ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Vertical System Rail virgin steel
Stofix Oy

EPD HUB, HUB-7712
Published on 02.10.2026, last updated on 02.10.2026, valid until 01.10.2031

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.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Stofix Oy
Address	Vetokuja 4, 01610 Vantaa, Finland
Contact details	group@stofix.com
Website	https://stofix.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 modules C1-C4, D
EPD author	Martin Oddershede
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Afzal khan Peerukhan 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	STOFIX Vertical System Rail virgin steel
Place(s) of raw material origin	Poland
Place of production	Komorniki, Poland
Place(s) of installation and use	Europe
Period for data	Calendar year 2024
Averaging in EPD	No grouping
A1-A3 Specific data (%)	96,3

ENVIRONMENTAL DATA SUMMARY

Declared unit	Vertical rails required for 1 m^2 of STOFIX façade
Declared unit mass	0,94 kg
Mass of packaging	0,08 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	2,43
GWP-total, A1-A3 ($kgCO_2e$)	2,43
Secondary material, inputs (%)	10,2
Total energy use, A1-A3 (kWh)	6,96
Net freshwater use, A1-A3 (m^3)	0,01

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

STOFIX is a façade-system specialist with more than three decades of experience in manufacturing prefabricated brick-slip façade solutions. The STOFIX system for rear-ventilated facades was originally developed in Finland for demanding Nordic weather conditions and is designed to enable efficient façade installation throughout the year.

PRODUCT DESCRIPTION

The primary STOFIX support structure forms the load-bearing connection between the building envelope and the façade system. It is mounted directly onto the load-bearing wall or the insulation layer and carries the horizontal STOFIX system profiles. As a self-supporting element structurally decoupled from the building's main structure, it transfers no vertical loads into the building, meaning no additional foundation is required for the brick façade. At the same time, it compensates for construction tolerances and prevents movements of the building structure from being transferred to the cladding layer.

Further information can be found at:
https://stofix.com/

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	100%	Poland

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	0,033

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	Vertical rails required for 1 m² of STOFIX façade
Mass per declared unit	0,94 kg
Reference service life	60 years

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	ND	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

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.
Modules A1–A3 cover the product stage, from the supply of raw materials to the finished and packaged vertical rail assembly leaving the manufacturing facility in Poland.

A1 – Raw-material supply
The vertical rail is modelled using the product-specific EPD for standard Magnelis® coated steel issued by ArcelorMittal Flat Europe SA. The fixing screws are modelled using a representative European dataset for fasteners and accessories as a proxy.

A2 – Transport to the manufacturing facility
Raw materials and components are transported by lorry from their respective suppliers to the manufacturing facility. The applied transport distances are 66 km for the Magnelis® coated steel and 1,420 km for the fixing screws. The distances are based on the available supplier information.

A3 – Manufacturing and packaging
Module A3 covers the manufacturing processes performed at the production facility, including cutting of the steel rails, electricity consumption, use of ancillary materials, packaging of the finished product and treatment of manufacturing waste.

The ancillary materials comprise water-soluble coolant and band-saw blades. As no product-specific dataset for the coolant was available, a mineral-based lubricating-oil dataset is used as a conservative proxy. The consumption of band-saw blades is modelled using a generic steel-production dataset. Manufacturing electricity is represented by the applicable Polish electricity mix.

Packaging materials consist of plastic film and wooden pallets. Their production and use for packaging the finished product are included in A3. The energy and biogenic carbon associated with the packaging materials are balanced within the same LCA stage.

The material and energy quantities are based on production data for the 2024 reference year and allocated to the declared unit.

Manufacturing waste is modelled in A3 up to the end-of-waste state or final disposal. Used band-saw blades are classified as ferrous-metal scrap and sent for recycling. Spent coolant is collected separately and transferred to an authorised waste-management company. As the subsequent treatment route is not documented, generic hazardous-waste treatment is applied as a conservative proxy. Energy associated with A3 manufacturing waste is balanced within the same LCA stage.

PRODUCT END OF LIFE (C1-C4, D)

Modules C1–C4 cover deconstruction of the vertical rail assembly, transport to waste treatment and the processing or disposal of the resulting steel waste. Module D reports the potential benefits and loads beyond the product system boundary.

C1 – Deconstruction
Deconstruction is modelled using diesel consumption for building machinery.

C2 – Transport to waste treatment
The complete steel assembly, including the Magnelis® coated rail and fixing screws, is transported 100 km by lorry from the deconstruction site to the initial scrap-processing facility. The transport scenario is based on the product-specific Magnelis® EPD.

C3 – Waste processing for recycling
The end-of-life scenario is also based on the product-specific EPD for Magnelis® steel. Of the total steel mass of 0,94 kg, 98% is assumed to be recovered for material recycling. This corresponds to 0,92 kg of steel per declared unit.

The recyclable steel fraction is transported 200 km by lorry from the initial scrap-processing facility to the point at which the material reaches the end-of-waste state. The processed steel is reported as material for recycling.

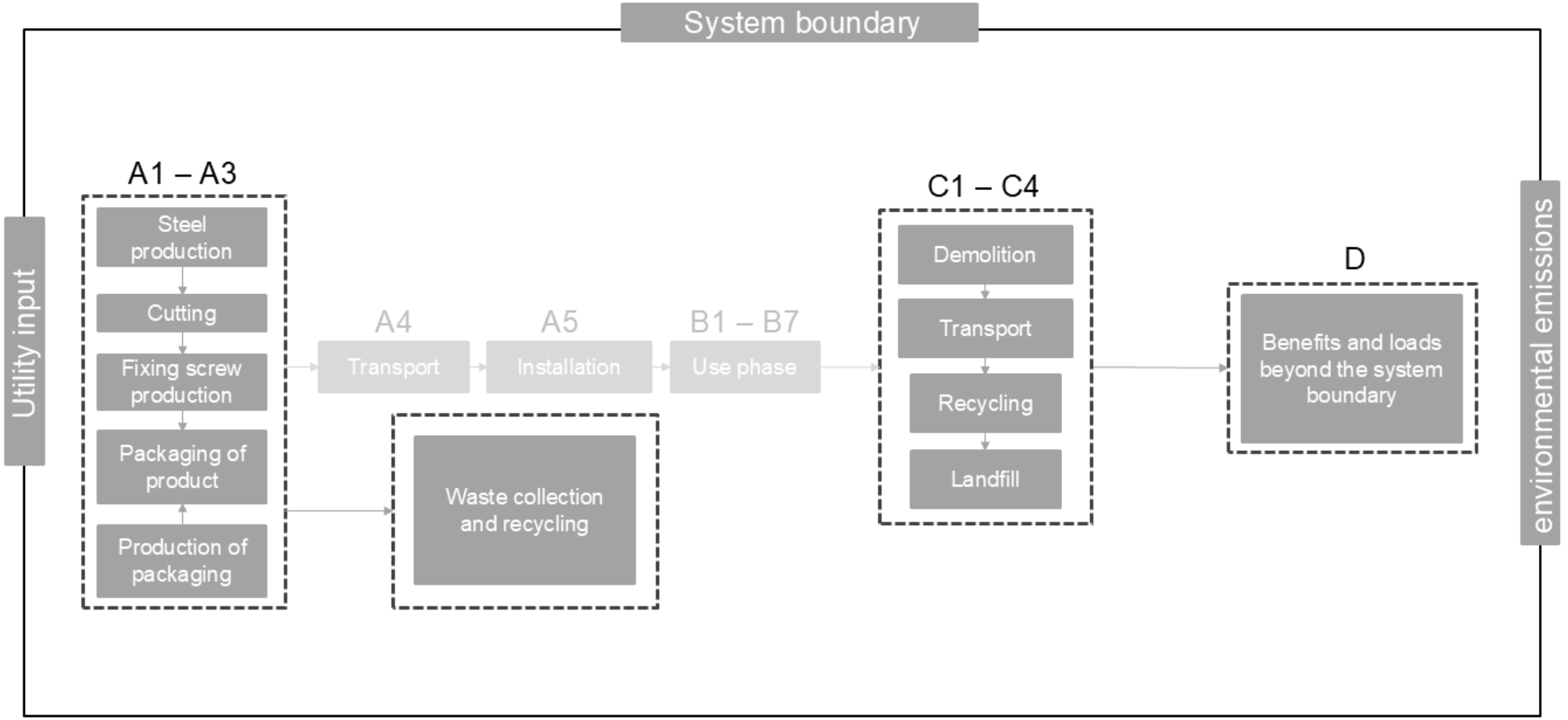
C4 – Final disposal
The remaining 2% of the steel mass is assumed to be lost from the recycling process and sent to landfill. This corresponds to 0.0188 kg per declared unit. Treatment of inert waste steel and transport of 100 km to final disposal are included.

D – Benefits and loads beyond the system boundary
Module D reports the potential benefits and loads associated with the net output of steel scrap. To avoid double counting, the external steel scrap used as an input to production is deducted from the quantity of steel recovered for recycling at end of life.

The product-specific Magnelis® EPD reports that 980 kg of steel per tonne of product is recovered for recycling at end of life, while 94.2 kg of external scrap is used as an input to production. This results in a net scrap output of 885.8 kg per tonne, corresponding to 88.58%.

For the declared unit containing 0.94 kg of steel, the net steel scrap modelled in Module D is therefore calculated as: 0.94 kg × (0.98 − 0.0942) = 0.83265 kg. The fixing screws are assumed to follow the same end-of-life route as the Magnelis® coated rail. Due to their minor contribution and the absence of separate recycled-content data, the Magnelis® net scrap factor is also applied to the fixing screws as a proxy.

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.

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	Physical Properties
Ancillary materials	Physical Properties
Manufacturing energy and waste	Physical Properties

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable

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 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'.

The reference service life (RSL) of 60 years is based on the VTT report *Expected performance life span of STOFIX prefabricated brick slip panel system in Helsinki and London* (VTT-CR-05165-15, 2016). The report evaluates the expected performance life of the STOFIX system under the climatic conditions of Helsinki and London.

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	2,38E+00	9,70E-03	3,93E-02	2,43E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,41E-03	3,00E-02	2,04E-02	1,18E-04	-1,37E+00
GWP – fossil	kg CO_2e	2,38E+00	9,70E-03	3,93E-02	2,43E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,41E-03	2,99E-02	2,07E-02	1,18E-04	-1,37E+00
GWP – biogenic	kg CO_2e	-3,63E-03	2,21E-06	-1,07E-04	-3,74E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,51E-07	6,78E-06	-2,98E-04	5,27E-08	0,00E+00
GWP – LULUC	kg CO_2e	9,87E-04	4,32E-06	1,21E-04	1,11E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,44E-07	1,34E-05	2,56E-05	6,74E-08	-2,15E-04
Ozone depletion pot.	kg CFC-$_{11}$e	1,13E-08	1,41E-10	8,82E-10	1,24E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,24E-11	4,42E-10	2,75E-10	3,28E-12	-4,54E-09
Acidification potential	mol H^+e	2,07E-02	3,37E-05	1,75E-04	2,09E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,04E-05	1,02E-04	2,47E-04	8,24E-07	-5,54E-03
EP-freshwater[2)]	kg Pe	8,31E-06	1,05E-06	1,77E-05	2,71E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,09E-07	2,33E-06	1,38E-05	1,03E-08	-9,89E-04
EP-marine	kg Ne	1,70E-03	1,11E-05	4,82E-05	1,76E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,43E-05	3,36E-05	5,49E-05	3,16E-07	-1,23E-03
EP-terrestrial	mol Ne	1,85E-02	1,21E-04	5,07E-04	1,91E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,56E-04	3,65E-04	6,20E-04	3,45E-06	-1,34E-02
POCP ("smog")[3)]	kg NMVOCe	5,68E-03	4,94E-05	2,53E-04	5,98E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,68E-05	1,51E-04	1,84E-04	1,25E-06	-4,57E-03
ADP-minerals & metals[4)]	kg Sbe	5,80E-05	2,77E-08	3,80E-04	4,38E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,24E-09	8,35E-08	1,47E-06	1,75E-10	-1,50E-05
ADP-fossil resources	MJ	2,22E+01	1,38E-01	7,00E-01	2,30E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,42E-02	4,35E-01	2,80E-01	2,88E-03	-1,26E+01
Water use[5)]	m^3e depr.	6,28E-01	8,08E-04	1,95E-02	6,49E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,11E-04	2,15E-03	5,45E-03	1,27E-04	-3,08E-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	0,00E+00	9,50E-10	2,53E-09	3,48E-09	ND	ND	ND	ND	ND	ND	ND	ND	ND	8,69E-10	3,00E-09	3,38E-09	1,89E-11	-1,01E-07
Ionizing radiation[6]	kBq U235e	0,00E+00	1,16E-04	3,51E-03	3,63E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,85E-05	3,79E-04	2,41E-03	1,72E-06	5,13E-02
Ecotoxicity (freshwater)	CTUe	0,00E+00	2,87E-02	8,81E-01	9,10E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,48E-03	6,15E-02	1,37E+00	1,92E-03	-6,28E+01
Human toxicity, cancer	CTUh	0,00E+00	1,52E-12	1,36E-10	1,38E-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,27E-13	4,94E-12	1,83E-11	2,13E-14	-2,03E-10
Human tox. non-cancer	CTUh	0,00E+00	8,60E-11	3,58E-10	4,44E-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,80E-12	2,81E-10	1,26E-09	4,80E-13	-9,40E-09
SQP[7]	-	0,00E+00	1,38E-01	1,05E+01	1,07E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,05E-03	4,38E-01	5,36E-01	5,66E-03	-4,32E+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	1,34E+00	1,92E-03	8,11E-01	2,15E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,76E-04	5,96E-03	5,12E-02	2,69E-05	-1,10E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	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	1,34E+00	1,92E-03	8,11E-01	2,15E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,76E-04	5,96E-03	5,12E-02	2,69E-05	-1,10E+00
Non-re. PER as energy	MJ	2,23E+01	1,38E-01	4,74E-01	2,29E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,42E-02	4,35E-01	2,80E-01	2,88E-03	-1,26E+01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	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 non-re. PER	MJ	2,23E+01	1,38E-01	4,74E-01	2,29E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,42E-02	4,35E-01	2,80E-01	2,88E-03	-1,26E+01
Secondary materials	kg	9,55E-02	5,79E-05	4,58E-03	1,00E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,83E-05	1,85E-04	3,40E-04	7,17E-07	7,72E-01
Renew. secondary fuels	MJ	2,44E-04	7,55E-07	4,17E-02	4,19E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,81E-08	2,35E-06	1,59E-05	1,50E-08	-1,23E-04
Non-ren. secondary fuels	MJ	1,98E-03	0,00E+00	0,00E+00	1,98E-03	ND	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	1,03E-02	1,98E-05	4,10E-04	1,07E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,66E-06	6,42E-05	1,25E-04	2,98E-06	-4,97E-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	7,51E-03	8,85E-04	3,39E-03	1,18E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,43E-04	7,36E-04	1,85E-03	3,28E-06	-4,55E-01
Non-hazardous waste	kg	1,22E-01	1,75E-02	8,96E-02	2,29E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	7,14E-04	1,36E-02	7,26E-02	7,58E-05	-5,48E+00
Radioactive waste	kg	4,52E-04	2,77E-08	7,77E-07	4,53E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,34E-09	9,27E-08	6,15E-07	4,20E-10	1,32E-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	9,34E-05	0,00E+00	0,00E+00	9,34E-05	ND	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	1,67E-03	0,00E+00	3,19E-04	1,99E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	9,21E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	1,28E-04	0,00E+00	0,00E+00	1,28E-04	ND	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	MJ	1,26E-04	0,00E+00	0,00E+00	1,26E-04	ND	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	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	2,31E+00	9,64E-03	3,92E-02	2,35E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,39E-03	2,98E-02	2,07E-02	1,17E-04	-1,36E+00
Ozone depletion Pot.	kg $CFC_{-11}e$	1,15E-12	1,12E-10	7,29E-10	8,42E-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,16E-11	3,53E-10	2,38E-10	2,61E-12	-5,10E-09
Acidification	kg SO_2e	4,54E-03	2,57E-05	1,37E-04	4,70E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,13E-05	7,80E-05	1,99E-04	6,09E-07	-4,46E-03
Eutrophication	kg PO_4^3e	5,07E-04	6,97E-06	1,15E-03	1,66E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,11E-06	1,90E-05	2,92E-05	2,02E-07	-9,54E-04
POCP (“smog”)	kg C_2H_4e	8,03E-04	2,24E-06	2,16E-05	8,27E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,61E-06	6,95E-06	1,17E-05	5,79E-08	-6,97E-04
ADP-elements	kg Sbe	2,94E-05	2,70E-08	3,80E-04	4,09E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,20E-09	8,15E-08	1,46E-06	1,71E-10	-1,49E-05

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-fossil	MJ	2,06E+01	1,37E-01	6,42E-01	2,14E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,39E-02	4,29E-01	2,38E-01	2,85E-03	-1,36E+01

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	2,38E+00	9,70E-03	3,94E-02	2,43E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,41E-03	3,00E-02	2,07E-02	1,18E-04	-1,37E+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

DATA SOURCES

Manufacturing energy scenario documentation

1. Electricity, residual mix, Poland, BAFU, 0.97 kgCO2e/kWh

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Recovery: re-use (kg)	0
Recovery: recycling (kg)	0,92
Recovery: energy recovery (kg)	0
Disposal (kg)	0,02
Scenario assumptions e.g. transportation (mode, km) & other	According to Product Specific EPD 100 km to waste processor + 200 km to final destination

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

Afzal khan Peerukhan as an authorized verifier for EPD Hub Limited 02.10.2026