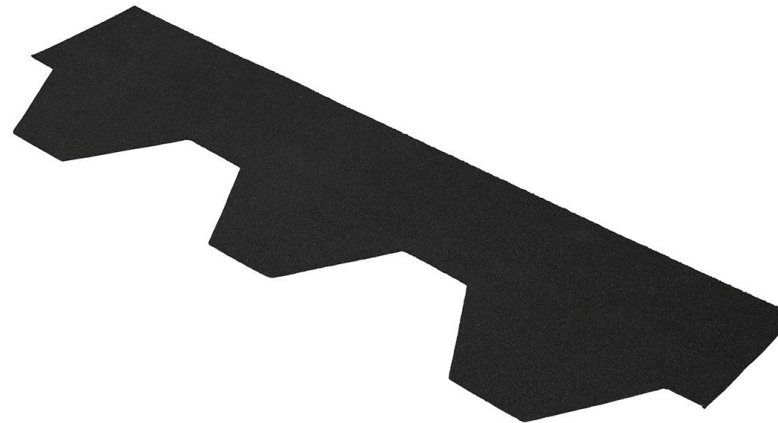




ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Kerabit K+ Bitumen shingle black Kerabit Oy



EPD HUB, HUB-3410

Publishing date 7 June 2025, last updated on 7 June 2025, valid until 7 June 2030.

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

Kerabit

GENERAL INFORMATION

MANUFACTURER

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

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+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	Jaana Valjus, Kerabit Oy
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

This EPD is intended for business-to-business and/or business-to-consumer communication. 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 K+ Bitumen shingle black
Additional labels	-
Product reference	26394
Place(s) of raw material origin	Several
Place of production	Lohja, Finland
Place(s) of installation and use	Finland
Period for data	01/01/2023-31/12/2023
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	6417547263944
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	79,1

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m ² installed
Declared unit mass	7,44 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	2,06E+00
GWP-total, A1-A3 (kgCO ₂ e)	1,77E+00
Secondary material, inputs (%)	40,6
Secondary material, outputs (%)	98,3
Total energy use, A1-A3 (kWh)	11,1
Net freshwater use, A1-A3 (m ³)	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 part of Kingspan Group. Nordic Waterproofing is one of Europe's leading producers and suppliers of waterproofing products and services for buildings and infrastructure.

PRODUCT DESCRIPTION

Kerabit bitumen shingles are suitable for roofs with an inclination of 1:5 or steeper. Bitumen shingles are lightweight and easy to work with. The roofing is laid on a substrate of tightly joined tongue-and-groove boards or building boards suitable for the purpose. Also, a bitumen underlay membrane is needed between the wooden substrate and the shingles. The substrate and the underlay membrane are not included in the study. Installation is carried out by nailing in place using concealed nailing.

Bitumen shingles are constructed of strong non-woven glass fibre reinforcement coated with modified bitumen. Top side is coated with mineral granulates and the underside is coated with a layer of self-adhesive modified bitumen and plastic foil.

K+ represents bitumen shingles at their most traditional. Despite this, the product is equally suitable for the roofing of new modern one-family houses, holiday homes and older buildings.

Product standard is EN 544.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	68	Finland
Fossil materials	32	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	0,00138
Biogenic carbon content in packaging, kg C	0,08102

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m ² installed
Mass per declared unit	7,44 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	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.

A market-based approach is used in modelling the electricity mix utilized in the factory.

Bituminous shingles 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 glass fiber reinforcement. The resulting sheet is faced with black slag on top and underside is covered with plastic foil on the upper edge. Adhesive section on the lower edge is covered with removable plastic foil. After cooling the product is cut to the desired shape and stacked to packages of 22 pieces. Paper label and shrinkable plastic are applied around each package. Packages are placed on a wooden pallet 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.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

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 trips are 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 utilization factor is assumed to be 100 % for the nested packaged products.

Installation phase A5 includes the material loss during installation, materials needed and waste generated.

Underlay is needed. There are several underlay options, so that is not included in the study. Installation of shingles is carried out by nailing the shingles in place along the adhesive edge using concealed nailing. Nails are included in the study.

The installation loss is estimated to be 3 %. Product waste is assumed to be recycled and packaging materials (paper label, pallet, plastic film) to be incinerated or recycled according to Finnish waste statistics.

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)

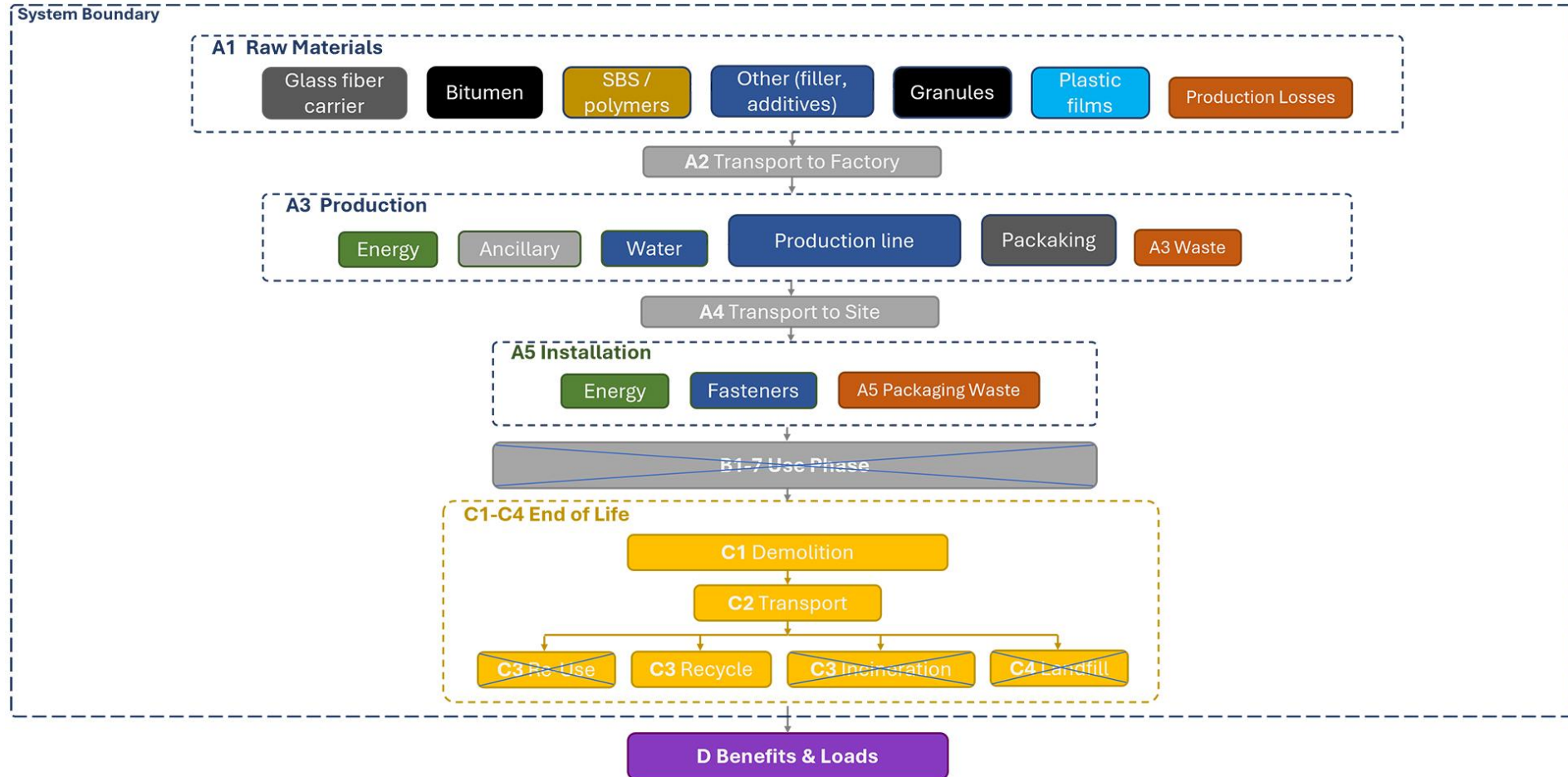
At the end-of-life, in the demolition phase 100 % of the waste is assumed to be collected as separate construction waste. The consumption of energy and natural resources is negligible for disassembling of the end-of-life product. It is assumed to be done manually or with a powered cutter so the impacts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

At the recycling plant bitumen shingles 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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

For easier modelling and because of lack of accuracy in data and available modelling resources few constituents under 0,1% of product mass are excluded. These include some ancillary materials which are all present in the product only in very small amounts and have no serious impact on the emissions of the product.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

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	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

Explanation of the main product material composition: Nothing is calculated to metals. Sand and lime are calculated to minerals. Bitumen, SBS, reinforcement and plastic film are calculated to fossil materials.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping 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

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

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	1,46E+00	2,29E-01	8,61E-02	1,77E+00	4,71E-02	9,13E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,15E-01	6,69E-02	0,00E+00	-6,40E-01
GWP – fossil	kg CO ₂ e	1,46E+00	2,29E-01	3,69E-01	2,06E+00	4,71E-02	3,68E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,14E-01	6,67E-02	0,00E+00	-6,45E-01
GWP – biogenic	kg CO ₂ e	-5,06E-03	4,44E-05	-2,84E-01	-2,89E-01	1,03E-05	5,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,27E-05	3,93E-05	0,00E+00	5,60E-03
GWP – LULUC	kg CO ₂ e	5,23E-04	9,01E-05	7,95E-04	1,41E-03	1,83E-05	1,84E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,05E-05	1,87E-04	0,00E+00	-5,72E-04
Ozone depletion pot.	kg CFC-11e	1,33E-07	4,38E-09	6,86E-09	1,44E-07	9,83E-10	6,41E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,28E-09	1,05E-09	0,00E+00	-3,37E-08
Acidification potential	mol H ⁺ e	1,61E-02	1,77E-03	1,73E-03	1,96E-02	1,11E-04	1,41E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,58E-04	5,54E-04	0,00E+00	-4,96E-03
EP-freshwater ²⁾	kg Pe	6,35E-05	1,39E-05	9,87E-05	1,76E-04	3,29E-06	9,07E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,59E-06	4,09E-06	0,00E+00	-1,23E-04
EP-marine	kg Ne	3,25E-03	4,75E-04	3,66E-04	4,09E-03	2,92E-05	3,28E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,21E-04	2,49E-04	0,00E+00	-8,34E-03
EP-terrestrial	mol Ne	3,60E-02	5,23E-03	3,73E-03	4,49E-02	3,15E-04	3,39E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,31E-03	2,72E-03	0,00E+00	-4,12E-03
POCP (“smog”) ³⁾	kg NMVOCe	1,58E-02	1,79E-03	1,60E-03	1,92E-02	1,93E-04	1,27E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,61E-04	8,12E-04	0,00E+00	-3,91E-03
ADP-minerals & metals ⁴⁾	kg Sbe	5,14E-06	6,23E-07	5,05E-06	1,08E-05	1,35E-07	1,77E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,74E-07	6,93E-08	0,00E+00	-8,51E-07
ADP-fossil resources	MJ	3,17E+01	3,20E+00	8,69E+00	4,36E+01	7,07E-01	3,76E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,61E+00	1,16E+00	0,00E+00	-9,74E+01
Water use ⁵⁾	m ³ e depr.	5,12E-01	1,48E-02	1,46E-01	6,73E-01	3,62E-03	9,07E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,90E-03	1,31E-02	0,00E+00	-1,30E-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

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	1,25E-07	1,71E-08	2,10E-08	1,63E-07	4,59E-09	1,83E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,00E-09	1,51E-08	0,00E+00	-5,27E+00
Ionizing radiation ⁶⁾	kBq 11235e	1,21E-01	3,57E-03	4,51E-02	1,70E-01	8,52E-04	2,41E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,05E-03	2,39E-02	0,00E+00	-9,56E-02
Ecotoxicity (freshwater)	CTUe	5,98E+00	3,77E-01	1,48E+00	7,84E+00	8,33E-02	9,36E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,11E-01	6,88E-02	0,00E+00	-8,38E-01
Human toxicity, cancer	CTUh	3,74E-09	4,04E-11	4,20E-10	4,20E-09	7,84E-12	3,36E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,95E-11	8,44E-12	0,00E+00	-1,16E-09
Human tox. non-cancer	CTUh	1,02E-08	1,83E-09	5,01E-09	1,71E-08	4,57E-10	3,15E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,01E-09	1,89E-10	0,00E+00	-6,30E-01
SQP ⁷⁾	-	3,08E+00	2,04E+00	2,74E+01	3,26E+01	7,12E-01	1,90E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,57E-01	1,84E-01	0,00E+00	-2,98E+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	4,91E-02	6,40E+00	7,69E+00	1,15E-02	-2,36E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,78E-02	1,50E-01	0,00E+00	-8,69E-01
Renew. PER as material	MJ	6,19E-02	0,00E+00	2,61E+00	2,67E+00	0,00E+00	-2,61E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-6,11E-02	0,00E+00	-8,07E-02
Total use of renew. PER	MJ	1,31E+00	4,91E-02	9,01E+00	1,04E+01	1,15E-02	-4,98E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,78E-02	8,90E-02	0,00E+00	-9,50E-01
Non-re. PER as energy	MJ	2,42E+01	3,20E+00	4,83E+00	3,22E+01	7,07E-01	2,09E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,61E+00	1,16E+00	0,00E+00	-8,47E+00
Non-re. PER as material	MJ	9,34E+00	0,00E+00	2,89E+00	1,22E+01	0,00E+00	-3,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-9,22E+00	0,00E+00	-8,68E+01
Total use of non-re. PER	MJ	3,35E+01	3,20E+00	7,72E+00	4,45E+01	7,07E-01	-9,17E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,61E+00	-8,06E+00	0,00E+00	-9,53E+01
Secondary materials	kg	3,02E+00	1,44E-03	1,54E-02	3,04E+00	3,06E-04	1,06E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,36E-04	3,56E-04	0,00E+00	-1,30E-03
Renew. secondary fuels	MJ	5,72E-04	1,57E-05	9,34E-02	9,39E-02	3,86E-06	2,88E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,30E-06	9,64E-07	0,00E+00	-7,05E-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	1,49E-02	4,08E-04	4,22E-03	1,96E-02	1,04E-04	1,96E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,16E-04	4,04E-04	0,00E+00	-1,22E-02

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	3,33E-02	4,52E-03	6,29E-02	1,01E-01	1,02E-03	6,51E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,31E-03	1,39E-03	0,00E+00	-2,58E-02
Non-hazardous waste	kg	3,97E-01	8,89E-02	1,32E+00	1,81E+00	2,05E-02	1,32E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,87E-02	2,43E-02	0,00E+00	-8,88E-01
Radioactive waste	kg	6,30E-04	8,84E-07	1,16E-04	7,47E-04	2,11E-07	2,72E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,10E-07	5,13E-06	0,00E+00	-1,04E-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	0,00E+00	0,00E+00	7,92E-03	7,92E-03	0,00E+00	2,38E-04	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	1,24E-02	0,00E+00	2,38E-01	2,50E-01	0,00E+00	5,06E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,48E+01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	3,72E-05	3,72E-05	0,00E+00	1,12E-06	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	3,16E+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 – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,91E-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 – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,67E+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 – 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 ⁹⁾	kg CO ₂ e	1,46E+00	2,29E-01	3,70E-01	2,06E+00	4,71E-02	3,69E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,15E-01	6,68E-02	0,00E+00	-6,46E-01

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
07.06.2025

