Waste treatment of plastic packaging is based on the scenario specified by: EuroParl (2023): 32.5% recycled, 42.5% incinerated with ER, 25% landfilled.

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)

No data regarding the dismantling and crushing of the product (demolition) has been provided, thus the energy consumption of such has been estimated based on the source Martin Erlandsson och Daniel Pettersson (2015). Transport of the diesel has been accounted for in the dataset.

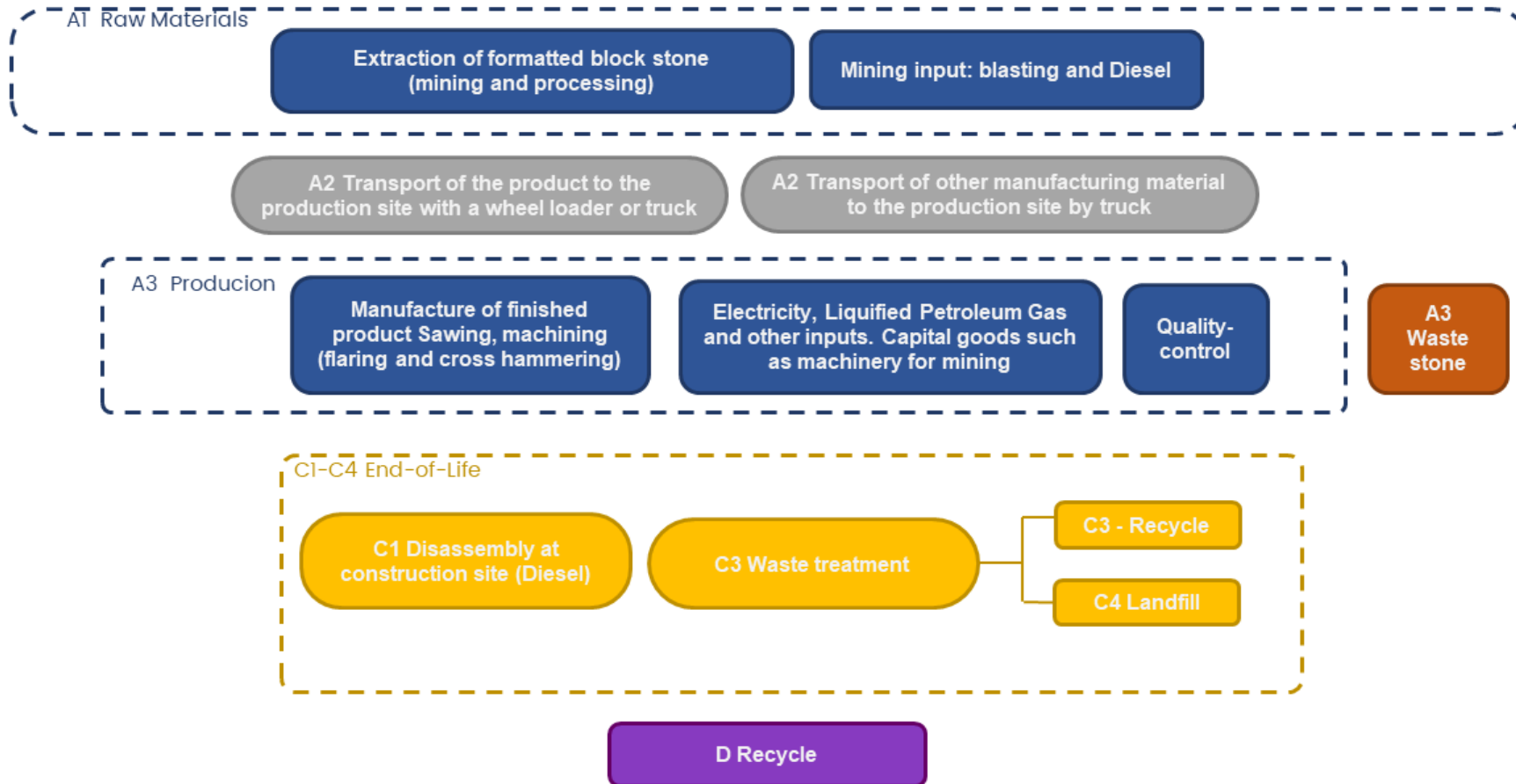
The commissioner of the study specifies that the stone products are disassembled, cleaned and reinstalled. No other data regarding the end-of-life of the product is available, thus, the source Betoniteollisuus ry, (2020) has been applied, where 80% of the stone is recycled. Distance of waste stone to treatment facility is assumed.

The recycling rate (80%) of the stone (Betoniteollisuus ry, 2020) is equalled to avoided gravel production, whereas the crushing of gravel is included as a load.

MANUFACTURING PROCESS



SYSTEM BOUNDARIES



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	-

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 ₂ e	9,25E+00	6,97E+00	1,30E+01	2,92E+01	MND	8,63E-01	MND	MND	MND	MND	MND	MND	MND	3,79E+00	8,31E+00	7,81E+00	1,05E+00	-6,43E+00
GWP – fossil	kg CO ₂ e	9,25E+00	6,97E+00	1,31E+01	2,93E+01	MND	8,27E-03	MND	MND	MND	MND	MND	MND	MND	3,79E+00	8,31E+00	7,80E+00	1,05E+00	-6,43E+00
GWP – biogenic	kg CO ₂ e	0,00E+00	0,00E+00	-8,55E-01	-8,55E-01	MND	8,55E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO ₂ e	6,39E-04	2,74E-03	8,05E-01	8,09E-01	MND	7,54E-06	MND	MND	MND	MND	MND	MND	MND	2,09E-04	3,26E-03	1,14E-02	9,94E-04	-8,84E-03
Ozone depletion pot.	kg CFC ₋₁₁ e	1,99E-06	1,61E-06	2,86E-06	6,46E-06	MND	1,63E-09	MND	MND	MND	MND	MND	MND	MND	8,24E-07	1,92E-06	1,36E-06	4,26E-07	-5,24E-07
Acidification potential	mol H ⁺ e	1,40E-01	2,83E-02	8,52E-02	2,54E-01	MND	9,32E-05	MND	MND	MND	MND	MND	MND	MND	5,36E-02	3,37E-02	6,29E-02	9,90E-03	-4,16E-02
EP-freshwater ²⁾	kg Pe	1,49E-05	4,89E-05	7,21E-04	7,85E-04	MND	2,52E-07	MND	MND	MND	MND	MND	MND	MND	5,10E-06	5,83E-05	1,58E-04	1,10E-05	-3,65E-04
EP-marine	kg Ne	6,11E-02	8,45E-03	1,76E-02	8,72E-02	MND	4,30E-05	MND	MND	MND	MND	MND	MND	MND	2,40E-02	1,01E-02	2,33E-02	3,43E-03	-9,02E-03
EP-terrestrial	mol Ne	6,88E-01	9,32E-02	2,03E-01	9,85E-01	MND	4,11E-04	MND	MND	MND	MND	MND	MND	MND	2,63E-01	1,11E-01	2,56E-01	3,77E-02	-1,17E-01
POCP (“smog”) ³⁾	kg NMVOCe	1,76E-01	2,85E-02	6,06E-02	2,65E-01	MND	1,18E-04	MND	MND	MND	MND	MND	MND	MND	6,87E-02	3,40E-02	7,10E-02	1,10E-02	-3,01E-02
ADP-minerals & metals ⁴⁾	kg Sbe	7,95E-06	2,47E-05	1,93E-04	2,26E-04	MND	2,63E-08	MND	MND	MND	MND	MND	MND	MND	2,69E-06	2,94E-05	2,02E-05	2,42E-06	-6,26E-05
ADP-fossil resources	MJ	1,22E+02	1,03E+02	4,33E+02	6,58E+02	MND	1,46E-01	MND	MND	MND	MND	MND	MND	MND	5,02E+01	1,23E+02	1,16E+02	2,89E+01	-9,30E+01
Water use ⁵⁾	m ³ e depr.	2,14E-01	4,78E-01	1,72E+01	1,79E+01	MND	4,99E-03	MND	MND	MND	MND	MND	MND	MND	6,91E-02	5,70E-01	9,66E-01	9,16E-02	-1,23E+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	2,50E-07	6,02E-07	2,22E-06	3,07E-06	MND	1,20E-09	MND	MND	MND	MND	MND	MND	MND	6,94E-08	7,17E-07	7,30E-06	1,99E-07	-5,36E-07
Ionizing radiation ⁶⁾	kBq 11235e	5,53E-01	5,42E-01	1,44E+01	1,55E+01	MND	1,36E-03	MND	MND	MND	MND	MND	MND	MND	2,28E-01	6,46E-01	7,32E-01	1,31E-01	-1,38E+00
Ecotoxicity (freshwater)	CTUe	7,74E+02	8,58E+01	4,18E+02	1,28E+03	MND	1,52E-01	MND	MND	MND	MND	MND	MND	MND	2,76E+01	1,02E+02	1,07E+02	1,88E+01	-1,17E+02
Human toxicity, cancer	CTUh	8,38E-10	2,66E-09	2,53E-08	2,88E-08	MND	5,71E-11	MND	MND	MND	MND	MND	MND	MND	3,08E-10	3,17E-09	3,54E-09	4,71E-10	-6,47E-09
Human tox. non-cancer	CTUh	1,04E-07	8,72E-08	3,10E-07	5,02E-07	MND	2,69E-10	MND	MND	MND	MND	MND	MND	MND	4,17E-08	1,04E-07	7,27E-08	1,23E-08	-1,20E-07
SQP ⁷⁾	-	5,44E+01	7,25E+01	2,97E+02	4,24E+02	MND	1,94E-01	MND	MND	MND	MND	MND	MND	MND	6,33E+00	8,64E+01	1,00E+02	6,18E+01	-8,92E+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	4,23E-01	1,48E+00	2,29E+02	2,31E+02	MND	7,62E-03	MND	MND	MND	MND	MND	MND	MND	1,41E-01	1,77E+00	4,72E+00	2,51E-01	-8,35E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	7,49E+00	7,49E+00	MND	-7,49E+00	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	4,23E-01	1,48E+00	2,37E+02	2,39E+02	MND	-7,48E+00	MND	MND	MND	MND	MND	MND	MND	1,41E-01	1,77E+00	4,72E+00	2,51E-01	-8,35E+00
Non-re. PER as energy	MJ	1,22E+02	1,03E+02	3,45E+02	5,70E+02	MND	1,46E-01	MND	MND	MND	MND	MND	MND	MND	5,02E+01	1,23E+02	1,16E+02	2,89E+01	-9,30E+01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	2,95E+00	2,95E+00	MND	-2,95E+00	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	1,22E+02	1,03E+02	3,48E+02	5,73E+02	MND	-2,81E+00	MND	MND	MND	MND	MND	MND	MND	5,02E+01	1,23E+02	1,16E+02	2,89E+01	-9,30E+01
Secondary materials	kg	7,50E-03	3,47E-02	4,86E-01	5,28E-01	MND	9,95E-05	MND	MND	MND	MND	MND	MND	MND	2,88E-03	4,14E-02	4,07E-02	6,07E-03	-1,02E-01
Renew. secondary fuels	MJ	1,97E-04	3,82E-04	2,58E-01	2,59E-01	MND	9,83E-07	MND	MND	MND	MND	MND	MND	MND	4,27E-05	4,56E-04	5,09E-04	1,59E-04	-7,31E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	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	5,33E-03	1,30E-02	4,28E-01	4,47E-01	MND	1,79E-04	MND	MND	MND	MND	MND	MND	MND	1,76E-03	1,55E-02	5,06E-02	3,16E-02	-2,96E-01

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	5,34E-02	1,16E-01	1,51E+00	1,68E+00	MND	1,81E-04	MND	MND	MND	MND	MND	MND	MND	1,76E-02	1,38E-01	3,36E-01	0,00E+00	-5,44E-01
Non-hazardous waste	kg	5,80E-01	2,06E+00	5,31E+01	5,58E+01	MND	4,18E-01	MND	MND	MND	MND	MND	MND	MND	2,02E-01	2,46E+00	1,16E+02	2,00E+02	-1,60E+01
Radioactive waste	kg	8,81E-04	7,13E-04	4,14E-03	5,74E-03	MND	5,02E-07	MND	MND	MND	MND	MND	MND	MND	3,65E-04	8,50E-04	6,71E-04	0,00E+00	-4,64E-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	1,65E+02	1,65E+02	MND	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	3,36E-01	3,36E-01	MND	1,80E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,00E+02	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	1,80E-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	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	1,89E+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 ₂ e	9,08E+00	6,90E+00	1,37E+01	2,97E+01	MND	2,30E-02	MND	MND	MND	MND	MND	MND	MND	3,72E+00	8,23E+00	7,69E+00	1,03E+00	-6,27E+00
Ozone depletion Pot.	kg CFC ₁₁ e	1,57E-06	1,28E-06	2,32E-06	5,17E-06	MND	1,32E-09	MND	MND	MND	MND	MND	MND	MND	6,51E-07	1,52E-06	1,08E-06	3,37E-07	-4,34E-07
Acidification	kg SO ₂ e	9,88E-02	2,20E-02	6,87E-02	1,89E-01	MND	6,71E-05	MND	MND	MND	MND	MND	MND	MND	3,82E-02	2,62E-02	4,69E-02	7,48E-03	-3,23E-02
Eutrophication	kg PO ₄ ³ e	2,22E-02	4,99E-03	3,17E-02	5,88E-02	MND	7,22E-04	MND	MND	MND	MND	MND	MND	MND	8,50E-03	5,95E-03	1,35E-02	1,61E-03	-1,51E-02
POCP (“smog”)	kg C ₂ H ₄ e	2,80E-03	9,00E-04	3,63E-03	7,33E-03	MND	5,98E-06	MND	MND	MND	MND	MND	MND	MND	1,13E-03	1,07E-03	1,41E-03	3,14E-04	-2,19E-03
ADP-elements	kg Sbe	7,89E-06	2,41E-05	1,92E-04	2,24E-04	MND	2,42E-08	MND	MND	MND	MND	MND	MND	MND	2,67E-06	2,88E-05	2,00E-05	2,38E-06	-6,19E-05
ADP-fossil	MJ	1,22E+02	1,03E+02	4,32E+02	6,57E+02	MND	1,46E-01	MND	MND	MND	MND	MND	MND	MND	5,02E+01	1,23E+02	1,16E+02	2,89E+01	-9,29E+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

15.11.2024

