ENVIRONMENTAL PRODUCT DECLARATION

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

Kerabit 3000 U
Kerabit Oy

EPD HUB, HUB-1389
Published on 15.05.2024, last updated on 15.05.2024, valid until 15.05.2029

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Kerabit Oy
Address	Puistokatu 25-27, 08150 Lohja
Contact details	tuotteet@kerabit.fi
Website	kerabit.fi/tuotteet

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	Sister EPD
Parent EPD number	Hub-1040
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Jaana Valjus, Kerabit Oy
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 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	Kerabit 3000 U
Additional labels	-
Product reference	55506
Place of production	Lohja, Finland
Period for data	01/01/2022-31/12/2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	- %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m^2 produced
Declared unit mass	3.028 kg
GWP-fossil, A1-A3 (kgCO2e)	1,79E+00
GWP-total, A1-A3 (kgCO2e)	1,63E+00
Secondary material, inputs (%)	0.18
Secondary material, outputs (%)	100
Total energy use, A1-A3 (kWh)	9.09
Net fresh water use, A1-A3 (m3)	0.02

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Kerabit Oy is a Finnish company manufacturing and marketing Kerabit products with a hundred years of experience and know-how. The Kerabit product range includes a number of high-quality roofing and waterproofing products, in addition to bituminous roofing.

Kerabit bitumen roofing manufactured in Lohja plant bears the Key Flag symbol as a sign of high-quality Finnish work. Kerabit bitumen roofing has been manufactured in Lohja since 1955.

Kerabit product range consists of following products among others:
- SBS-elastomer bitumen membranes
- SBS-elastomer bitumen roofing shingles
- self-adhesive membranes
- single-ply roofing membranes
- underlayers.

Kerabit Oy is part of Nordic Waterproofing Group which is listed in Nasdaq Stockholm. Nordic Waterproofing is one of Europe's leading producers and suppliers of waterproofing products and services for buildings and infrastructure.

PRODUCT DESCRIPTION

Kerabit 3000 U is a bitumen underlay membrane in multi-layer membrane roof waterproofing system, glued with molten bitumen. The product is used for the waterproofing, as a vapour control layer and as a damp proof sheet. The product is made of SBS-modified bitumen and reinforced with polyester carrier. Both under and top side are covered with sand.

Kerabit 3000 U is installed onto the substrate by glueing with molten bitumen. Mechanical fastening can also be used if needed.

Technical service life of a two-layer waterproofing system is 50 years.

Product standards are EN 13707, EN 13969 and EN 13970.

Further information can be found at kerabit.fi/tuotteet.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	-	-
Minerals	50	EU
Fossil materials	50	EU and world
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	0.045545

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m^2 produced
Mass per declared unit	3.028 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).

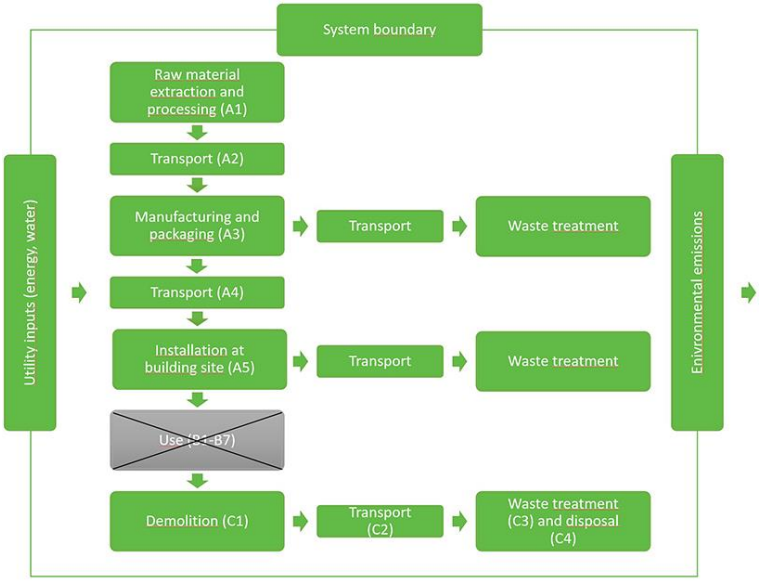
PRODUCT LIFE-CYCLE

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	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	Deconstr./demol.	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.

Bituminous waterproofing membranes are produced by a continuous process in the factory in Lohja, Finland. The bitumen is delivered hot from the petroleum refinery to the manufacturing site, where it is further heated. The manufacturing is done by heating the raw materials, bitumen and copolymers such as SBS, fillers and additives, to a specific temperature and mixing them. After this the mix is applied to the nonwoven polyester reinforcement. The resulting sheet is faced with sand on both top and underside. After cooling the product is cut to the desired length and rolled onto a cardboard core and wrapped with paper. Product rolls are placed on a wooden pallet. The pallet is wrapped with PE shrink wrap hood for storage and transportation.

Manufacturing process uses electricity from renewable sources. Transport methods of raw materials are checked from manufacturers, distances are checked either from manufacturers or with Google maps.

Waste from manufacturing and raw material packaging are included in the study. Product waste is sent to the closest facility for waste treatment to be crushed and used in asphalt manufacturing replacing virgin raw materials in road paving. Plastic and metal waste is sent to recycling. Wood pallets are sent to be reused. Mineral waste is sent to recycling in groundwork or landfill. Other combustible waste is sent to energy recovery. Transport methods and distances of manufacturing waste are checked from waste handling companies.

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 average transport distance from the production plant to building site is assumed to be 60 km and the transportation method is lorry. Vehicle capacity utilization volume factor is assumed to be 100 % which means full load. In reality, it may vary, but since the share of transport emissions in the total results is small, it is assumed that the load variation is 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. Also, volume capacity utilisation factor is assumed to be 100 % for the nested packaged products.

Installation phase A5 includes the installation losses, energy used during installation and waste generated. Roll size is 1 x 10 m. Overlaps are excluded from the study. 10 cm longitudinal and 15 cm end seams need to be considered when calculating roof structures. The product is installed by glueing with molten bitumen and possibly with mechanical fasteners if needed. The quantity of molten bitumen needed can vary depending on the understructure. The underlayer can be glued fully or seamed and partially glued. The quantity of molten bitumen 1,5 kg/m^2 (fully glued) is included in A5 module in the calculation. Mechanical fasteners are excluded from the study, as the type of the fastener and quantity per m^2 can vary depending on the understructure, wind calculations and other reasons. Propane gas is used to melt bitumen blocks used for glueing. Quantity of propane gas can vary due to the weather conditions like temperature and wind.

The installation loss is estimated to be 0,5 %. Product waste is assumed to be recycled and packaging materials (cardboard core, paper wrapper, pallet and pallet hood) to be incinerated.

PRODUCT USE AND MAINTENANCE (B1-B7)

Use phase was not included in the study.
Air, soil and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

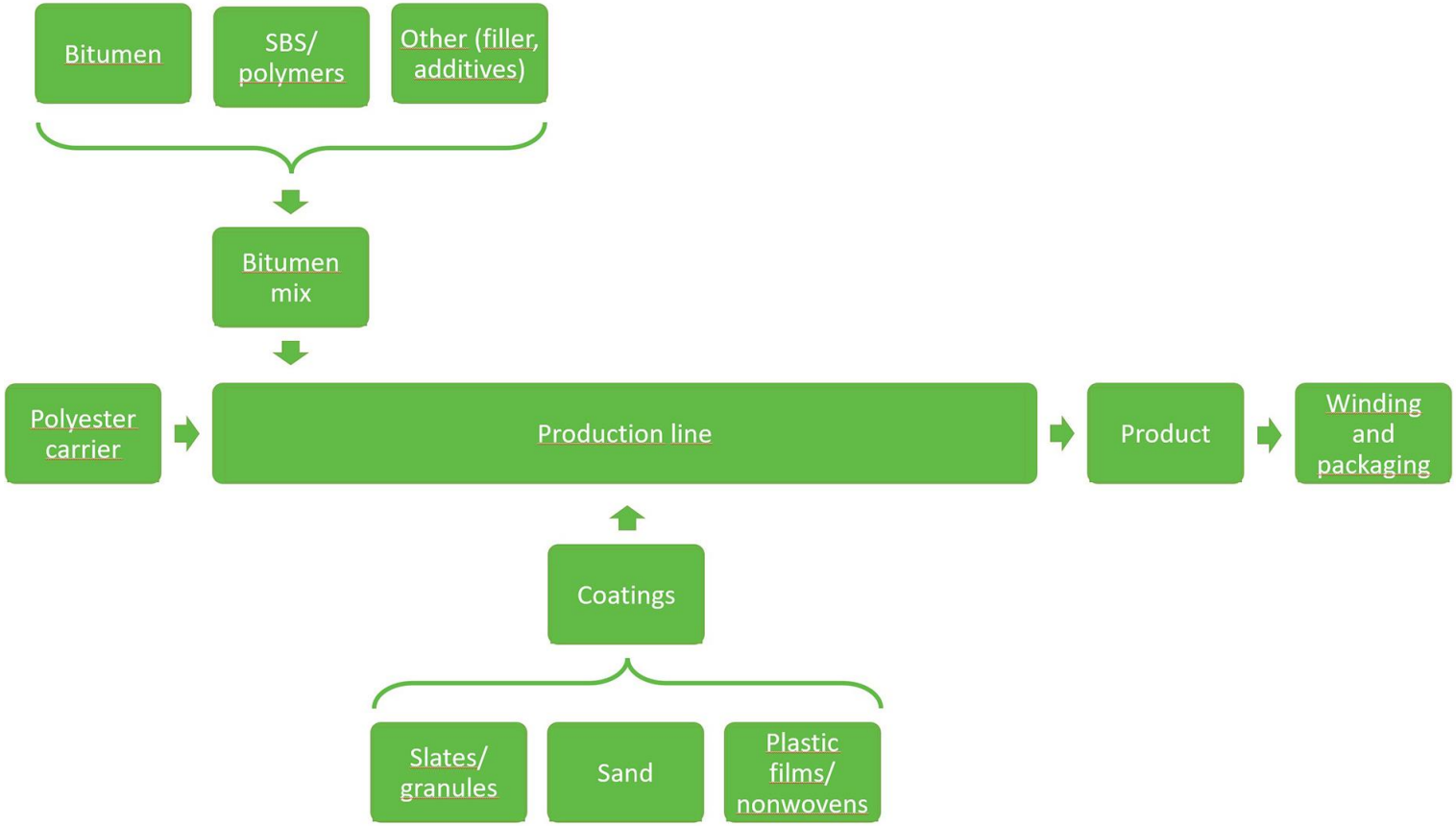
At the end-of-life, in the demolition phase 100 % of the waste is assumed to be collected as separate construction waste. The consumption of energy and natural resources is negligible for disassembling of the end-of-life product. It is assumed to be done manually or with a powered cutter so the impacts of demolition are assumed zero (C1).

The bitumen roofing is delivered to the nearest construction waste treatment plant. It is estimated that there is no mass loss during the use of the product, therefore the end-of-life product is assumed to have the same weight with the declared product with addition of bitumen used for installation. All of the end-of-life product is assumed to be sent to the closest facility for waste treatment. Transportation distance to the closest waste treatment plant is estimated as 80 km (recycling) and the transportation method is lorry.

The end-of-life scenario for the bitumen membrane in this study is assumed to be 100 % of recycling.

At the recycling plant bitumen membranes are crushed. Energy use, diesel and electricity, of crushing process are considered in the study. Crushed membranes are used in asphalt manufacturing to replace virgin raw materials in road paving.

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 materials	No allocation
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	1,49E+00	1,07E-01	2,63E-02	1,63E+00	0,00E+00	1,23E+00	MND	MND	MND	MND	MND	MND	MND	MNR	6,03E-02	4,20E-02	0,00E+00	-5,89E-01
GWP – fossil	kg CO_2e	1,49E+00	1,07E-01	1,93E-01	1,79E+00	0,00E+00	1,07E+00	MND	MND	MND	MND	MND	MND	MND	MNR	6,02E-02	4,19E-02	0,00E+00	-5,88E-01
GWP – biogenic	kg CO_2e	0,00E+00	6,84E-07	-1,67E-01	-1,67E-01	0,00E+00	1,67E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	-1,89E-04
GWP – LULUC	kg CO_2e	3,13E-03	5,50E-05	4,09E-04	3,59E-03	0,00E+00	3,60E-04	MND	MND	MND	MND	MND	MND	MND	MNR	2,36E-05	9,45E-05	0,00E+00	-2,84E-04
Ozone depletion pot.	kg CFC_{-11}e	2,46E-06	2,35E-08	1,67E-08	2,50E-06	0,00E+00	1,25E-06	MND	MND	MND	MND	MND	MND	MND	MNR	1,39E-08	7,36E-09	0,00E+00	-4,78E-08
Acidification potential	mol H^+e	7,42E-03	1,50E-03	1,15E-03	1,01E-02	0,00E+00	1,46E-02	MND	MND	MND	MND	MND	MND	MND	MNR	2,44E-04	3,71E-04	0,00E+00	-5,08E-03
EP-freshwater[2)]	kg Pe	1,46E-04	6,20E-07	8,29E-06	1,54E-04	0,00E+00	7,87E-06	MND	MND	MND	MND	MND	MND	MND	MNR	4,23E-07	4,87E-07	0,00E+00	-5,84E-06
EP-marine	kg Ne	5,78E-03	3,83E-04	2,77E-04	6,44E-03	0,00E+00	2,64E-03	MND	MND	MND	MND	MND	MND	MND	MNR	7,30E-05	1,53E-04	0,00E+00	-1,07E-02
EP-terrestrial	mol Ne	1,35E-02	4,26E-03	3,17E-03	2,10E-02	0,00E+00	2,88E-02	MND	MND	MND	MND	MND	MND	MND	MNR	8,05E-04	1,68E-03	0,00E+00	-2,66E-03
POCP ("smog")[3)]	kg NMVOCe	9,92E-03	1,15E-03	8,43E-04	1,19E-02	0,00E+00	1,15E-02	MND	MND	MND	MND	MND	MND	MND	MNR	2,47E-04	4,63E-04	0,00E+00	-4,02E-03
ADP-minerals & metals[4)]	kg Sbe	8,81E-06	2,97E-07	3,82E-06	1,29E-05	0,00E+00	2,99E-06	MND	MND	MND	MND	MND	MND	MND	MNR	2,13E-07	5,67E-08	0,00E+00	-1,87E-07
ADP-fossil resources	MJ	1,53E+01	1,50E+00	3,03E+00	1,99E+01	0,00E+00	7,40E+01	MND	MND	MND	MND	MND	MND	MND	MNR	8,94E-01	7,33E-01	0,00E+00	-1,89E+00
Water use[5)]	m^3e depr.	7,21E-01	6,15E-03	1,29E-01	8,56E-01	0,00E+00	1,15E-01	MND	MND	MND	MND	MND	MND	MND	MNR	4,13E-03	7,68E-03	0,00E+00	-8,18E-02

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	3,09E+00	7,13E-09	1,37E-08	3,09E+00	0,00E+00	1,55E-02	MND	MND	MND	MND	MND	MND	MND	MNR	5,20E-09	9,08E-09	0,00E+00	-6,97E+00
Ionizing radiation[6)]	kBq U235e	9,43E-02	7,55E-03	1,47E-02	1,17E-01	0,00E+00	3,29E-01	MND	MND	MND	MND	MND	MND	MND	MNR	4,68E-03	1,67E-02	0,00E+00	-8,39E-02
Ecotoxicity (freshwater)	CTUe	2,26E+01	1,15E+00	4,46E+00	2,82E+01	0,00E+00	3,89E+01	MND	MND	MND	MND	MND	MND	MND	MNR	7,42E-01	4,25E-01	0,00E+00	-3,49E+00
Human toxicity, cancer	CTUh	2,03E-09	4,91E-11	3,93E-10	2,48E-09	0,00E+00	4,99E-10	MND	MND	MND	MND	MND	MND	MND	MNR	2,30E-11	1,42E-11	0,00E+00	-1,49E-09
Human tox. non-cancer	CTUh	3,69E-01	1,06E-09	7,37E-09	3,69E-01	0,00E+00	1,85E-03	MND	MND	MND	MND	MND	MND	MND	MNR	7,53E-10	2,85E-10	0,00E+00	-8,32E-01
SQP[7)]	-	4,72E+00	7,84E-01	1,53E+01	2,08E+01	0,00E+00	9,64E+00	MND	MND	MND	MND	MND	MND	MND	MNR	6,26E-01	1,52E-01	0,00E+00	-1,36E+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	1,49E+00	1,80E-02	2,99E+00	4,50E+00	0,00E+00	2,32E-01	MND	MND	MND	MND	MND	MND	MND	MNR	1,28E-02	7,71E-02	0,00E+00	-5,25E-01
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,59E+00	1,59E+00	0,00E+00	-1,59E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,49E+00	1,80E-02	4,57E+00	6,08E+00	0,00E+00	-1,35E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,28E-02	7,71E-02	0,00E+00	-5,25E-01
Non-re. PER as energy	MJ	2,24E+01	1,50E+00	2,39E+00	2,63E+01	0,00E+00	3,63E+01	MND	MND	MND	MND	MND	MND	MND	MNR	8,94E-01	7,33E-01	0,00E+00	-7,69E+00
Non-re. PER as material	MJ	6,00E+01	0,00E+00	3,70E-01	6,03E+01	0,00E+00	3,74E+01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	-9,78E+01	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	8,24E+01	1,50E+00	2,76E+00	8,66E+01	0,00E+00	7,36E+01	MND	MND	MND	MND	MND	MND	MND	MNR	8,94E-01	-9,70E+01	0,00E+00	-7,69E+00
Secondary materials	kg	5,44E-03	5,62E-04	1,93E-02	2,53E-02	0,00E+00	4,50E-03	MND	MND	MND	MND	MND	MND	MND	MNR	3,00E-04	1,88E-04	0,00E+00	-2,30E-04
Renew. secondary fuels	MJ	2,52E-01	4,36E-06	3,85E-02	2,91E-01	0,00E+00	1,57E-03	MND	MND	MND	MND	MND	MND	MND	MNR	3,30E-06	6,36E-07	0,00E+00	-1,40E-06
Non-ren. secondary fuels	MJ	1,63E+00	0,00E+00	0,00E+00	1,63E+00	0,00E+00	8,14E-03	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,45E-02	1,59E-04	2,00E-03	1,66E-02	0,00E+00	2,24E-03	MND	MND	MND	MND	MND	MND	MND	MNR	1,13E-04	2,96E-04	0,00E+00	-5,73E-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	5,09E-02	1,80E-03	6,63E-02	1,19E-01	0,00E+00	2,35E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,00E-03	1,23E-03	0,00E+00	-1,22E-02
Non-hazardous waste	kg	1,05E+00	2,57E-02	3,60E-01	1,43E+00	0,00E+00	4,53E-01	MND	MND	MND	MND	MND	MND	MND	MNR	1,78E-02	2,02E-02	0,00E+00	-4,61E-01
Radioactive waste	kg	6,31E-04	1,04E-05	1,07E-05	6,52E-04	0,00E+00	5,27E-04	MND	MND	MND	MND	MND	MND	MND	MNR	6,16E-06	6,22E-06	0,00E+00	-1,37E-03

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	4,92E-04	0,00E+00	4,86E-03	5,35E-03	0,00E+00	2,68E-05	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	8,05E-04	0,00E+00	9,83E-02	9,91E-02	0,00E+00	3,05E-02	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	9,06E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	7,90E-04	0,00E+00	0,00E+00	7,90E-04	0,00E+00	3,95E-06	MND	MND	MND	MND	MND	MND	MND	MNR	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	2,06E+00	MND	MND	MND	MND	MND	MND	MND	MNR	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	1,46E+00	1,06E-01	2,03E-01	1,77E+00	0,00E+00	1,04E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,97E-02	4,14E-02	0,00E+00	-5,72E-01
Ozone depletion Pot.	kg CFC_{-11}e	1,66E-06	1,85E-08	1,49E-08	1,69E-06	0,00E+00	9,86E-07	MND	MND	MND	MND	MND	MND	MND	MNR	1,10E-08	5,87E-09	0,00E+00	-3,92E-08
Acidification	kg SO_2e	5,91E-03	1,20E-03	9,32E-04	8,03E-03	0,00E+00	1,22E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,90E-04	2,69E-04	0,00E+00	-4,12E-03
Eutrophication	kg PO_4^{3}e	2,21E-03	1,58E-04	1,30E-03	3,67E-03	0,00E+00	1,50E-03	MND	MND	MND	MND	MND	MND	MND	MNR	4,31E-05	6,93E-05	0,00E+00	-1,86E-03
POCP (“smog”)	kg C_2H_4e	9,70E-04	3,41E-05	8,72E-05	1,09E-03	0,00E+00	4,27E-04	MND	MND	MND	MND	MND	MND	MND	MNR	7,78E-06	6,68E-06	0,00E+00	-1,36E-04
ADP-elements	kg Sbe	9,62E-06	2,90E-07	3,86E-06	1,38E-05	0,00E+00	2,97E-06	MND	MND	MND	MND	MND	MND	MND	MNR	2,09E-07	5,68E-08	0,00E+00	-2,97E-07
ADP-fossil	MJ	8,22E+01	1,49E+00	3,07E+00	8,67E+01	0,00E+00	7,44E+01	MND	MND	MND	MND	MND	MND	MND	MNR	8,94E-01	7,17E-01	0,00E+00	-1,24E+02

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 acting for EPD Hub Limited
15.05.2024

EPD Hub
VERIFIED ISO 14025