ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Kiilto Floor Heat DF

Kiilto Oy

EPD HUB, HUB-0429

Published on 16.04.2026, last updated on 16.04.2026, valid until 16.04.2031

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

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Kiilto Oy
Address	Tampereentie 408, 33880 Lempäälä , FI
Contact details	lifecyclecalculations@kiilto.com
Website	www.kiilto.com

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
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4, and modules C1-C4, D
EPD author	Jaana Tikkanen, Kiilto 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 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	Kiilto Floor Heat DF
Product reference	T2001
Place(s) of raw material origin	Europe
Place of production	Kiilto Oy Lempäälä, Finland
Place(s) of installation and use	Europe
Period for data	01/01/2025-31/12/2025
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
A1-A3 Specific data (%)	91,5

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of Kiilto Floor Heat DF levelling screed
Declared unit mass	1 kg
Mass of packaging	0,0036 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	0,27
GWP-total, A1-A3 ($kgCO_2e$)	0,27
Secondary material, inputs (%)	2,15
Secondary material, outputs (%)	80,4
Total energy use, A1-A3 (kWh)	1,19
Net freshwater use, A1-A3 (m^3)	0

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Kiilto is a growing, family-owned company, with over a hundred-year history and a vision looking ahead to 2080. We develop, produce and sell chemical industry solutions in four business areas: construction, industrial adhesives and fireproofing, professional hygiene and consumer goods. We employ around 800 innovative professionals, Kiiltonians, and operate in 9 countries: Finland, Sweden, Norway, Denmark, Ukraine, the Baltic countries and Poland. This makes us a strong player in each of our market areas.

We take pride in our own research, development and innovation functions, which are the base for the agile and valuable cooperation with our customers. We believe that our industry is filled with potential when it comes to finding sustainable innovations and solutions of the future. Solutions that nurture the well-being of people and nature and contribute to creating a balance between environment and our society.

PRODUCT DESCRIPTION

Kiilto Foor Heat DF is a dust reduced and fibre-reinforced levelling screed for building of floor slopes in floors with underfloor heating. Designation EN 13813 CT-C30-F7. Compatible with both warm water tubing and electric cables. Also suitable for general floor levelling. Low-alkali. M1-certificate, CE marking.

Further information can be found at: www.kiilto.com

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Minerals	90-100	Europe
Fossil materials	0-10	Europe

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	-

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of Kiilto Floor Heat DF levelling screed
Mass per declared unit	1 kg

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	ND	ND	ND	ND	ND	ND	ND	ND	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 = 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.

Both electricity and heat are used in the factory and the sources are documented in the scenario documentation. A market-based approach is used to model the electricity utilized in the factory. The heating comes from district heating. Energy profile and consumption data is based on primary production data.

The production of the levelling screed consists of four steps: raw material manufacturing, raw material transportation to Kiilto, mixing and packaging. Raw materials for the product and the packaging materials come from national suppliers (Finland) or Europe. The A2 transportation is modelled with actual transportation distances from their manufacturer. From Europe the materials are transported by truck and then shipped by ferry to the Finnish coast. Within Finland the materials are transported by truck to Lempäälä. Transportation is assumed to be carried out using EURO 5 class truck. Production loss is not taken into account as the amount is considered to be negligible compared to other material flows.

During the mixing all raw materials are added in big mixing vessel where they are mixed together for few minutes. The product is then packed in a polyethylene (PE) bag. 50% of polyethylene is recycled. The capacity of the bag is 20 kg. The most manufactured package size has been considered in this study. Eventually, the product is moved out and transported to the customer in the package.

Waste generated during production (A3) is recycled externally in accordance with national environmental management practices. The inputs were allocated to the studied product based on annual production volume (mass) of the manufacturing site. A3 waste is assumed to be sent to closest facilities by truck (EURO5) and the distance is estimated to be 50 km.

There is no internal transport on the factory site because the facility is very compact. Emissions to air are not relevant either.

The use of fossil-free energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.). The use of fossil free energy 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 transportation distance is defined according to an average value and is assumed to be 300 km, and the transportation method is assumed to be a truck. Vehicle capacity-utilization volume factor is assumed to be 100%, meaning full load. In practice, this may vary; however, the variation in load is considered negligible as transportation emissions represent only a small share of the product's total emissions. Empty returns are not taken into account as it is assumed that return trip is used by the transportation company to serve other clients. No product losses occur during transportation because the goods are properly packaged. Kiilto purchases the transportation services from a partner that operates under a contractual commitment to use BIO-based fuel.

Installation (A5) does not apply to the product and that is why there is no material or energy consumption to be considered during the installation stage.

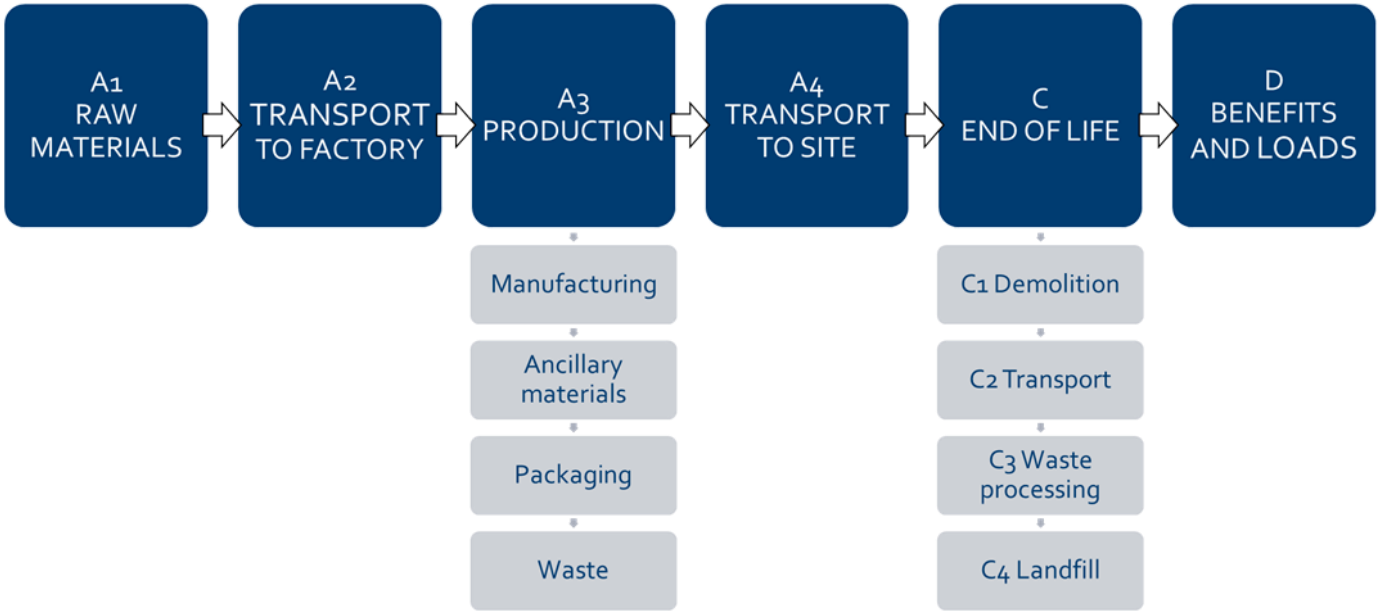
PRODUCT USE AND MAINTENANCE (B1-B7)

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)

At the end-of-life, in the demolition phase 100% of the waste is assumed to be collected as separate construction waste (C1). The demolition process is modelled with the use of building machines and diesel fuel. The energy consumption for the process is assumed to be 0.01 kWh/kg (based on studies by Bozdağ & Seçer (2007) and the EU Level(s) projects). All of end-of-life product is assumed to be sent to the closest facilities by truck (EURO5), and the transportation distance is estimated to be 50 km (C2). 80% of the end-of-life product is sent to recycling (C3) and 20% is sent to the landfill (C4). Due to the 80% recycling potential, the benefits for recycling brick and load for rock crushing are considered, and the end-of-life product is converted into recycled raw materials and is assumed to substitute the production of primary crushed stone aggregates (D). The end-of-life scenario in this study is representative of Finland and modelled according to Finnish Betoniteollisuus ry (source: https://betoni.com/perustietopaketti/ekologisuus/kierratys/ reference year 2011).

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.

As the plant where the product is manufactured is a dry mix product plant, water has not been taken into account because manufacturing or other cleaning processes do not use water.

All industrial processes from raw material acquisition and pre-processing, production, product distribution and end-of-life management are included. This study does not exclude any modules or processes which represent more than 1 % of the emissions of studied life cycle stage. The considered material losses occurring during the manufacturing processes were found negligible.

The product or the packaging do not include over 5% biogenic materials.

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. 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 EN15804:2012+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	Not applicable
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

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.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD System Verification v3.2.3. 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 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

EN 15804:2012+A2:2019/AC2021 Sustainability of construction works — Environmental product declarations — Core rules for the product category of construction products.

EN ISO 14025:2006 Type III environmental declarations — Principles and procedure.

EN ISO 14040:2006+A1:2020 and EN ISO 14044:2006+A2:2020 Life cycle assessment — Principles/Requirements and guidelines.

Bozdağ, Ö & Seçer, M. (2007): Energy consumption of a demolition process.

Level(s) framework https://green-forum.ec.europa.eu/green-business/levels_en

https://betoni.com/perustietopaketti/ekologisuus/kierratys/

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_2e	1,68E-01	8,77E-02	1,10E-02	2,66E-01	9,91E-03	ND	ND	ND	ND	ND	ND	ND	ND	3,61E-03	7,43E-03	1,04E-02	1,25E-03	-8,01E-03
GWP – fossil	kg CO_2e	1,67E-01	8,76E-02	1,09E-02	2,66E-01	1,91E-02	ND	ND	ND	ND	ND	ND	ND	ND	3,60E-03	7,43E-03	1,04E-02	1,25E-03	-8,01E-03
GWP – biogenic	kg CO_2e	3,99E-04	1,53E-05	6,51E-05	4,79E-04	-9,63E-03	ND	ND	ND	ND	ND	ND	ND	ND	3,68E-07	1,53E-06	-1,13E-05	-3,97E-07	0,00E+00
GWP – LULUC	kg CO_2e	4,04E-05	3,76E-05	3,71E-05	1,15E-04	4,75E-04	ND	ND	ND	ND	ND	ND	ND	ND	3,69E-07	2,73E-06	1,92E-05	7,14E-07	-7,24E-06
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	3,80E-09	1,50E-09	4,29E-10	5,73E-09	6,32E-10	ND	ND	ND	ND	ND	ND	ND	ND	5,52E-11	1,49E-10	1,55E-10	3,62E-11	-6,24E-11
Acidification potential	mol H^+e	6,44E-04	1,46E-03	3,58E-05	2,14E-03	2,86E-04	ND	ND	ND	ND	ND	ND	ND	ND	3,25E-05	2,34E-05	7,12E-05	8,85E-06	-4,89E-05
EP-freshwater[2)]	kg Pe	2,59E-06	4,19E-06	2,62E-06	9,41E-06	2,73E-06	ND	ND	ND	ND	ND	ND	ND	ND	1,04E-07	5,04E-07	3,16E-06	1,03E-07	-2,44E-06
EP-marine	kg Ne	2,59E-04	3,81E-04	1,09E-05	6,50E-04	2,27E-04	ND	ND	ND	ND	ND	ND	ND	ND	1,51E-05	7,87E-06	2,57E-05	3,37E-06	-1,16E-05
EP-terrestrial	mol Ne	2,15E-03	4,22E-03	8,73E-05	6,45E-03	1,30E-03	ND	ND	ND	ND	ND	ND	ND	ND	1,65E-04	8,56E-05	2,78E-04	3,68E-05	-1,40E-04
POCP ("smog")[3)]	kg NMVOCe	5,69E-04	1,22E-03	5,37E-05	1,84E-03	1,33E-04	ND	ND	ND	ND	ND	ND	ND	ND	4,93E-05	3,73E-05	8,77E-05	1,32E-05	-3,88E-05
ADP-minerals & metals[4)]	kg Sbe	1,44E-06	1,74E-07	6,38E-08	1,68E-06	4,84E-08	ND	ND	ND	ND	ND	ND	ND	ND	1,29E-09	2,33E-08	2,85E-08	1,98E-09	-4,28E-08
ADP-fossil resources	MJ	1,81E+00	1,16E+00	8,06E-01	3,77E+00	1,83E-01	ND	ND	ND	ND	ND	ND	ND	ND	4,72E-02	1,06E-01	1,49E-01	3,06E-02	-9,61E-02
Water use[5)]	m^3e depr.	5,56E+00	4,51E-03	8,99E-03	5,58E+00	1,54E-02	ND	ND	ND	ND	ND	ND	ND	ND	1,18E-04	5,37E-04	1,10E-03	8,84E-05	-1,20E-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	2,69E-09	4,98E-09	4,60E-10	8,13E-09	1,72E-09	ND	ND	ND	ND	ND	ND	ND	ND	9,25E-10	6,38E-10	7,44E-09	2,01E-10	-7,43E-10
Ionizing radiation[6]	kBq U235e	1,24E-03	1,02E-03	4,67E-02	4,90E-02	3,89E-04	ND	ND	ND	ND	ND	ND	ND	ND	2,09E-05	1,38E-04	3,14E-04	1,93E-05	-6,75E-04
Ecotoxicity (freshwater)	CTUe	6,76E-01	1,18E-01	4,51E-01	1,24E+00	4,12E-01	ND	ND	ND	ND	ND	ND	ND	ND	2,60E-03	1,37E-02	5,38E-02	2,57E-03	-2,29E-02
Human toxicity, cancer	CTUh	3,84E-11	1,65E-11	3,14E-12	5,80E-11	8,80E-12	ND	ND	ND	ND	ND	ND	ND	ND	3,71E-13	1,25E-12	3,27E-12	2,30E-13	-2,14E-12
Human tox. non-cancer	CTUh	4,49E-10	5,17E-10	8,41E-11	1,05E-09	8,65E-10	ND	ND	ND	ND	ND	ND	ND	ND	5,87E-12	6,71E-11	9,79E-11	5,29E-12	-6,25E-11
SQP[7]	-	1,92E-01	5,12E-01	5,62E-02	7,60E-01	9,51E-01	ND	ND	ND	ND	ND	ND	ND	ND	3,30E-03	8,15E-02	1,21E-01	6,03E-02	-9,00E-02

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	1,46E-01	1,45E-02	6,63E-03	1,67E-01	4,71E-02	ND	ND	ND	ND	ND	ND	ND	ND	2,99E-04	1,85E-03	5,43E-03	2,96E-04	-8,75E-03
Renew. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,46E-01	1,45E-02	6,63E-03	1,67E-01	4,71E-02	ND	ND	ND	ND	ND	ND	ND	ND	2,99E-04	1,85E-03	5,43E-03	2,96E-04	-8,75E-03
Non-re. PER as energy	MJ	1,65E+00	1,16E+00	6,24E-01	3,43E+00	1,01E-01	ND	ND	ND	ND	ND	ND	ND	ND	4,72E-02	1,06E-01	1,49E-01	3,06E-02	-9,61E-02
Non-re. PER as material	MJ	1,66E-01	0,00E+00	0,00E+00	1,66E-01	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,33E-01	-3,32E-02	-1,66E-01
Total use of non-re. PER	MJ	1,81E+00	1,16E+00	6,24E-01	3,60E+00	1,01E-01	ND	ND	ND	ND	ND	ND	ND	ND	4,72E-02	1,06E-01	1,61E-02	-2,56E-03	-2,62E-01
Secondary materials	kg	2,15E-02	5,15E-04	2,66E-03	2,47E-02	5,94E-05	ND	ND	ND	ND	ND	ND	ND	ND	1,96E-05	4,79E-05	5,77E-05	7,70E-06	-1,07E-04
Renew. secondary fuels	MJ	2,51E-02	3,93E-06	9,02E-05	2,52E-02	8,37E-07	ND	ND	ND	ND	ND	ND	ND	ND	5,12E-08	5,89E-07	5,46E-07	1,59E-07	-7,39E-07
Non-ren. secondary fuels	MJ	6,61E-01	0,00E+00	0,00E+00	6,61E-01	0,00E+00	ND	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	1,11E-03	1,22E-04	2,14E-04	1,44E-03	3,56E-04	ND	ND	ND	ND	ND	ND	ND	ND	3,12E-06	1,51E-05	-3,49E-04	3,19E-05	-2,85E-04

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	7,03E-04	1,55E-03	6,03E-04	2,85E-03	9,91E-04	ND	ND	ND	ND	ND	ND	ND	ND	5,25E-05	1,53E-04	4,16E-04	3,38E-05	-7,50E-04
Non-hazardous waste	kg	4,16E-02	2,75E-02	8,46E-02	1,54E-01	7,06E-03	ND	ND	ND	ND	ND	ND	ND	ND	7,15E-04	3,21E-03	5,11E-01	7,73E-04	-1,34E-02
Radioactive waste	kg	2,08E-05	2,52E-07	9,71E-06	3,08E-05	9,27E-08	ND	ND	ND	ND	ND	ND	ND	ND	5,12E-09	3,43E-08	7,64E-08	4,70E-09	-1,63E-07

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	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	5,68E-05	0,00E+00	0,00E+00	5,68E-05	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,00E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	3,64E-05	0,00E+00	1,40E-03	1,44E-03	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,60E-03	0,00E+00	0,00E+00
Exported energy	MJ	1,17E-08	0,00E+00	0,00E+00	1,17E-08	0,00E+00	ND	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	ND	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	ND	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_2e	1,67E-01	8,77E-02	1,10E-02	2,66E-01	1,95E-02	ND	ND	ND	ND	ND	ND	ND	ND	3,61E-03	7,43E-03	1,05E-02	1,25E-03	-8,01E-03

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 A3 (Energy data source)

1. Heat and power co-generation, natural gas, conventional power plant, 100MW electrical, Finland, Ecoinvent, 0.0311 kgCO2e/MJ
2. Electricity production, nuclear, boiling water reactor, Finland, Ecoinvent, 0.0075 kgCO2e/kWh

Nuclear energy supplied by Vattenfall. 5% transformation and distribution loss.

Transport scenario documentation A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	HVO renewable diesel truck, >32 metric ton, EURO5
Average transport distance, km	300
Capacity utilization (including empty return) %	100
Bulk density of transported products (kg/m^3)	1700
Volume capacity utilization factor	1

End-of-life scenario documentation C1-C4

Scenario information	Value
Collection process – kg collected separately	0,8
Collection process – kg collected with mixed waste	0,2
Recovery process – kg for re-use	-
Recovery process – kg for recycling	0,8
Recovery process – kg for energy recovery	0,0036 for packaging materials
Disposal (total) – kg for final deposition	0,2
Scenario assumptions e.g. transportation	Truck, EURO5; 50 km

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 16.04.2026

VERIFIED ISO 14025