



# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

FilterShield 2000

Environmental Products and Services Ltd



## EPD HUB, HUB-4288

Published on 30.10.2025, last updated on 30.10.2025, valid until 29.10.2030

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.

## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	Environmental Products and Services Ltd
Address	6 Shepherds Way, Carnbane Industrial Estate, Newry BT35 6EE
Contact details	marketing@epas-ltd.com
Website	https://epas-ltd.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	Manufactured 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	Kiro Tamer - KEES - https://www.kees.co.uk
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Yazan Badour, 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	FilterShield 2000
Additional labels	-
Product reference	FS2000
Place(s) of raw material origin	Various
Place of production	6 Shepherds Way, Carnbane Industrial Estate, UK
Place(s) of installation and use	Europe, Asia, America, Canada
Period for data	Any other continuous 12-month period – From 03/2024 to 02/2025
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	6.94

## ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit
Declared unit mass	5.11 kg
Mass of packaging	2.44 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	23.1
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	19.6
Secondary material, inputs (%)	9.91
Secondary material, outputs (%)	9.32
Total energy use, A1-A3 (kWh)	123
Net freshwater use, A1-A3 (m <sup>3</sup> )	0.23

# PRODUCT AND MANUFACTURER

## ABOUT THE MANUFACTURER

We are a pioneering force in manufacturing award-winning drainage protection equipment, designed to promote the collection of high-value renewable energy while safeguarding our customers’ drain lines from recurring blockages and ensuring compliance with local authorities. We work in partnership with our customers to reduce operating costs and energy costs compared to competitors. Our products protect the environment by providing sustainable and innovative solutions whilst reducing our clients’ associated carbon footprint and harvesting renewable energy sources.

## PRODUCT DESCRIPTION

This EPD represents a FilterShield unit manufactured in Newry, Northern Ireland. The FilterShield is a solid waste filtration system designed to prevent drain blockages in commercial kitchens by capturing food waste, coffee grounds, starch, and other non-flushable items.

Further information can be found at:  
<https://epas-ltd.com>

## PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	12%	Europe, Asia
Minerals	-	
Fossil materials	88%	Europe, Asia
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	0.99

## FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 unit
Mass per declared unit	5.11 kg
Functional unit	-
Reference service life	10

# 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.

The reference product consists of one FilterShield that is made of metals and plastics. The materials are transported to EPAS's production facility in Newry, where the main manufacturing processes include assembly and testing being the products are packaged and dispatch to the clients. The manufacturing process requires electricity and gas for the different equipment as well as heating. The manufacturing energy is considered based on the electricity mix of the manufacturing site, energy source and country of electricity generation. Certain ancillary materials are also included. The study considers the losses of main raw materials occurring during the manufacturing process. Each part manufacturing process is considered separately and process waste disposal is accounted based on allocation of factory level waste. The finished product is packaged in corrugated cardboard before being sent to the installation.

## 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.

A sales volume-based periodic average is considered for defining the distribution to the customer. Average distance of transportation from production plant to building site is assumed. Vehicle capacity utilization volume factor is assumed to be 100% which means full load. In reality, it may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. Transportation does not cause losses as product are packaged properly. Also, volume capacity utilization factor is assumed to be 100% for the nested packaged products.

Transportation impacts that occur from delivery of the product cover direct exhaust emissions of fuel, environmental impacts of fuel production, as well

as related infrastructure emissions. Environmental impacts from installation into the building include waste packaging materials (A5) and release of biogenic carbon dioxide from waste processing of cardboard and wood pallets. Electricity consumption, steel bolts and copper pipes are considered as part of the installation process, but given their negligible relative environmental burden they were excluded from the study. Quantities are assumed as it varies for different products. The treatment rates for the packaging is based on EU Eurostat data.

### **PRODUCT USE AND MAINTENANCE (B1-B7)**

This EPD does not cover the use phase.

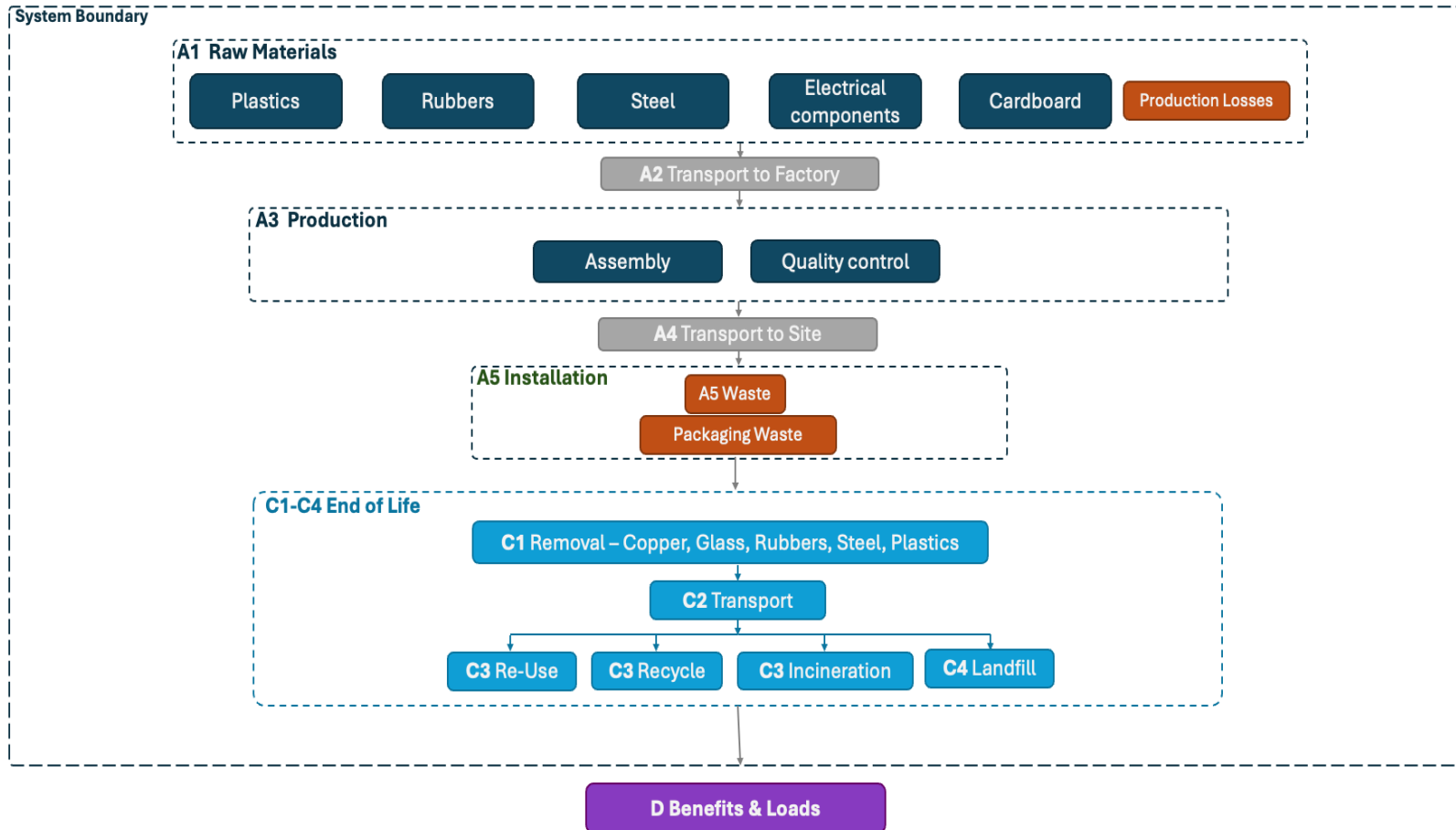
Air, soil, and water impacts during the use phase have not been studied.

### **PRODUCT END OF LIFE (C1-C4, D)**

Consumption of energy and natural resources in demolition process is assumed to be negligible. It is assumed that the waste is collected separately and transported to the waste treatment center. Transportation distance to treatment is assumed as 250 km to recycling sites, 150 km to incineration and 50 km to landfill, and the transportation method is assumed to be lorry (C2). The used installation resources such as copper pipes and steel bolts are also dismantled and transported along with the product. According to EN 50693:2019, the sequence of treatment operations occurring to the product shall include de-pollution, fractions separation and preparation (dismantling, crushing, shredding, sorting), recycling, other material recovery, energy recovery and disposal. As per the data from UK's construction waste statistics website, the wood, glass, metals, plastics, paint and inert waste are sorted. Module C3 accounts for energy and resource inputs for sorting and treating these waste streams for recycling and incineration with energy recovery. Due to the material and energy recovery potential of parts in the end of life product and packaging,

recycled raw materials leads to avoided virgin material production, while the energy recovered from incineration displaces electricity and heat production (D). The benefits and loads of incineration and recycling are included in Module D.

# 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.

The life cycle assessment has been achieved by using the FilterShield product production and quality bill of material. Doing this has removed the need for any estimates to calculate the volumes and type of material used to build the product.

## 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	No allocation
Ancillary materials	Not applicable
Manufacturing energy and waste	Allocated by mass or volume

The key calculation carried out was A4. this was achieved by reviewing an average month for sale, calculating the distances per product and applying the average distance by the units sold in one year.

## PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

This EPD is product and factory specific.

## LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 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 <sup>1)</sup>	kg CO <sub>2</sub> e	1.94E+01	4.48E-01	-1.98E-01	1.96E+01	5.37E-01	3.75E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.35E-01	5.52E+00	2.86E+00	-2.58E+00
GWP – fossil	kg CO <sub>2</sub> e	1.93E+01	4.47E-01	3.36E+00	2.31E+01	5.37E-01	8.82E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.35E-01	5.52E+00	2.86E+00	-2.55E+00
GWP – biogenic	kg CO <sub>2</sub> e	4.64E-02	9.65E-05	-3.66E+00	-3.62E+00	1.22E-04	3.66E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.94E-05	-3.60E-04	-2.32E-04	-3.13E-02
GWP – LULUC	kg CO <sub>2</sub> e	1.82E-02	2.00E-04	1.03E-01	1.22E-01	2.40E-04	4.84E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.96E-05	5.78E-05	3.04E-05	-2.60E-03
Ozone depletion pot.	kg CFC <sub>-11</sub> e	6.69E-07	6.60E-09	1.22E-07	7.97E-07	7.92E-09	8.90E-10	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.88E-09	2.12E-09	1.34E-09	-1.06E-08
Acidification potential	mol H <sup>+</sup> e	7.33E-02	1.52E-03	1.43E-02	8.92E-02	1.83E-03	3.56E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	4.49E-04	1.35E-03	7.06E-04	-1.50E-02
EP-freshwater <sup>2)</sup>	kg Pe	5.67E-03	3.48E-05	1.49E-03	7.19E-03	4.18E-05	1.96E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.05E-05	2.42E-05	1.01E-05	-9.27E-04
EP-marine	kg Ne	1.39E-02	5.01E-04	6.46E-03	2.08E-02	6.01E-04	5.75E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.45E-04	7.06E-04	2.71E-03	-2.35E-03
EP-terrestrial	mol Ne	1.41E-01	5.45E-03	4.62E-02	1.92E-01	6.54E-03	1.13E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.58E-03	6.17E-03	3.32E-03	-2.59E-02
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	8.62E-02	2.25E-03	1.20E-02	1.00E-01	2.70E-03	4.30E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	6.25E-04	1.57E-03	8.93E-04	-7.70E-03
ADP-minerals & metals <sup>4)</sup>	kg Sbe	2.11E-04	1.25E-06	2.70E-05	2.39E-04	1.50E-06	5.70E-07	MND	MND	MND	MND	MND	MND	MND	0.00E+00	4.42E-07	1.16E-06	2.27E-07	-8.19E-06
ADP-fossil resources	MJ	4.84E+02	6.49E+00	6.28E+01	5.54E+02	7.79E+00	8.05E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.89E+00	1.19E+00	8.22E-01	-2.68E+01
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	6.75E+00	3.21E-02	1.67E+00	8.45E+00	3.85E-02	2.20E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	8.76E-03	3.58E-01	1.79E-01	-2.80E-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	7.17E-07	4.48E-08	1.22E-07	8.83E-07	5.37E-08	4.78E-09	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.07E-08	8.23E-09	5.33E-09	-2.22E-07
Ionizing radiation <sup>6)</sup>	kBq I1235e	2.69E+00	5.65E-03	1.25E+00	3.95E+00	6.78E-03	5.28E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.53E-03	2.46E-03	1.27E-03	-1.76E-01
Ecotoxicity (freshwater)	CTUe	5.41E+01	9.18E-01	2.42E+01	7.93E+01	1.10E+00	2.87E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.99E-01	1.07E+01	9.24E+00	-1.73E+00
Human toxicity, cancer	CTUh	8.76E-09	7.38E-11	1.08E-09	9.91E-09	8.86E-11	6.38E-11	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.29E-11	4.40E-10	2.28E-10	-1.28E-10
Human tox. non-cancer	CTUh	2.03E-07	4.20E-09	3.46E-08	2.41E-07	5.04E-09	3.40E-09	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.18E-09	1.57E-08	1.00E-08	2.04E-08
SQP <sup>7)</sup>	-	8.83E+01	6.54E+00	1.12E+02	2.06E+02	7.84E+00	5.94E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.13E+00	5.91E-01	8.42E-01	-1.11E+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 <sup>8)</sup>	MJ	3.69E+01	8.89E-02	-3.12E+00	3.39E+01	1.07E-01	-3.88E+01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.59E-02	6.73E-02	2.67E-02	-3.94E+00
Renew. PER as material	MJ	0.00E+00	0.00E+00	3.13E+01	3.13E+01	0.00E+00	-3.13E+01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-01
Total use of renew. PER	MJ	3.69E+01	8.89E-02	2.82E+01	6.52E+01	1.07E-01	-7.01E+01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.59E-02	6.73E-02	2.67E-02	-3.62E+00
Non-re. PER as energy	MJ	3.38E+02	6.49E+00	6.34E+01	4.08E+02	7.79E+00	8.05E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.89E+00	-7.93E+01	-8.05E+01	-2.68E+01
Non-re. PER as material	MJ	1.46E+02	0.00E+00	1.02E-01	1.46E+02	0.00E+00	-1.02E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	-1.46E+02	5.08E-06
Total use of non-re. PER	MJ	4.84E+02	6.49E+00	6.35E+01	5.54E+02	7.79E+00	7.02E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.89E+00	-7.93E+01	-2.26E+02	-2.68E+01
Secondary materials	kg	5.07E-01	2.76E-03	2.41E+00	2.92E+00	3.31E-03	1.33E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	8.49E-04	1.14E-03	5.87E-04	2.99E-01
Renew. secondary fuels	MJ	7.67E-02	3.51E-05	2.27E-01	3.04E-01	4.21E-05	7.49E-06	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.08E-05	3.96E-05	1.78E-05	-1.64E-04
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	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 <sup>3</sup>	1.87E-01	9.59E-04	3.99E-02	2.28E-01	1.15E-03	-4.54E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.50E-04	6.19E-03	-1.09E-03	-2.41E-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	4.33E+00	1.10E-02	1.77E-01	4.52E+00	1.32E-02	1.36E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.29E-03	9.83E-02	4.91E-02	-4.34E-01
Non-hazardous waste	kg	1.11E+02	2.03E-01	4.44E+00	1.15E+02	2.44E-01	1.54E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	6.18E-02	2.53E+00	6.86E+00	2.73E+00
Radioactive waste	kg	6.88E-04	1.38E-06	2.81E-04	9.71E-04	1.66E-06	1.35E-06	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.75E-07	6.20E-07	3.20E-07	-4.34E-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	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	4.76E-01	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	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	9.53E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	2.61E+01	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	3.91E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	1.10E+01	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	5.62E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	1.51E+01	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 <sub>2</sub> e	1.92E+01	4.45E-01	3.50E+00	2.31E+01	5.34E-01	3.34E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.34E-01	5.52E+00	2.85E+00	-2.53E+00
Ozone depletion Pot.	kg CFC <sub>11</sub> e	5.61E-07	5.27E-09	9.96E-08	6.66E-07	6.32E-09	7.28E-10	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.50E-09	1.88E-09	1.16E-09	-9.16E-09
Acidification	kg SO <sub>2</sub> e	6.09E-02	1.16E-03	1.05E-02	7.26E-02	1.40E-03	2.72E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.44E-04	9.73E-04	5.05E-04	-1.26E-02
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	3.09E-02	2.84E-04	5.03E-03	3.62E-02	3.40E-04	4.08E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	8.36E-05	3.18E-04	2.72E-04	-1.11E-03
POCP (“smog”)	kg C <sub>2</sub> H <sub>4</sub> e	5.71E-03	1.04E-04	9.09E-04	6.73E-03	1.25E-04	8.04E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.08E-05	6.34E-05	4.91E-05	-9.32E-04
ADP-elements	kg Sbe	2.09E-04	1.22E-06	2.70E-05	2.37E-04	1.46E-06	5.59E-07	MND	MND	MND	MND	MND	MND	MND	0.00E+00	4.32E-07	1.03E-06	1.65E-07	-8.16E-06
ADP-fossil	MJ	4.37E+02	6.40E+00	4.50E+01	4.89E+02	7.68E+00	7.13E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.86E+00	1.15E+00	8.02E-01	-2.40E+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 <sup>9)</sup>	kg CO <sub>2</sub> e	1.93E+01	4.47E-01	3.47E+00	2.32E+01	5.37E-01	8.82E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.35E-01	5.52E+00	2.86E+00	-2.55E+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 – CH<sub>4</sub> fossil, CH<sub>4</sub> 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 CO<sub>2</sub> is set to zero.

## SCENARIO DOCUMENTATION

### DATA SOURCES

#### Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Electricity, medium voltage, residual mix (Reference product: electricity, medium voltage)
Electricity CO2e / kWh	0.26 kg CO2e / kWh
District heating data source and quality	Heat production, natural gas, at boiler condensing modulating >100kW (Reference product: heat, district or industrial, natural gas)
District heating CO2e / kWh	0.0721kgCO2e/MJ

#### Transport scenario documentation A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	Transport, freight, lorry >32 metric ton, EURO5
Average transport distance, km	661
Capacity utilization (including empty return) %	100
Bulk density of transported products	-
Volume capacity utilization factor	1

#### Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste paperboard, unsorted, sorting, Ecoinvent, Materials for recycling, 2.0269 kg
2. Treatment of waste packaging paper, municipal incineration, Ecoinvent, 0.195 kg
3. Treatment of waste packaging paper, sanitary landfill, Ecoinvent, 0.22 kg
4. Exported Energy: Electricity, Ecoinvent, 0.391 MJ
5. Exported Energy: Thermal, Ecoinvent, 0.562 MJ

#### End of life scenario documentation

Scenario information	Value
Collection process – kg collected separately	-
Collection process – kg collected with mixed construction waste	5.111
Recovery process – kg for re-use	0
Recovery process – kg for recycling	0.476
Recovery process – kg for energy recovery	4.345
Disposal (total) – kg for final deposition	-
Scenario assumptions e.g. transportation	Transported 250km (recycling) and 50km (landfill) by 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

Yazan Badour, as an authorized verifier acting for EPD Hub Limited

