



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Kerabit 3300 UTL Neo
Kerabit Oy



EPD HUB, HUB-5085

Published on 24.01.2026, last updated on 17.09.2026, valid until 23.01.2031

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) 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 1.2, 24 Mar 2025 EN 17388-2 Flexible sheets for waterproofing - Part 2: Cradle to gate with options
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	Yazan Badour as an authorized verifier for EPD Hub

This EPD is intended for business-to-business 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 3300 UTL Neo
Additional labels	-
Product reference	55518
Place(s) of raw material origin	EU
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)	6417547555186
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	54

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m ² produced
Declared unit mass	3,26 kg
Mass of packaging	0,14 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	1,96
GWP-total, A1-A3 (kgCO ₂ e)	1,69
Secondary material, inputs (%)	0,33
Total energy use, A1-A3 (kWh)	8,46
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
- underlays.

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 3300 UTL Neo is a bitumen line-torch-on underlay membrane for multilayer membrane roof waterproofing system. The product is used for the waterproofing and as a vapour control layer. The product is made of SBS-modified bitumen with renewable raw materials and reinforced with polyester carrier. The underside of the product is coated partially with torch-on bitumen and thermofusible film. The top side is covered with sand.

Kerabit 3300 UTL Neo is installed by bonding onto the substrate by melting the undersurface of the membrane and the thermofusible film with a blowtorch. 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 13859-1 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	49	EU
Fossil materials	45	EU
Bio-based materials	6	EU

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,023
Biogenic carbon content in packaging, kg C	0,054

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m ² produced
Mass per declared unit	3,26 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	ND	ND	ND	ND	ND	ND	ND	x	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	Recycling

Not declared = ND

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 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, tall oil, 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 topside and thermofusible film on underside. After cooling the product is cut to the desired length and rolled onto a cardboard core. 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. Wooden 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 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 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. 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.

Installation is carried out by torching and possibly with mechanical fasteners if needed. Mechanical fasteners are excluded from the study, as the type of the fastener and quantity per m² can vary depending on the understructure, wind calculations and other reasons. Propane gas is used to the installation of the torch-on membrane. Quantity of propane gas can vary due to the weather conditions like temperature, wind and humidity. The installation loss is estimated to be 0,5 %. Product waste is assumed to be recycled. According to Finnish Waste Act bitumen membranes are to be sorted and collected separately for recycling. Packaging materials are assumed to be incinerated or recycled according to Finnish waste statistics

(https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin_jate/statfin_jate_pxt_12qy.px/). Plastic: 35,6 % recycled, 64,5 % incinerated. Paper and cardboard: 94 % recycled, 6 % incinerated. Wood: 2 % recycled, 98 % 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).

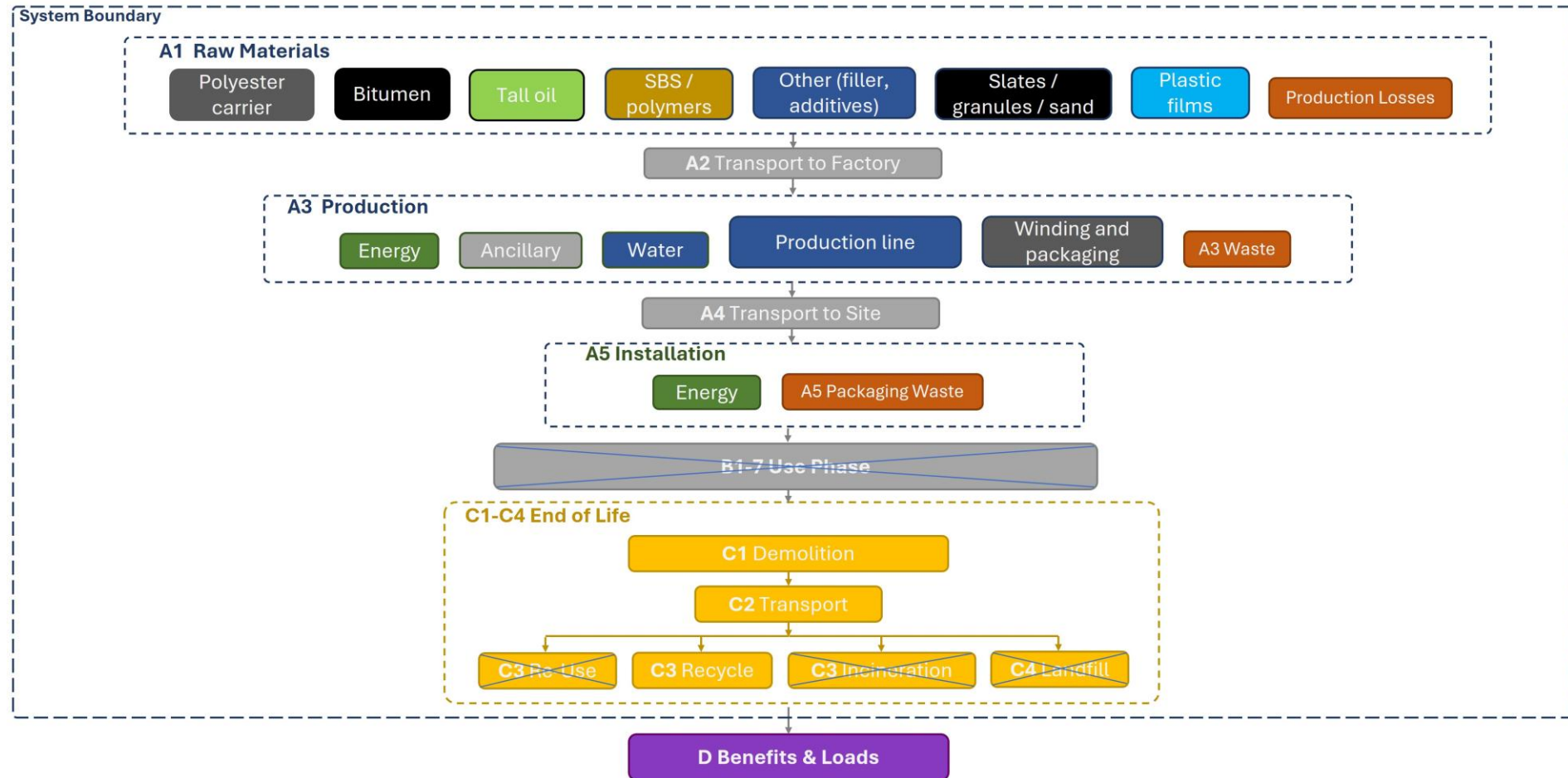
The bitumen roofing is delivered to the nearest construction waste treatment plant. It is estimated that there is no mass loss during the use of the product, therefore the end-of-life product is assumed to have the same weight with the declared product. All of the end-of-life product is assumed to be 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. According to Finnish Waste Act bitumen membranes are to be sorted and collected separately for recycling. End-of-life processes are assumed to take place in Finland. The scenarios reflect current practices in Finland and are representative of one of the most likely scenarios for the product's end-of-life.

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.

The benefits and loads of incineration and recycling are included in Module D. Benefits also include the avoided use of primary materials. The benefit of bitumen membrane recycling is the avoidance of virgin bitumen and sand/gravel in asphalt production. Module D covers loads from the incineration and recycling of plastic, paper, cardboard and wood, as well as benefits in the form of heat and electricity generated from incineration (reference year: 2023).

LIFE CYCLE FLOW DIAGRAM



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	Physical Properties
Manufacturing energy and waste	Physical Properties

Explanation of the main product material composition: Nothing is calculated to metals. Tall oil is calculated to bio-based materials. Sand and lime are calculated to minerals. Bitumen, SBS and reinforcement 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 for EPD Hub V3 and EPD Process Certification v3.2.5. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

Finnish waste statistics

https://pxdata.stat.fi/PxWeb/pxweb/en/StatFin/StatFin_jate/statfin_jate_pxt_12qy.px/

Finnish Waste Act 15 a §

<https://www.finlex.fi/fi/lainsaadanto/2011/646>

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, 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 ₂ e	1,60E+00	1,49E-01	-5,85E-02	1,69E+00	2,11E-02	6,90E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,05E-02	1,12E-01	0,00E+00	-3,55E-01
GWP – fossil	kg CO ₂ e	1,68E+00	1,48E-01	1,36E-01	1,96E+00	2,11E-02	4,92E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,04E-02	2,89E-02	0,00E+00	-3,87E-01
GWP – biogenic	kg CO ₂ e	-8,38E-02	2,31E-05	-1,95E-01	-2,78E-01	4,61E-06	1,97E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,00E-05	8,33E-02	0,00E+00	3,26E-02
GWP – LULUC	kg CO ₂ e	1,13E-03	6,02E-05	4,80E-04	1,67E-03	8,22E-06	1,03E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,78E-05	8,29E-05	0,00E+00	-3,84E-04
Ozone depletion pot.	kg CFC-11e	1,49E-06	2,67E-09	2,27E-09	1,50E-06	4,41E-10	1,52E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,00E-09	4,57E-10	0,00E+00	-2,05E-08
Acidification potential	mol H ⁺ e	1,26E-02	1,85E-03	7,77E-04	1,52E-02	4,98E-05	9,27E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,58E-04	2,39E-04	0,00E+00	-3,00E-03
EP-freshwater ²⁾	kg Pe	1,98E-04	7,91E-06	5,60E-05	2,62E-04	1,48E-06	2,69E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,34E-06	1,80E-06	0,00E+00	-7,66E-05
EP-marine	kg Ne	2,45E-03	4,89E-04	1,74E-04	3,11E-03	1,31E-05	3,38E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,32E-05	1,08E-04	0,00E+00	-5,21E-03
EP-terrestrial	mol Ne	2,76E-02	5,41E-03	1,76E-03	3,48E-02	1,41E-04	3,63E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,78E-04	1,18E-03	0,00E+00	-2,57E-03
POCP (“smog”) ³⁾	kg NMVOCe	1,56E-02	1,63E-03	7,05E-04	1,80E-02	8,66E-05	1,68E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,47E-04	3,50E-04	0,00E+00	-2,35E-03
ADP-minerals & metals ⁴⁾	kg Sbe	1,04E-05	3,62E-07	2,57E-06	1,33E-05	6,04E-08	3,28E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,65E-07	3,05E-08	0,00E+00	-4,59E-07
ADP-fossil resources	MJ	3,63E+01	1,99E+00	2,41E+00	4,07E+01	3,17E-01	6,92E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,08E-01	5,07E-01	0,00E+00	-6,03E+01
Water use ⁵⁾	m ³ e depr.	5,40E-01	8,32E-03	5,84E-02	6,07E-01	1,62E-03	2,75E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,48E-03	5,78E-03	0,00E+00	-9,30E-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, 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	1,11E-07	9,08E-09	8,45E-09	1,29E-07	2,06E-09	1,34E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,96E-09	6,50E-09	0,00E+00	-3,29E+00
Ionizing radiation ⁶⁾	kBq 11235e	8,40E-02	1,99E-03	1,01E-02	9,61E-02	3,82E-04	5,46E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,03E-04	1,06E-02	0,00E+00	-5,41E-02
Ecotoxicity (freshwater)	CTUe	2,62E+01	2,23E-01	1,08E+00	2,75E+01	3,74E-02	4,68E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,30E-02	3,00E-02	0,00E+00	-3,28E+00
Human toxicity, cancer	CTUh	3,25E-09	2,73E-11	2,21E-10	3,50E-09	3,52E-12	8,19E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,60E-12	3,67E-12	0,00E+00	-7,32E-10
Human tox. non-cancer	CTUh	1,32E-08	1,00E-09	2,66E-09	1,68E-08	2,05E-10	1,12E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,45E-10	8,27E-11	0,00E+00	-3,93E-01
SQP ⁷⁾	-	1,38E+01	8,53E-01	1,77E+01	3,24E+01	3,19E-01	4,18E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,22E-01	8,11E-02	0,00E+00	-3,71E+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	1,05E-01	2,79E-02	3,44E+00	3,57E+00	5,16E-03	-1,64E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,22E-02	6,66E-02	0,00E+00	-7,00E-01
Renew. PER as material	MJ	2,74E+00	0,00E+00	1,81E+00	4,55E+00	0,00E+00	-1,81E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,74E+00	0,00E+00	-3,68E-01
Total use of renew. PER	MJ	2,85E+00	2,79E-02	5,25E+00	8,13E+00	5,16E-03	-3,45E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,22E-02	-2,68E+00	0,00E+00	-1,07E+00
Non-re. PER as energy	MJ	2,33E+01	1,99E+00	1,58E+00	2,68E+01	3,17E-01	6,70E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,08E-01	5,07E-01	0,00E+00	-5,15E+00
Non-re. PER as material	MJ	1,48E+01	0,00E+00	4,45E-01	1,52E+01	0,00E+00	-4,45E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,48E+01	0,00E+00	-5,38E+01
Total use of non-re. PER	MJ	3,80E+01	1,99E+00	2,03E+00	4,20E+01	3,17E-01	6,25E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,08E-01	-1,42E+01	0,00E+00	-5,89E+01
Secondary materials	kg	1,08E-02	9,04E-04	1,56E-02	2,73E-02	1,37E-04	3,22E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,24E-04	1,54E-04	0,00E+00	-1,36E-03
Renew. secondary fuels	MJ	2,49E-03	8,43E-06	4,89E-02	5,14E-02	1,73E-06	2,62E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,10E-06	4,18E-07	0,00E+00	-2,10E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	1,35E-02	2,23E-04	1,45E-03	1,51E-02	4,68E-05	5,54E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,54E-05	1,79E-04	0,00E+00	-5,58E-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	4,26E-02	2,73E-03	3,25E-02	7,79E-02	4,59E-04	1,08E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,02E-03	6,09E-04	0,00E+00	-1,56E-02
Non-hazardous waste	kg	2,81E+00	5,16E-02	6,98E-01	3,56E+00	9,18E-03	2,77E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,14E-02	1,07E-02	0,00E+00	-3,83E-01
Radioactive waste	kg	4,76E-05	4,92E-07	2,21E-05	7,01E-05	9,45E-08	1,56E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,24E-07	2,28E-06	0,00E+00	-6,50E-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	4,19E-03	4,19E-03	0,00E+00	2,10E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	9,84E-03	0,00E+00	9,25E-02	1,02E-01	0,00E+00	1,01E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,52E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	6,92E-06	6,92E-06	0,00E+00	3,46E-08	ND	ND	ND	ND	ND	ND	ND	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	1,33E+00	ND	ND	ND	ND	ND	ND	ND	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	2,04E-01	ND	ND	ND	ND	ND	ND	ND	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	1,13E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ADDITIONAL INDICATOR – 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 ₂ e	1,68E+00	1,49E-01	1,36E-01	1,96E+00	2,11E-02	4,92E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,05E-02	2,89E-02	0,00E+00	-3,87E-01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO₂ is set to zero

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Heat and power co-generation, biogas, gas engine, Finland, Ecoinvent, 0.0071 kgCO₂e/MJ
2. Propane, burned in building machine, World, Ecoinvent, 0.0945 kgCO₂e/MJ
3. Electricity production, wind, >3MW turbine, onshore, Finland, Ecoinvent, 0.0318 kgCO₂e/kWh
4. Electricity production, photovoltaic, 3kWp slanted-roof installation, single-Si, panel, mounted, Finland, Ecoinvent, 0.12 kgCO₂e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry >32 metric ton, EURO6, 60 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	
Bulk density of transported products	586
Volume capacity utilization factor	

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	
Water use (m ³)	
Ancillary materials: type and mass (kg)	
Waste materials: type and mass (kg)	
Waste materials: output routes	
Direct emissions (kg)	

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	
Collection process: Mixed waste (kg)	
Recovery: re-use (kg)	0
Recovery: recycling (kg)	3,26
Recovery: energy recovery (kg)	0
Disposal (kg)	0
Scenario assumptions e.g. transportation (mode, km) & other	

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez

Tool verification validity: 27 March 2025 - 26 March 2028

Yazan Badour as an authorized verifier for EPD Hub Limited 24.01.2026

