ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

SP700 series (stainless steel)
Tammer OÜ

EPD HUB, HUB-4543
Published on 30.11.2025, last updated on 30.11.2025, valid until 29.11.2030

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	Tammer OÜ
Address	Väike-Paala tn 4, Tallinn Harjumaa 11415, Estonia
Contact details	info@tammer.ee
Website	https://tammer.ee/

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 17213 Windows and doors
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	Anni Oviir, LCA Support
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	HaiHa Nguyen, 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	SP700 series (stainless steel)
Place(s) of raw material origin	Europe
Place of production	Tallinn, Estonia
Place(s) of installation and use	Europe
Period for data	01.01.2024-31.12.2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	Up to 17%
A1-A3 Specific data (%)	86,6

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 square meter of door based on a standard size door (1,23 m x 2,18 m)
Declared unit mass	78,62 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	251
GWP-total, A1-A3 ($kgCO_2e$)	252
Secondary material, inputs (%)	14,3
Secondary material, outputs (%)	59,1
Total energy use, A1-A3 (kWh)	1110
Net freshwater use, A1-A3 (m^3)	3,71

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

With more than 200 employees Tammer is the largest producer of metal doors in Baltic States. Our customers are construction companies, shipbuilding companies, real estate maintance companies and re-sellers. We produce over 40,000 doors and have turnover 35 million euros per year. Every door we produce can be unique because we take every new project as a new challenge. Our machinery and technology is capable of adapting all the needs neccessary for todays safety regulations and innovation. Our products comply with ISO9001, ISO14001 and ISO45001 certificates, and our product development department tests and tests new doors on a daily basis to further expand Tammer's product range and add new functionality.

PRODUCT DESCRIPTION

SP700 is designed for fire and smoke resistant constructions with integrated fire insulation core. Applications: doors, partitions, glazed walls and sliding doors. Certified fire resistance from E 30 up to EI 120. Material: stainless steel (EN 1.4404 / ASTM 316L). Performance: burglar resistance up to RC4, bullet resistance up to FB6NS, smoke control S_a / S_200. Door set can be powder/wet painted in different RAL colors or have stainless steel brushed/polished finish. The door can be fitted with different locks and door closer systems. The product impacts are calculated covering the door leaf, frame, threshold, hinges, hinge fittings, and frame fixing elements, including all components necessary to fill the door opening. The indicator results are calculated for standard sized elements 1,23 m × 2,18 m and then declared per square meter of product in the EPD. This EPD is based on a manufacturer-selected reference model. Variations in bill of materials or processing for special versions can change the results; the figures reported may not match a specific custom door.

Further information can be found at:
https://tammer.ee/

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	38	Europe
Minerals	62	Europe
Fossil materials	<1	Europe
Bio-based materials	NA	NA

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	3,24

DECLARED UNIT

Declared unit	1 square meter of door based on a standard size door (1,23 m x 2,18 m)
Mass per declared unit	78,62 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.

A market-based approach is used in modelling the electricity mix utilized in the factory.
The product manufacturing process is project-based and begins with product engineering based on customer order, followed by order handling and material procurement. The factory process starts from a profile warehouse, where the required profiles are taken for processing. The first step is profile sawing to cut them to the correct dimensions. This is followed by drilling and milling, where openings and connection points are prepared. Next comes welding. Finishing of the welded areas is carried out, followed by brushing. The process continues to final assembly as requested where gaskets, hardware, and other small parts are added to complete the product. The final step before packing is quality control, followed by packing and delivery.

Tammer uses 100% certified green energy from wind and solar. Heating is provided by natural gas. Waste is sorted: metals are sold to scrap dealers, while other fractions are handled by municipal waste services. Packaging consists of wood for custom transport crates, supplemented with shrink-wrap and foam film to prevent damage. Biogenic carbon contained in packaging materials is fully released at end-of-life and reported within A1–A3 in order to balance the emissions that would otherwise be shown in A5; no separate packaging waste processing is declared.

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 transportation distance is defined according to the most common scenario - from the place of manufacturing to Stockholm, Sweden. According to the manufacturer, transportation doesn't cause losses as products are packaged properly. The final product is transported 430 km (140 km by lorry and 290 km by ferry). Vehicle capacity utilization volume factor is assumed to be 1, which means full load. It may vary but as the role of transportation emission in total results is small and so the variety in load is assumed to be negligible. Empty returns are not taken into account as it is assumed that return trips are used by transportation companies to serve the needs of other clients. A5 module is omitted. Biogenic carbon contained in packaging materials is fully released at end-of-life and reported within A1–A3.

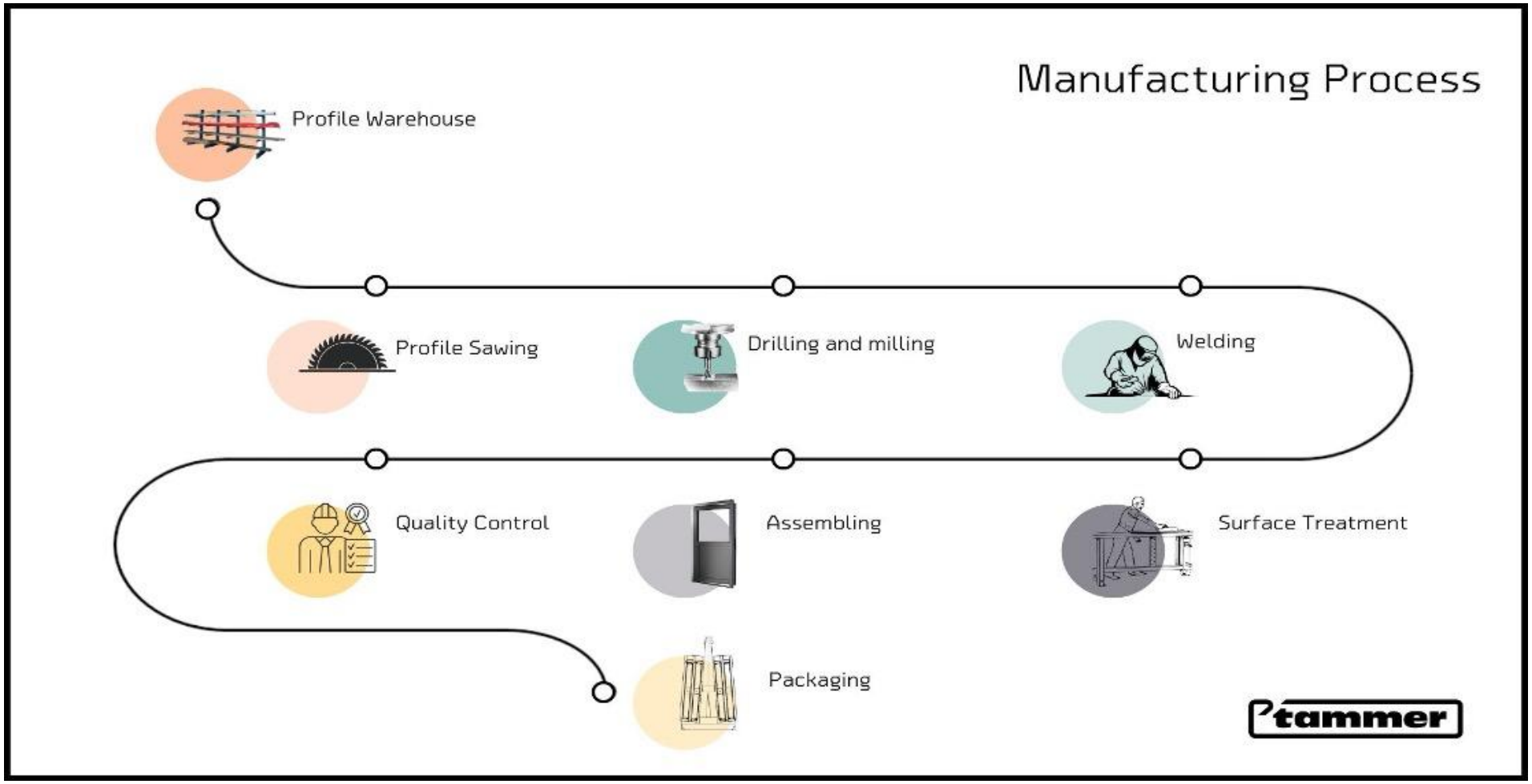
PRODUCT USE AND MAINTENANCE (B1-B7)

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)

The End of Life scenario is based on the default assumptions for metal doors and windows provided in EN 17213:2020 (Windows and doors – Environmental Product Declarations – Product category rules for windows and pedestrian doorsets), and is representative of European conditions. No mass loss is assumed during use; therefore, the end-of-life product weight equals the declared product weight. At end-of-life, products are assumed to be dismantled without requiring additional energy or resources, and transported by lorry (100 km average distance) to the nearest treatment facilities. Waste treatment includes shredding and sorting of all materials. Recycling rates are assumed as follows: - Non-glass materials: 95% recycled, 5% landfilled - Glass materials: 30% recycled, 70% landfilled In the recycling scenario, metals are assumed to be recycled, while plastics are assumed to be incinerated with energy recovery, in line with common European practice. Module D accounts only for the benefits of recycling, reported as net benefits. The Module D scenario is also representative of Europe.

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	No allocation
Packaging material	Allocated by volume
Ancillary materials	Allocated by volume
Manufacturing energy and waste	Allocated by volume

The manufacturer has the sole ownership, liability, and responsibility for the EPD.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on worst-case results
Variation in GWP-fossil for A1-A3, %	Up to 17%

This EPD is specific to the SP700-type stainless steel metal door manufactured at Tammer. It represents SP700-type stainless steel products with and without fire class. In modules A1–A3, variations without fire class show up to 17% lower results for the life cycle indicator GWP-fossil compared to the reference product with EI60 fire class.

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 3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 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	2,29E+02	1,43E+01	8,05E+00	2,52E+02	4,24E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,47E-01	1,16E+00	3,38E-01	-4,30E+01
GWP – fossil	kg CO_2e	2,29E+02	1,43E+01	8,05E+00	2,51E+02	4,24E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,46E-01	1,17E+00	3,37E-01	-4,30E+01
GWP – biogenic	kg CO_2e	2,00E-01	0,00E+00	-1,50E-02	1,85E-01	7,17E-04	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,92E-04	-8,64E-03	1,34E-03	-2,76E-05
GWP – LULUC	kg CO_2e	3,69E-01	6,51E-03	2,06E-02	3,96E-01	2,02E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,79E-04	1,12E-03	1,99E-04	-5,09E-03
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	9,17E-06	2,10E-07	3,01E-07	9,68E-06	6,16E-08	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,25E-08	1,12E-08	8,58E-09	-1,49E-07
Acidification potential	mol H^+e	1,63E+00	1,23E-01	3,81E-02	1,79E+00	9,21E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,89E-03	8,79E-03	2,33E-03	-1,69E-01
EP-freshwater[2)]	kg Pe	2,47E-02	9,74E-04	1,73E-03	2,74E-02	1,85E-04	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,59E-05	5,38E-04	3,38E-05	-1,82E-02
EP-marine	kg Ne	2,83E-01	3,39E-02	1,25E-02	3,29E-01	2,36E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,48E-04	2,04E-03	9,21E-04	-3,77E-02
EP-terrestrial	mol Ne	3,20E+00	3,74E-01	1,35E-01	3,71E+00	2,62E-01	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,03E-02	2,28E-02	9,84E-03	-4,13E-01
POCP ("smog")[3)]	kg NMVOCe	8,63E-01	1,21E-01	5,03E-02	1,03E+00	7,28E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,25E-03	6,88E-03	3,44E-03	-1,41E-01
ADP-minerals & metals[4)]	kg Sbe	3,43E-03	3,45E-05	7,68E-05	3,54E-03	6,20E-06	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,36E-06	4,56E-05	6,37E-07	-4,13E-04
ADP-fossil resources	MJ	2,90E+03	2,01E+02	1,30E+02	3,23E+03	5,48E+01	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,23E+01	1,13E+01	7,56E+00	-3,93E+02
Water use[5)]	m^3e depr.	1,21E+02	9,11E-01	3,27E+00	1,25E+02	1,85E-01	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,07E-02	2,62E-01	3,33E-01	-7,11E+00

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.

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	5,63E+02	2,52E+00	2,60E+02	8,26E+02	5,05E-01	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,68E-01	1,67E+00	9,64E-02	-2,67E+01
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	5,63E+02	2,52E+00	2,60E+02	8,26E+02	5,05E-01	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,68E-01	1,67E+00	9,64E-02	-2,67E+01
Non-re. PER as energy	MJ	2,87E+03	2,01E+02	1,17E+02	3,19E+03	5,48E+01	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,23E+01	5,50E+00	5,95E+00	-3,93E+02
Non-re. PER as material	MJ	4,49E+00	0,00E+00	-2,64E-03	4,49E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-4,49E+00	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	2,87E+03	2,01E+02	1,17E+02	3,19E+03	5,48E+01	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,23E+01	1,01E+00	5,95E+00	-3,93E+02
Secondary materials	kg	1,12E+01	8,59E-02	7,90E-02	1,14E+01	2,37E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,23E-03	1,15E-02	2,58E-03	1,06E+01
Renew. secondary fuels	MJ	4,67E-02	9,33E-04	1,41E-02	6,17E-02	1,36E-04	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,64E-05	5,05E-04	5,20E-05	-3,52E-03
Non-ren. secondary fuels	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
Use of net fresh water	m^3	3,61E+00	2,68E-02	7,08E-02	3,71E+00	5,05E-03	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,82E-03	-1,45E-02	-1,11E-01	-9,39E-02

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	2,42E+01	3,24E-01	4,02E-01	2,49E+01	7,56E-02	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,08E-02	7,04E-02	1,24E-02	-1,41E+01
Non-hazardous waste	kg	1,88E+02	5,78E+00	1,80E+01	2,12E+02	1,18E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,85E-01	1,62E+01	7,95E+01	-1,09E+02
Radioactive waste	kg	5,58E-02	3,89E-05	1,22E-04	5,60E-02	7,54E-06	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,62E-06	2,02E-05	1,42E-06	4,14E-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	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	7,92E-01	0,00E+00	0,00E+00	7,92E-01	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	4,63E+01	0,00E+00	0,00E+00
Materials for energy rec	kg	9,68E-04	0,00E+00	0,00E+00	9,68E-04	0,00E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,59E-01	0,00E+00	0,00E+00
Exported energy	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	4,45E+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	4,45E+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	2,29E+02	1,43E+01	8,07E+00	2,52E+02	4,24E+00	ND	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,47E-01	1,17E+00	3,37E-01	-4,30E+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

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Electricity production, photovoltaic, 570kWp open ground installation, multi-Si (Ecoinvent 3.11) 79%; Electricity production, wind, 1-3MW turbine, offshore (Ecoinvent 3.11) 21%
Electricity CO2e / kWh	0,066
District heating data source and quality	Heat production, natural gas, at boiler condensing modulating <100kW, Europe, Ecoinvent 3.11, Unit: MJ
District heating CO2e / kWh	0,073

Transport scenario documentation A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	0,10
Average transport distance, km	430
Capacity utilization (including empty return) %	100
Bulk density of transported products	286
Volume capacity utilization factor	1

End of life scenario documentation

Scenario information	Value
Collection process – kg collected separately	78,62
Collection process – kg collected with mixed construction waste	0
Recovery process – kg for re-use	0
Recovery process – kg for recycling	46,32
Recovery process – kg for energy recovery	0,16
Disposal (total) – kg for final deposition	31,92
Scenario assumptions e.g. transportation	100 km with lorry

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

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited
26.11.2025