ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Roof safety products
Vesivek Tuotteet Oy

EPD HUB, HUB-4102
Published on 06.10.2025, last updated on 06.10.2030.

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	Vesivek Tuotteet Oy
Address	Teollisuustie 8 16300 Orimattila, Finland
Contact details	jukka.viljamaa@vesivek.fi
Website	www.vesivek.fi

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
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Jukka Viljamaa Vesivek Tuotteet Oy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Sarah Curpen, 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	Roof safety products
Additional labels	Wall ladders, roof ladders, snow guards, roof walkways and safety rails
Product reference	-
Place(s) of raw material origin	Finland
Place of production	Orimattila
Place(s) of installation and use	EU
Period for data	1.2.2024-31.1.2025
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	<1
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	86,7

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	2,97E+00
GWP-total, A1-A3 ($kgCO_2e$)	2,97E+00
Secondary material, inputs (%)	3,06
Secondary material, outputs (%)	84,2
Total energy use, A1-A3 (kWh)	13
Net freshwater use, A1-A3 (m^3)	0,02

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Vesivek Tuotteet is Finland's leading manufacturer of rainwater systems and roof safety products.
Vesivek Tuotteet is part of the Vesivek Group. The product range of Vesivek Tuotteet includes solutions for the needs of residential, commercial, and industrial construction. The product categories of Vesivek Tuotteet include rainwater systems, roof safety products, balcony rainwater systems, solar panel mounting brackets, and industrial penetrations. More detailed information about the company and its products can be found on the company's website: www.vesivek.fi

PRODUCT DESCRIPTION

Vesivek's roof safety products are designed to meet the highest safety and quality standards for Finnish roofs. All products are manufactured from high-quality steel with an exceptionally thick 350 g/m² zinc coating. This exceeds the commonly used 275 g/m² standard and provides excellent corrosion resistance and long service life.

The products are CE-marked and comply with the EU Construction Products Regulation. They are tested with Eurofins Expert Services Oy and SGS Fimko and meet national approval procedures such as type approval and European Technical Assessment (ETA). The product range includes roof walkways, roof ladders, snow guards, emergency ladders, and fall protection systems such as vertical safety rails and counterweight anchor posts. All products are compatible with various roofing materials and structures and can be retrofitted without special brackets.

Roof walkways and ladders are suitable for roofs with a slope greater than 1:8 and ensure safe access to chimneys and other maintenance points. Snow guards prevent uncontrolled snow and ice from falling, and emergency ladders comply with fire safety regulations. Fall protection systems enable safe work across the entire roof surface and meet the requirements of EN 795:2012 or EN 516:2006.

The products are manufactured at Vesivek's own factory in Orimattila, where production is highly automated and utilizes robotics and machine vision. Each product undergoes rigorous quality control before delivery, ensuring consistent quality and high delivery reliability. Vesivek Tuotteet has IS0 9001 and ISO 14001 certificates for manufacture processes.

Additionally, the products comply with the Finnish Ministry of the Environment's decree on building safety in use (2017), including requirements for roof access in buildings over 9 meters high and internal access in buildings over 28 meters.

Further information can be found at:
www.vesivek.fi

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	99	Finland
Minerals	0	
Fossil materials	1	EU
Bio-based materials	0	

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	0,03145

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 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.
Vesivek's roof safety products are manufactured centrally at the company's facility in Orimattila, Finland. The production is highly automated. The primary raw material is hot-dip galvanized steel that complies with EN standards. Materials are cut and shaped using automated lines, followed by a pretreatment process that includes degreasing, phosphating, and drying.

Surface treatment is carried out using a fully automated 7-stage powder coating line. This ensures a uniform coating and excellent corrosion resistance. SSAB's GreenCoat coatings are used, suitable for demanding weather conditions.

Several production stages, such as bracket manufacturing, are robotized. Robotic cells utilize machine vision, enabling precise and repeatable assembly. For example, the production of the Helmi ladder is fully automated.

Finished products are batch-marked, and CE-related stamps (e.g., B1 or B2) are added when applicable. These markings enable traceability to the production batch and manufacturing date.

Quality is continuously monitored through measurements and spot checks. Products are tested in accordance with EN 353-1, EN 516:2006, EN 795:2012, EN 1808, EN 12951, EN 13374:2013+A1:2019, EN 14122-3:2016 and SS 831335 standards The product development department actively participates in analyzing deviations and improving processes to ensure compliance and installability across various applications.

The production process aims to minimize waste generation. All waste is sorted, and recyclable materials are redirected for reuse. Remaining waste is utilized for energy production through external partners by incineration.

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.

Finished products are mainly transported by truck and, if necessary, by ferry. Transport to buildings (A4) has been calculated using a weighted average. Installation (A5) primarily utilizes battery-powered hand tools, which have not been considered in the calculation of this EPD. Waste scenarios of packgking material are based on Eurostat data. Plastic 40% is recycled, 37% is incinerated and 23% is landfilled. Cardboard 83% is recycled 8% is recycled and 9% is landfilled. Wooden pallets: 32% is recycled 30% is incinerated and 38% is landfilled. Transport distance to landfill is 50 km, to incineration 150 km and to recycling 250 km.

PRODUCT USE AND MAINTENANCE (B1-B7)

The use phase (B) has been excluded from this EPD because Vesivek roof safety products require minimal maintenance during their lifecycle. No emissions to air, water, or soil have been observed during the use phase in this case.
Air, soil, and water impacts during the use phase have not been studied.

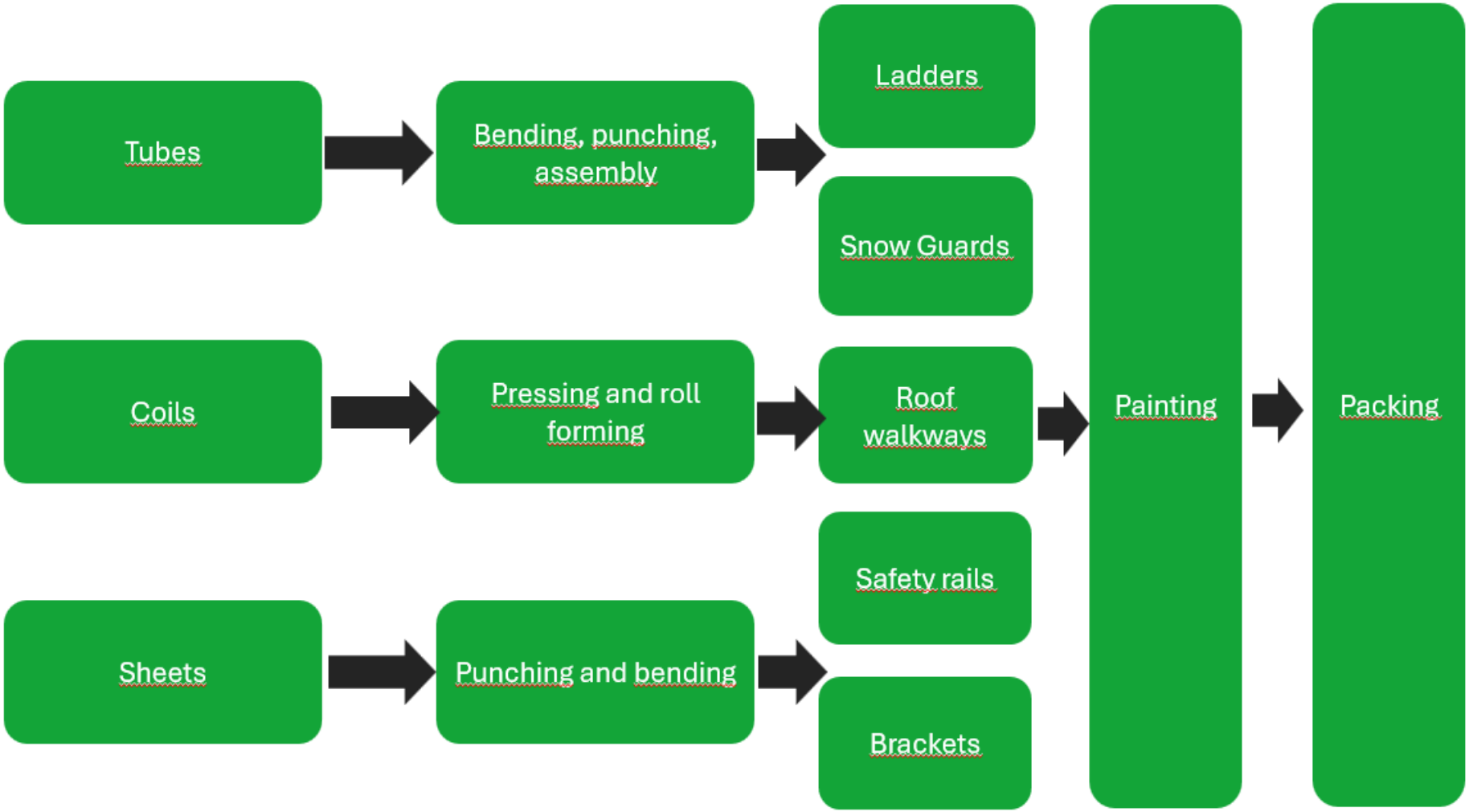
PRODUCT END OF LIFE (C1-C4, D)

C2: It is estimated that the products are transported to a waste treatment facility to sorting to different materials. The assumed transport distance is 50 km by EURO 5 emission truck.

C3-C4. The materials of roof safety products are mostly recyclable .In this scenario:

Steel construction: 85% is recycled and 15% is landfilled
Stainless steel: 95% is recycled and 5% is landfilled
Rubber: 50 % is incinerated with energy recovery, 25% is incinerated without energy recovery and 25% is landfilled
HPDE: 24% is recycled, 49 % is incinerated and 27% is landfilled

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.

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	Partly allocated by mass or volume
Packaging material	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on average results of product group - by total mass
Variation in GWP-fossil for A1-A3, %	<1

Raw materials do not differ in the system; the proportions of the components may vary

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 v3.10.1/3.11 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‘.

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	2,84E+00	1,19E-02	1,19E-01	2,97E+00	0,00E+00	1,36E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,32E-02	4,21E-02	5,82E-02	-1,41E+00
GWP – fossil	kg CO_2e	2,83E+00	1,19E-02	1,28E-01	2,97E+00	0,00E+00	1,22E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,32E-02	4,21E-02	5,82E-02	-1,41E+00
GWP – biogenic	kg CO_2e	3,57E-03	2,60E-06	-9,70E-03	-6,13E-03	0,00E+00	1,48E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,43E-06	-4,14E-05	-1,01E-05	-5,79E-04
GWP – LULUC	kg CO_2e	1,22E-03	5,29E-06	5,85E-04	1,81E-03	0,00E+00	7,40E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,91E-05	2,37E-05	8,63E-06	-2,29E-03
Ozone depletion pot.	kg CFC-$_{11}$e	7,23E-09	1,80E-10	9,68E-09	1,71E-08	0,00E+00	7,03E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,04E-10	2,62E-10	6,06E-10	-5,26E-09
Acidification potential	mol H^+e	2,23E-02	5,38E-05	5,08E-03	2,75E-02	0,00E+00	1,11E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,44E-04	2,30E-04	7,96E-05	-6,88E-03
EP-freshwater[2)]	kg Pe	1,44E-04	8,92E-07	1,86E-05	1,64E-04	0,00E+00	7,23E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,36E-06	1,23E-05	3,64E-06	-6,81E-04
EP-marine	kg Ne	2,28E-03	1,64E-05	3,16E-04	2,61E-03	0,00E+00	1,09E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,66E-05	5,16E-05	2,31E-05	-1,30E-03
EP-terrestrial	mol Ne	8,54E-02	1,80E-04	2,11E-02	1,07E-01	0,00E+00	4,30E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,08E-04	5,81E-04	1,85E-04	-1,42E-02
POCP ("smog")[3)]	kg NMVOCe	5,76E-03	6,84E-05	5,96E-04	6,42E-03	0,00E+00	2,68E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,01E-04	1,72E-04	9,15E-05	-4,84E-03
ADP-minerals & metals[4)]	kg Sbe	1,32E-04	3,26E-08	6,93E-04	8,25E-04	0,00E+00	3,31E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,42E-07	1,35E-06	1,30E-07	-9,63E-05
ADP-fossil resources	MJ	3,32E+01	1,71E-01	1,12E+01	4,46E+01	0,00E+00	1,80E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,06E-01	2,58E-01	3,84E-01	-1,30E+01
Water use[5)]	m^3e depr.	6,00E-01	8,31E-04	1,49E-01	7,50E-01	0,00E+00	3,04E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,81E-03	5,65E-03	3,20E-03	-4,07E-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, 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	1,77E-07	1,14E-09	3,75E-08	2,16E-07	0,00E+00	8,82E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,43E-09	3,09E-09	9,20E-10	-9,29E-08
Ionizing radiation[6]	kBq U235e	5,91E-02	1,52E-04	5,61E-01	6,21E-01	0,00E+00	2,49E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,91E-04	2,17E-03	9,04E-04	4,79E-02
Ecotoxicity (freshwater)	CTUe	1,48E+01	2,37E-02	5,61E+00	2,04E+01	0,00E+00	8,32E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,57E-02	1,79E-01	5,53E-01	-2,59E+01
Human toxicity, cancer	CTUh	5,03E-10	1,99E-12	3,22E-10	8,27E-10	0,00E+00	3,42E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,34E-12	1,74E-11	2,34E-11	-8,08E-10
Human tox. non-cancer	CTUh	1,12E-08	1,08E-10	6,89E-09	1,82E-08	0,00E+00	7,99E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,79E-10	1,17E-09	1,72E-10	-2,57E-08
SQP[7]	-	2,08E+00	1,62E-01	1,57E+00	3,81E+00	0,00E+00	1,83E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,64E-01	4,99E-01	1,08E-01	-4,34E+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	2,33E+00	2,35E-03	1,11E-01	2,44E+00	0,00E+00	-4,64E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,31E-03	4,78E-02	1,07E-02	-1,59E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,27E-01	1,27E-01	0,00E+00	-1,27E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,33E+00	2,35E-03	2,39E-01	2,57E+00	0,00E+00	-1,74E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,31E-03	4,78E-02	1,07E-02	-1,59E+00
Non-re. PER as energy	MJ	3,31E+01	1,71E-01	1,11E+01	4,44E+01	0,00E+00	1,76E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,06E-01	3,71E-03	1,81E-02	-1,30E+01
Non-re. PER as material	MJ	1,12E-01	0,00E+00	4,14E-02	1,54E-01	0,00E+00	-4,14E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-3,12E-02	-8,13E-02	3,60E-02
Total use of non-re. PER	MJ	3,33E+01	1,71E-01	1,12E+01	4,46E+01	0,00E+00	1,72E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,06E-01	-2,75E-02	-6,32E-02	-1,29E+01
Secondary materials	kg	3,06E-02	7,35E-05	7,44E-02	1,05E-01	0,00E+00	4,23E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,72E-04	3,18E-04	5,59E-04	7,91E-01
Renew. secondary fuels	MJ	1,04E-04	8,99E-07	3,75E-03	3,85E-03	0,00E+00	1,55E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,46E-06	1,46E-05	8,52E-07	-1,16E-04
Non-ren. secondary fuels	MJ	5,38E-10	0,00E+00	0,00E+00	5,38E-10	0,00E+00	2,15E-11	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	1,59E-02	2,46E-05	5,66E-03	2,16E-02	0,00E+00	8,67E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,03E-05	1,54E-04	1,00E-04	-7,16E-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	6,90E-02	2,84E-04	1,79E-02	8,72E-02	0,00E+00	3,63E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,06E-03	2,10E-03	2,70E-02	-4,41E-01
Non-hazardous waste	kg	6,92E-01	5,27E-03	6,34E-01	1,33E+00	0,00E+00	6,83E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,98E-02	6,86E-02	4,19E-02	-3,65E+00
Radioactive waste	kg	5,46E-04	3,71E-08	1,39E-04	6,85E-04	0,00E+00	2,74E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,20E-07	5,57E-07	2,37E-07	1,23E-05

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	2,83E-04	0,00E+00	0,00E+00	2,83E-04	0,00E+00	1,13E-05	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	9,77E-03	0,00E+00	1,04E-01	1,14E-01	0,00E+00	5,13E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,42E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	4,92E-05	0,00E+00	0,00E+00	4,92E-05	0,00E+00	1,97E-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	1,26E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,40E-02	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	5,30E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	3,60E-02	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	7,30E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,80E-02	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	2,84E+00	1,19E-02	1,29E-01	2,98E+00	0,00E+00	1,22E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,32E-02	4,21E-02	5,82E-02	-1,41E+00

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

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Electricity production, nuclear, boiling water reactor (Reference product: electricity, high voltage)
Electricity CO2e / kWh	0,0076
District heating data source and quality	
District heating CO2e / kWh	

Transport scenario documentation A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	Market for transport, freight, lorry >32 metric ton, EURO5 (Reference product: transport, freight, lorry >32 metric ton, EURO5)
Average transport distance, km	200
Capacity utilization (including empty return) %	100
Bulk density of transported products	
Volume capacity utilization factor	<1

Installation scenario documentation A5

Scenario information	Value
Ancillary materials for installation (specified by material) / kg or other units as appropriate	0
Water use / m^3	0
Other resource use / kg	0
Quantitative description of energy type (regional mix) and consumption during the installation process / kWh or MJ	0
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	Wood: 0,00294 kg Cardboard: 0,00651 kg Plastic: 0,0009 kg
Output materials (specified by type) as result of waste processing at the building site e.g. collection for recycling, for energy recovery, disposal (specified by route) / kg	Wood: 32% is recycled, 30% is incinerated and 38% is landfilled Carboard: 83% is recycled, 8% is incinerated and 9% is landfilled Plastic 40% is recycled, 37% is incinerated and 23% is landfilled Scenarios based on Eurostat
Direct emissions to ambient air, soil and water / kg	0

End of life scenario documentation

Scenario information	Value
Collection process – kg collected separately	1
Collection process – kg collected with mixed construction waste	0
Recovery process – kg for re-use	0
Recovery process – kg for recycling	
Recovery process – kg for energy recovery	
Disposal (total) – kg for final deposition	
Scenario assumptions e.g. transportation	Transport to landfill 50 km, to recycling 250 and incineration to energy150

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 15802+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

Sarah Curpen, as an authorized verifier acting for EPD Hub Limited

06.10.2025

ANNEX 1. WEIGHT/METER PROFILE ROOF

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
Roof Bridge	5,86	1,74E+01	1,74E+01	-3,59E-02	1,06E-02
Oval snow barrier	2,58	7,66E+00	7,66E+00	-1,58E-02	4,67E-03
Pyry snow barrier	1,98	5,88E+00	5,88E+00	-1,21E-02	3,58E-03
Varma 180 snow barrier	3,69	1,10E+01	1,10E+01	-2,26E-02	6,68E-03
Varma 120 snow barrier	3,15	9,36E+00	9,36E+00	-1,93E-02	5,70E-03
Varma 300 snow barrier	5,22	1,55E+01	1,55E+01	-3,20E-02	9,45E-03
Snow fenche SW	3,05	9,06E+00	9,06E+00	-1,87E-02	5,52E-03
Snow barrier 3 pipes SW	3,18	9,44E+00	9,44E+00	-1,95E-02	5,76E-03
Roof ladder	3,61	1,07E+01	1,07E+01	-2,21E-02	6,53E-03
Roof steps	5,59	1,66E+01	1,66E+01	-3,43E-02	1,01E-02
Roof safety rail 0,6 m	4,7	1,40E+01	1,40E+01	-2,88E-02	8,51E-03
Roof safety rail 1,2 m	8,88	2,64E+01	2,64E+01	-5,44E-02	1,61E-02
Fence for roof hatch 600x600mm*	20,38	6,05E+01	6,05E+01	-1,25E-01	3,69E-02

*Weight/pcs

ANNEX 2. WEIGTH/METER STANDING SEAM ROOF

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
Roof Bridge	6,04	1,79E+01	1,79E+01	-3,70E-02	1,09E-02
Roof bridge T700	15,28	4,54E+01	4,54E+01	-9,37E-02	2,77E-02
Oval snow barrier	2,82	8,38E+00	8,38E+00	-1,73E-02	5,10E-03
Pyry snow barrier	2,22	6,59E+00	6,59E+00	-1,36E-02	4,02E-03
Varma 180 snow barrier	4,02	1,19E+01	1,19E+01	-2,46E-02	7,28E-03
Varma 120 snow barrier	3,47	1,03E+01	1,03E+01	-2,13E-02	6,28E-03
Varma 300 snow barrier	5,55	1,65E+01	1,65E+01	-3,40E-02	1,00E-02
Snow fenche SW	3,59	1,07E+01	1,07E+01	-2,20E-02	6,50E-03
Roof ladder	3,75	1,11E+01	1,11E+01	-2,30E-02	6,79E-03
Roof steps	7,03	2,09E+01	2,09E+01	-4,31E-02	1,27E-02
Horizontal rail to roof	3,78	1,12E+01	1,12E+01	-2,32E-02	6,84E-03
Roof safety rail 0,6 m	5,08	1,51E+01	1,51E+01	-3,11E-02	9,19E-03
Roof safety rail 1,2 m	9,62	2,86E+01	2,86E+01	-5,90E-02	1,74E-02
Roof hatch 600x600x180mm*	19,5	5,79E+01	5,79E+01	-1,20E-01	3,53E-02
Roof hatch 600x600x300mm*	23	6,83E+01	6,83E+01	-1,41E-01	4,16E-02
Insulated roof hatch 600x600x180mm*	36,9	1,10E+02	1,10E+02	-2,26E-01	6,68E-02
Insulated roof hatch 600x600x300mm*	44,7	1,33E+02	1,33E+02	-2,74E-01	8,09E-02
Fence for roof hatch 600x600mm*	21,63	6,42E+01	6,42E+01	-1,33E-01	3,92E-02

*Weight/pcs

ANNEX 3. WEIGTH/METER SNAP-LOCK SEAM ROOF

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
Roof Bridge	6,04	1,79E+01	1,79E+01	-3,70E-02	1,09E-02
Oval snow barrier	2,36	7,01E+00	7,01E+00	-1,45E-02	4,27E-03
Pyry snow barrier	1,76	5,23E+00	5,23E+00	-1,08E-02	3,19E-03
Varma 180 snow barrier	3,81	1,13E+01	1,13E+01	-2,34E-02	6,90E-03
Varma 120 snow barrier	3,27	9,71E+00	9,71E+00	-2,00E-02	5,92E-03
Varma 300 snow barrier	5,34	1,59E+01	1,59E+01	-3,27E-02	9,67E-03
Snow fenche SW	3,19	9,47E+00	9,47E+00	-1,96E-02	5,77E-03
Snow barrier 3 pipes SW	3,2	9,50E+00	9,50E+00	-1,96E-02	5,79E-03
Roof ladder	3,74	1,11E+01	1,11E+01	-2,29E-02	6,77E-03
Roof steps	6,57	1,95E+01	1,95E+01	-4,03E-02	1,19E-02
Roof safety rail 0,6 m	5,13	1,52E+01	1,52E+01	-3,14E-02	9,29E-03
Roof safety rail 1,2 m	9,74	2,89E+01	2,89E+01	-5,97E-02	1,76E-02
Fence for roof hatch 600x600mm*	21,07	6,26E+01	6,26E+01	-1,29E-01	3,81E-02

*Weight/pcs

ANNEX 4. WEIGTH/METER TILE ROOF

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
Roof Bridge	6,02	1,79E+01	1,79E+01	-3,69E-02	1,09E-02
Oval snow barrier	2,8	8,32E+00	8,32E+00	-1,72E-02	5,07E-03
Pyry snow barrier	2,21	6,56E+00	6,56E+00	-1,35E-02	4,00E-03
Varma 180 snow barrier	3,9	1,16E+01	1,16E+01	-2,39E-02	7,06E-03
Varma 120 snow barrier	3,36	9,98E+00	9,98E+00	-2,06E-02	6,08E-03
Varma 300 snow barrier	6,22	1,85E+01	1,85E+01	-3,81E-02	1,13E-02
Snow fenche SW	3,43	1,02E+01	1,02E+01	-2,10E-02	6,21E-03
Snow barrier 3 pipes SW	3,64	1,08E+01	1,08E+01	-2,23E-02	6,59E-03
Roof ladder	3,66	1,09E+01	1,09E+01	-2,24E-02	6,62E-03
Roof steps	6,01	1,78E+01	1,78E+01	-3,68E-02	1,09E-02
Roof safety rail 0,6 m	5,24	1,56E+01	1,56E+01	-3,21E-02	9,48E-03
Fence for roof hatch 600x600mm*	21,86	6,49E+01	6,49E+01	-1,34E-01	3,96E-02

*Weight/pcs

ANNEX 5. WEIGTH/METER BITUMEN ROOF

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
Roof Bridge	5,86	1,74E+01	1,74E+01	-3,59E-02	1,06E-02
Oval snow barrier	2,58	7,66E+00	7,66E+00	-1,58E-02	4,67E-03
Pyry snow barrier	1,98	5,88E+00	5,88E+00	-1,21E-02	3,58E-03
Varma 180 snow barrier	3,69	1,10E+01	1,10E+01	-2,26E-02	6,68E-03
Varma 120 snow barrier	3,15	9,36E+00	9,36E+00	-1,93E-02	5,70E-03
Varma 300 snow barrier	5,22	1,55E+01	1,55E+01	-3,20E-02	9,45E-03
Roof ladder	3,74	1,11E+01	1,11E+01	-2,29E-02	6,77E-03
Roof steps	5,59	1,66E+01	1,66E+01	-3,43E-02	1,01E-02
VV-X Cable with cable posts	1,13	3,36E+00	3,36E+00	-6,93E-03	2,05E-03
VV-X Cable with plate posts	1,01	3,00E+00	3,00E+00	-6,19E-03	1,83E-03
Roof safety rail 0,6 m	6,46	1,92E+01	1,92E+01	-3,96E-02	1,17E-02
Roof hatch 600x600x180mm*	19,5	5,79E+01	5,79E+01	-1,20E-01	3,53E-02
Roof hatch 600x600x300mm*	23	6,83E+01	6,83E+01	-1,41E-01	4,16E-02
Insulated roof hatch 600x600x180mm*	36,9	1,10E+02	1,10E+02	-2,26E-01	6,68E-02
Insulated roof hatch 600x600x300mm*	44,7	1,33E+02	1,33E+02	-2,74E-01	8,09E-02

*Weigth/pcs

ANNEX 6. WEIGTH/METER WALL LADDERS

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
Wall ladder (1 meter legs)	5,7	1,69E+01	1,69E+01	-3,49E-02	1,03E-02
Wall ladder to Panel wall	7,18	2,13E+01	2,13E+01	-4,40E-02	1,30E-02
Side ladder	6,19	1,84E+01	1,84E+01	-3,79E-02	1,12E-02
Safety ladder	3,81	1,13E+01	1,13E+01	-2,34E-02	6,90E-03
Exit bar	3,97	1,18E+01	1,18E+01	-2,43E-02	7,19E-03

WEIGTH/METER SAFETY RAILS

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
Ascenfing rail	2,85	8,46E+00	8,46E+00	-1,75E-02	5,16E-03
Horizontal rail to wall	3,01	8,94E+00	8,94E+00	-1,85E-02	5,45E-03
Horizontal rail to roof bridge	2,35	6,98E+00	6,98E+00	-1,44E-02	4,25E-03
Guardrail for roof bridge	4,01	1,19E+01	1,19E+01	-2,46E-02	7,26E-03
Chimney console	29,07	8,63E+01	8,63E+01	-1,78E-01	5,26E-02
Edge railing on top of the smyg	5,16	1,53E+01	1,53E+01	-3,16E-02	9,34E-03
Edge railing mounted to wall	5,77	1,71E+01	1,71E+01	-3,54E-02	1,04E-02

WEIGTH/METER VV-X CABLES

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
VV-X Cable mounted to the wall	0,45	1,34E+00	1,34E+00	-2,76E-03	8,15E-04
VV-X Cable mounted to the roof bridge	0,44	1,31E+00	1,31E+00	-2,70E-03	7,96E-04
VV-X Cable mounted to the roof ladder	0,75	2,23E+00	2,23E+00	-4,60E-03	1,36E-03

ANNEX 7. WEIGTH/METER LOAD BEARGING ROOF

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
Roof Bridge	6,01	1,78E+01	1,78E+01	-3,68E-02	1,09E-02
Oval snow barrier	2,78	8,26E+00	8,26E+00	-1,70E-02	5,03E-03
Pyry snow barrier	2,19	6,50E+00	6,50E+00	-1,34E-02	3,96E-03
Roof ladder	3,66	1,09E+01	1,09E+01	-2,24E-02	6,62E-03
Roof safety rail 0,6 m	4,57	1,36E+01	1,36E+01	-2,80E-02	8,27E-03

WEIGTH/METER DECRA ROOF

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
Roof Bridge	6,07	1,80E+01	1,80E+01	-3,72E-02	1,10E-02
Oval snow barrier	2,77	8,23E+00	8,23E+00	-1,70E-02	5,01E-03
Pyry snow barrier	2,18	6,47E+00	6,47E+00	-1,34E-02	3,95E-03
Roof ladder	3,67	1,09E+01	1,09E+01	-2,25E-02	6,64E-03

WEIGTH/METER FIBER CEMENT ROOF

Product	kg/m	GWP total kg CO2e/m	GWP fossil kg CO2e/m	GWP biogenic kg CO2e/m	GWP LULUC kg CO2e/m
Roof Bridge	6,36	1,89E+01	1,89E+01	-3,90E-02	1,15E-02
Oval snow barrier	3,18	9,44E+00	9,44E+00	-1,95E-02	5,76E-03
Pyry snow barrier	2,58	7,66E+00	7,66E+00	-1,58E-02	4,67E-03
Roof ladder	3,79	1,13E+01	1,13E+01	-2,32E-02	6,86E-03
Roof safety rail 0,6 m	5,25	1,56E+01	1,56E+01	-3,22E-02	9,50E-03