ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Stainless steel Nails

ITW Construction Products UK & Nordics

EPD HUB, HUB-5462

Published on 20.02.2026, last updated on 20.02.2026, valid until 19.02.2031

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	ITW Construction Products UK & Nordics
Address	C/ López Bravo, 73 - PI Villalonquejar 09001 - Burgos - España
Contact details	post@itwbyg.dk
Website	https://itwcp.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
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Sajeda Mutadel
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	Stainless steel Nails
Additional labels	-
Product reference	-
Place(s) of raw material origin	World
Place of production	Spain
Place(s) of installation and use	Europe/UK
Period for data	01/01/2024-31/12/2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	Not applicable
NOBB (Norwegian Building Product Database)	Not applicable
A1-A3 Specific data (%)	7.12

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of stainless steel nails
Declared unit mass	1 kg
Mass of packaging	0.245 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	7.78
GWP-total, A1-A3 ($kgCO_2e$)	7.67
Secondary material, inputs (%)	65.4
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	30.3
Net freshwater use, A1-A3 (m^3)	0.08

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

ITW Construction Products UK & Nordics is a business unit within Illinois Tool Works Inc. (ITW), a multinational industrial company with activities across a wide range of industrial sectors. Founded more than a century ago, ITW has developed into a leading diversified manufacturer of specialized industrial equipment, consumables and associated services.
The company operates according to the ITW Business Model, which is based on clearly defined operational principles and business practices. Key elements of this model include the 80/20 Front to Back process, customer driven innovation and a decentralized operating structure that enables business units to respond effectively to local markets and customer needs. Within ITW Construction Products UK & Nordics, the focus is on the development and supply of engineered fastening systems, complementary consumables and digital solutions for construction applications. The products are designed for use across a variety of materials, including wood, concrete and steel, and are specified to meet demanding technical and performance requirements in professional construction projects.

PRODUCT DESCRIPTION

The product assessed in this EPD is a metal fastening component (nail) manufactured for ITW Construction Products. The component is intended for use in construction applications where reliable mechanical performance and structural robustness are required. The nail is produced primarily from high-quality steel chosen for its mechanical strength, durability, and capacity to resist high structural loads. To ensure long service life in demanding environments, the steel is subjected to a corrosion-resistant surface treatment. Applications This fastening component is used in structural construction assemblies in accordance with the manufacturer's specifications. Typical applications include the attachment of structural metal connectors to building elements such as joists, beams, and other load-bearing components. By ensuring secure and stable connections, the product contributes to the overall structural integrity and safety of the built system.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	100	World
Minerals	-	
Fossil materials	-	
Bio-based materials	-	

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	0.038

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of stainless steel nails
Mass per declared unit	1 kg
Functional unit	-
Reference service life	

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x		
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.

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

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.
A1–A3 Manufacturing and Packaging is modelled using site-specific production data combined with representative background data, in accordance with EN 15804+A2 and the applicable EPD Hub Core PCR.

Raw materials consist primarily of stainless steel wire sourced from international supply chains outside Europe. Transport of raw materials (A2) is modelled using long-distance freight transport to Europe, followed by regional transport to the manufacturing site. Transport impacts include fuel production, fuel combustion, and associated transport infrastructure, based on generic background datasets. An average transport distance of 2000 km by lorry is applied.

The manufacturing process (A3) begins with the delivery of stainless steel wire to the production facility, where it is mechanically cut and formed into the finished fastening product. During manufacturing, water is used for cleaning the steel, and lubricants are applied to ensure smooth cutting and forming operations. Steel scrap and offcuts generated during production are considered production losses, separately collected, and sent for recycling.

Manufacturing energy use is based exclusively on market-based medium-voltage grid electricity from the country of production. No renewable or green electricity is used, and no guarantees of origin (GOs), renewable energy certificates (RECs), or similar contractual instruments are applied within the scope of this EPD. Electricity transmission losses are included according to the applied background datasets.

Packaging materials used in A3 include corrugated cardboard boxes, wooden pallets, and plastic film for product protection and handling. Ancillary materials include water and lubricants used during the manufacturing process.

Manufacturing waste management (A3) includes the separate collection of steel scrap for recycling. Packaging waste generated during manufacturing is treated according to European average waste treatment scenarios. Transport of manufacturing waste is modelled using average distances of 250 km to recycling facilities and 50 km to landfill facilities, in accordance with the background data applied in the LCA model.

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.

A4: An average transport distance of 2000 km by lorry is used in the calculation,
which is representative of typical transportation within European market.

All assumptions applied for modules A4 and A5 are consistently declared in the One Click LCA model and reflected in the results tables.

For module A4, transport to the construction site is modelled using lorry transport over an average distance of 2,000 km. This value represents a

conservative, European average assumption and is documented in the background data of the LCA model. Transport impacts include both product and packaging weight and are reported in the results table for module A4.

For module A5, no material losses during installation are assumed for the declared product. Installation does not require dedicated machinery or additional installation materials beyond the product itself, and energy consumption during installation is considered negligible. Therefore, no installation energy inputs are included in the model.

Waste generated in module A5 consists solely of packaging materials. Waste treatment scenarios are based on European average statistics and include recycling, incineration and landfill. The following waste treatment shares and transport distances are applied and documented in the background data:

- Cardboard: 83% recycled, 8% incinerated, 9% landfilled
- Wooden pallets: 32% recycled, 30% incinerated, 38% landfilled
- Plastic packaging: 40% recycled, 37% incinerated, 23% landfilled
- Transport distances: 50 km to landfill, 150 km to incineration, 250 km to recycling

All A4 and A5 assumptions are transparently included in the results tables and background data of the One Click LCA project, ensuring consistency, traceability and compliance with EN 15804+A2 requirements.

PRODUCT USE AND MAINTENANCE (B1-B7)

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Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The end-of-life stage (C1–C4) and benefits and loads beyond the system boundary (Module D) are modelled using representative European average assumptions, in accordance with EN 15804+A2 and the applicable EPD Hub Core PCR.

C1 – Deconstruction:
During deconstruction, the product is assumed to be disassembled using power tools. Energy consumption for deconstruction is considered equivalent to the energy required during installation.

C2 – Transport:
Transport of end-of-life materials to waste treatment facilities is modelled using lorry transport with the following assumptions:
– Steel waste transported 250 km to recycling facilities
– Steel waste transported 50 km to landfill facilities

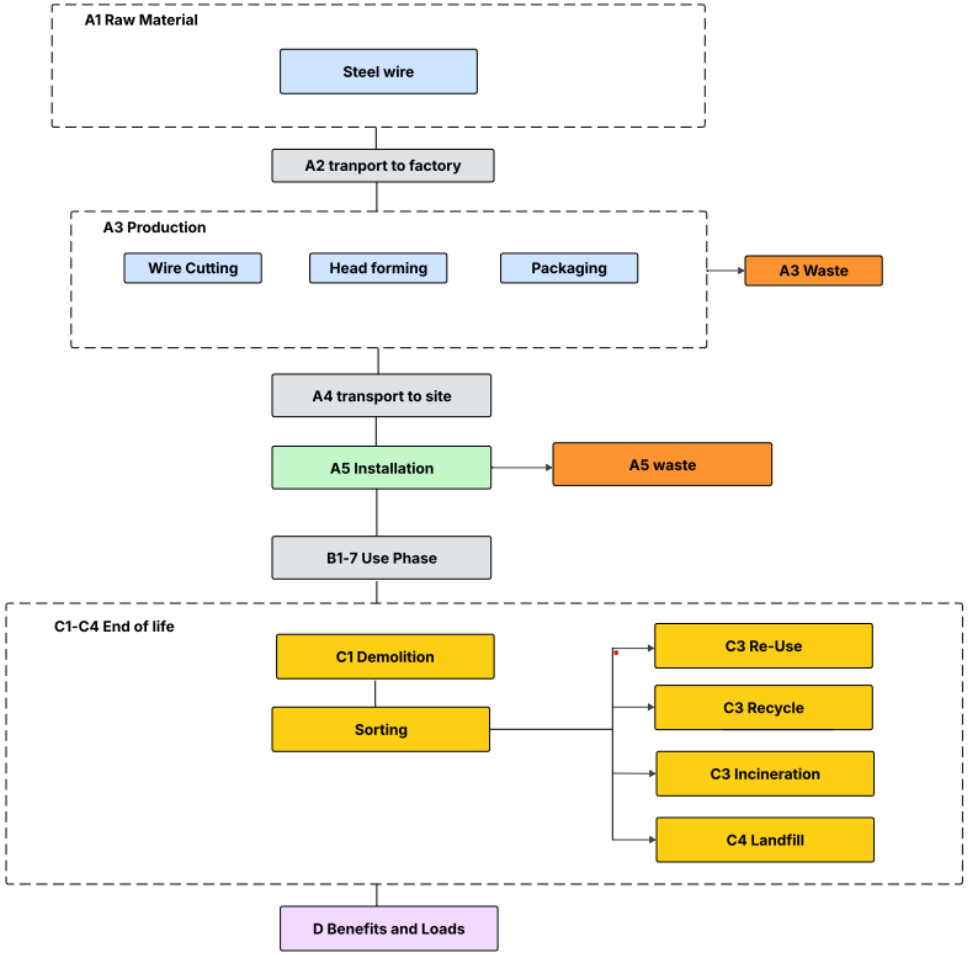
C3 – Waste processing:
End-of-life steel is assumed to be separately collected and processed for recycling. Processing includes sorting and preparation of steel scrap for secondary material use. Packaging materials are processed according to their respective waste treatment routes.

C4 – Disposal:
The end-of-life material distribution is modelled as follows:
– Steel: 85% recycled, 15% landfilled
– Cardboard packaging: 83% recycled, 8% incinerated, 9% landfilled
– Wooden pallets: 32% recycled, 30% incinerated, 38% landfilled
– Plastic packaging: 40% recycled, 37% incinerated, 23% landfilled

Module D – Benefits and loads beyond the system boundary:

Environmental benefits from material recovery are reported in Module D. Recycled steel is credited with avoiding the production of virgin steel. Recycled packaging materials are credited accordingly. Energy recovered from incineration of packaging waste is assumed to substitute average primary electricity and heat production. The resulting net benefits and burdens from recycling and incineration are reported in Module D.

SYSTEM 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	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	No grouping
Grouping method	Based on average results of product group - by total mass
Variation in GWP-fossil for A1-A3, %	

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LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.3. 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‘.

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	5.73E+00	2.79E-01	1.66E+00	7.67E+00	2.68E-01	1.59E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.69E-02	2.15E-02	3.12E-04	-4.97E+00
GWP – fossil	kg CO_2e	5.71E+00	2.79E-01	1.79E+00	7.78E+00	2.68E-01	1.89E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.69E-02	2.15E-02	3.12E-04	-4.92E+00
GWP – biogenic	kg CO_2e	7.69E-03	6.32E-05	-1.42E-01	-1.34E-01	6.07E-05	1.40E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.02E-05	-4.56E-05	-9.93E-08	-3.37E-02
GWP – LULUC	kg CO_2e	1.34E-02	1.25E-04	7.63E-03	2.12E-02	1.20E-04	6.81E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.08E-05	2.65E-05	1.78E-07	-1.29E-02
Ozone depletion pot.	kg CFC_{-11}e	4.52E-08	4.12E-09	2.05E-08	6.98E-08	3.96E-09	8.97E-11	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.55E-10	2.89E-10	9.04E-12	-3.40E-08
Acidification potential	mol H^+e	3.08E-02	9.52E-04	9.96E-03	4.17E-02	9.14E-04	3.90E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.56E-04	2.55E-04	2.21E-06	-2.86E-02
EP-freshwater[2)]	kg Pe	2.02E-03	2.17E-05	4.95E-04	2.54E-03	2.09E-05	1.76E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.65E-06	1.38E-05	2.57E-08	-1.48E-03
EP-marine	kg Ne	5.46E-03	3.13E-04	1.98E-03	7.75E-03	3.00E-04	2.73E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.06E-05	5.66E-05	8.44E-07	-4.95E-03
EP-terrestrial	mol Ne	5.74E-02	3.40E-03	1.94E-02	8.02E-02	3.27E-03	1.32E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.51E-04	6.39E-04	9.21E-06	-5.27E-02
POCP ("smog")[3)]	kg NMVOCe	1.82E-02	1.40E-03	6.90E-03	2.65E-02	1.35E-03	4.62E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.18E-04	1.89E-04	3.30E-06	-1.71E-02
ADP-minerals & metals[4)]	kg Sbe	1.45E-04	7.79E-07	3.57E-06	1.50E-04	7.48E-07	9.67E-08	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.54E-07	1.52E-06	4.96E-10	-1.19E-04
ADP-fossil resources	MJ	6.41E+01	4.05E+00	2.68E+01	9.49E+01	3.89E+00	8.35E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.58E-01	2.88E-01	7.66E-03	-5.29E+01
Water use[5)]	m^3e depr.	2.27E+00	2.00E-02	3.41E-01	2.63E+00	1.92E-02	1.91E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.05E-03	5.18E-03	2.21E-05	-1.63E+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.

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	4.56E-07	2.79E-08	1.57E-07	6.40E-07	2.68E-08	6.56E-10	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.72E-09	3.47E-09	5.04E-11	-4.05E-07
Ionizing radiation[6)]	kBq U235e	4.85E-01	3.53E-03	2.17E-01	7.06E-01	3.39E-03	2.43E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.32E-04	2.44E-03	4.82E-06	-2.26E-01
Ecotoxicity (freshwater)	CTUe	1.91E+01	5.73E-01	5.61E+00	2.53E+01	5.50E-01	6.07E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.04E-01	1.68E-01	6.43E-04	-1.38E+01
Human toxicity, cancer	CTUh	8.03E-09	4.61E-11	7.82E-10	8.86E-09	4.42E-11	3.88E-12	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.97E-12	1.92E-11	5.75E-14	-4.57E-09
Human tox. non-cancer	CTUh	1.17E-07	2.62E-09	1.30E-08	1.33E-07	2.52E-09	2.45E-10	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.12E-10	1.30E-09	1.32E-12	-9.38E-08
SQP[7)]	-	2.95E+01	4.08E+00	2.49E+01	5.85E+01	3.92E+00	9.46E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.93E-01	5.61E-01	1.51E-02	-2.36E+01

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	1.62E+01	5.55E-02	2.88E+00	1.91E+01	5.33E-02	-1.45E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.02E-03	5.37E-02	7.39E-05	-1.45E+01
Renew. PER as material	MJ	0.00E+00	0.00E+00	1.23E+00	1.23E+00	0.00E+00	-1.23E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.83E-01
Total use of renew. PER	MJ	1.62E+01	5.55E-02	4.11E+00	2.03E+01	5.33E-02	-2.68E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.02E-03	5.37E-02	7.39E-05	-1.42E+01
Non-re. PER as energy	MJ	6.41E+01	4.05E+00	2.17E+01	8.99E+01	3.89E+00	-3.33E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.58E-01	2.88E-01	7.66E-03	-5.29E+01
Non-re. PER as material	MJ	0.00E+00	0.00E+00	4.33E+00	4.33E+00	0.00E+00	-4.33E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.89E-01
Total use of non-re. PER	MJ	6.41E+01	4.05E+00	2.60E+01	9.42E+01	3.89E+00	-4.66E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.58E-01	2.88E-01	7.66E-03	-5.27E+01
Secondary materials	kg	6.54E-01	1.72E-03	3.49E-02	6.90E-01	1.66E-03	8.01E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.95E-04	3.52E-04	1.93E-06	5.86E-01
Renew. secondary fuels	MJ	1.60E-03	2.19E-05	2.81E-02	2.97E-02	2.10E-05	1.36E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.76E-06	1.63E-05	3.99E-08	-1.26E-03
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m^3	6.79E-02	5.99E-04	7.73E-03	7.62E-02	5.75E-04	-9.92E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	8.71E-05	1.53E-04	7.97E-06	-4.67E-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	5.77E+00	6.86E-03	2.65E-01	6.04E+00	6.59E-03	6.72E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.15E-03	1.88E-03	8.46E-06	-4.57E+00
Non-hazardous waste	kg	1.24E+01	1.27E-01	4.98E+00	1.75E+01	1.22E-01	2.08E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.15E-02	6.80E-02	1.93E-04	-9.77E+00
Radioactive waste	kg	1.23E-04	8.64E-07	5.01E-05	1.74E-04	8.29E-07	6.07E-08	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.30E-07	6.26E-07	1.17E-09	-5.47E-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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	2.66E+00	2.66E+00	0.00E+00	9.71E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy rec	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy – Electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.74E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy – Heat	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-01	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	5.70E+00	2.78E-01	1.79E+00	7.77E+00	2.67E-01	2.31E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.66E-02	2.14E-02	3.09E-04	-4.91E+00
Ozone depletion Pot.	kg $CFC_{-11}e$	3.85E-08	3.29E-09	1.73E-08	5.91E-08	3.16E-09	7.27E-11	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.24E-10	2.38E-10	7.18E-12	-2.87E-08
Acidification	kg SO_2e	2.56E-02	7.27E-04	8.25E-03	3.46E-02	6.98E-04	3.00E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.20E-04	2.05E-04	1.64E-06	-2.38E-02
Eutrophication	kg PO_4^3e	3.97E-03	1.77E-04	4.71E-03	8.86E-03	1.70E-04	1.15E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.91E-05	2.98E-05	5.21E-07	-3.08E-03
POCP (“smog”)	kg C_2H_4e	1.58E-03	6.48E-05	6.68E-04	2.31E-03	6.22E-05	9.37E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.07E-05	1.22E-05	1.55E-07	-1.54E-03
ADP-elements	kg Sbe	1.45E-04	7.59E-07	3.38E-06	1.49E-04	7.29E-07	9.59E-08	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.50E-07	1.52E-06	4.86E-10	-1.18E-04
ADP-fossil	MJ	5.61E+01	3.99E+00	2.32E+01	8.33E+01	3.84E+00	7.95E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.49E-01	2.46E-01	7.58E-03	-4.95E+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	5.73E+00	2.79E-01	1.80E+00	7.81E+00	2.68E-01	1.89E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.69E-02	2.15E-02	3.12E-04	-4.93E+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. Heat production, wood pellet, at furnace 9kW, Albania, Ecoinvent, 0.0163 kgCO2e/MJ
2. Electricity, medium voltage, residual mix, Spain, Ecoinvent, 0.41 kgCO2e/kWh
3. Market for heat, central or small-scale, natural gas, Albania, Ecoinvent, 0.0777 kgCO2e/MJ
4. Market for heat, central or small-scale, natural gas, Albania, Ecoinvent, 0.0777 kgCO2e/MJ

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry >32 metric ton, EURO5, 2000 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	100
Bulk density of transported products	0.00E+00
Volume capacity utilization factor	<1

Installation scenario documentation - A5 (Installation waste)

1. Direct emission to air: Butene, One Click LCA, 0.0615 kg
2. Direct emission to air: Propylene, One Click LCA, 0.0243 kg
3. Treatment of waste paperboard, unsorted, sorting, Ecoinvent, Materials for recycling, 0.023 kg
4. Treatment of waste packaging paper, municipal incineration, Ecoinvent, 0.0022 kg
5. Treatment of waste packaging paper, sanitary landfill, Ecoinvent, 0.0025 kg
6. Exported Energy: Electricity, Ecoinvent, 0.0044 MJ
7. Exported Energy: Electricity, Ecoinvent, 0.026 MJ
8. Exported Energy: Electricity, Ecoinvent, 0.047 MJ
9. Exported Energy: Thermal, Ecoinvent, 0.0064 MJ
10. Exported Energy: Thermal, Ecoinvent, 0.036 MJ
11. Exported Energy: Thermal, Ecoinvent, 0.064 MJ
12. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.0041 kg
13. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 0.0038 kg
14. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 0.0024 kg
15. Treatment of waste aluminium, sanitary landfill, Ecoinvent, 0.0031 kg
16. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.048 kg
17. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Materials for recycling, 0.022 kg
18. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.021 kg
19. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.026 kg

End-of-life scenario documentation - C1-C4 (Data source)

1. Sorting and pressing of iron scrap, Ecoinvent, 0.95 kg
2. Treatment of scrap steel, inert material landfill, Ecoinvent, 0.05 kg

Scenario information	Value
Scenario assumptions e.g. transportation	85% to recyclicg, 15% to landfill, transport to recycling is 250km , to landfill 50km

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 20.02.2026

VERIFIED ISO 14025