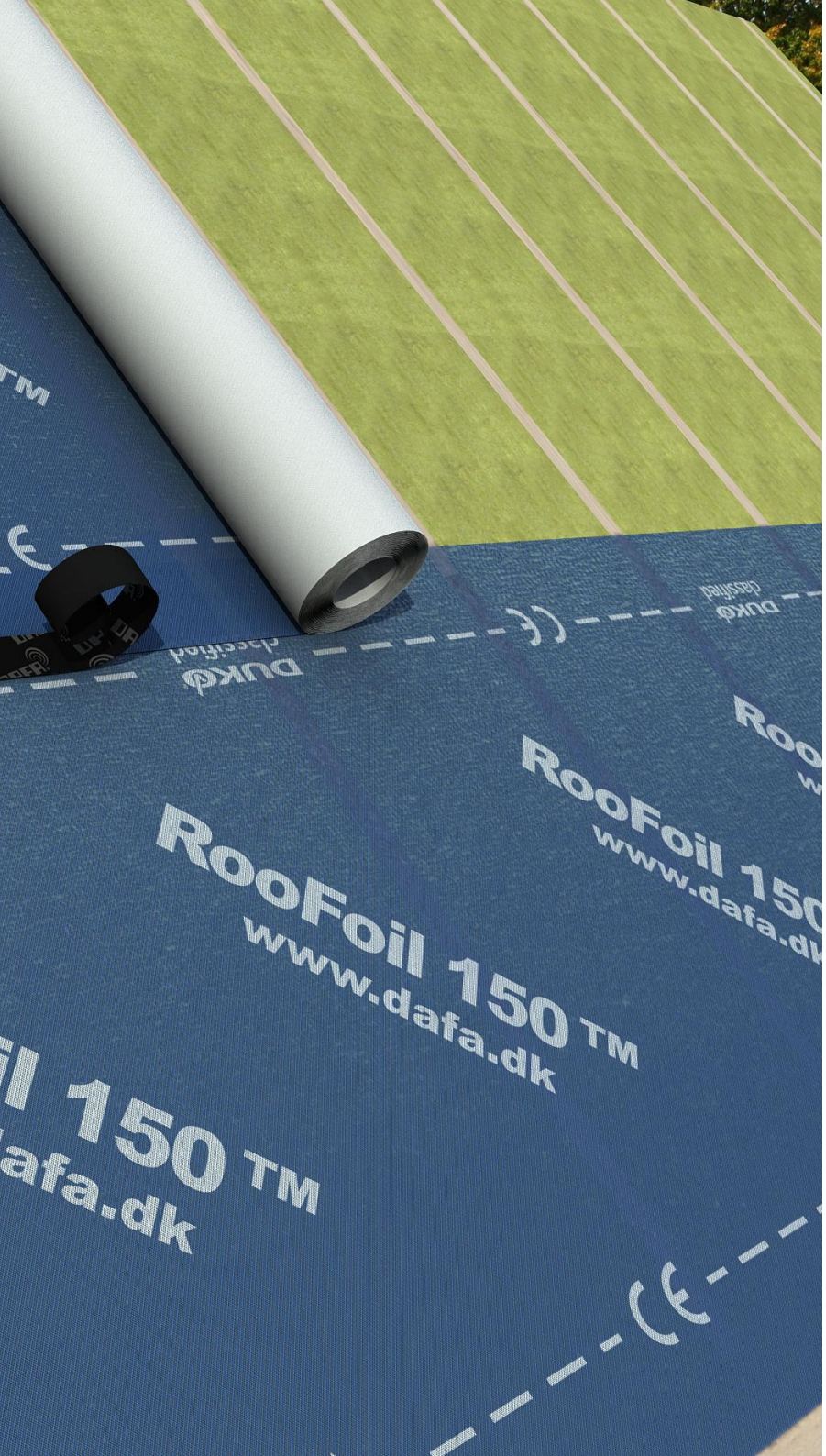


ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

DAFA RooFoil 150
DAFA Building Solutions A/S

EPD HUB, HUB-5075
Published on 23.01.2026, last updated on 23.01.2026, valid until 23.01.2031

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	DAFA Building Solutions A/S
Address	Holmstrupgårdvej 1, 8220 Brabrand Denmark
Contact details	dbs@dafa-group.com
Website	https://dafa-build.com/en

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	Mads Kirkegaard
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Magaly Gonzalez Vazquez 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	DAFA RooFoil 150
Additional labels	-
Product reference	620023114; 620023104
Place(s) of raw material origin	Poland
Place of production	Słubice, Poland
Place(s) of installation and use	Denmark
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)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	1,05

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m2
Declared unit mass	0,15 kg
Mass of packaging	0,0069 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	0,4
GWP-total, A1-A3 ($kgCO_2e$)	0,35
Secondary material, inputs (%)	0,58
Secondary material, outputs (%)	100
Total energy use, A1-A3 (kWh)	0,03
Net freshwater use, A1-A3 (m^3)	0,01

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

DAFA Building Solutions for the building industry with a focus on holistic and environmentally beneficial solutions.
Products and systems that seal and make buildings long-lasting and more sustainable - both for renewal and new constructions.

PRODUCT DESCRIPTION

DAFA RooFoil 150 is part of the DAFA AirVent System and is a strong, permeable fabric used as an underlay beneath roofing materials such as tiles, slate, zinc, etc.

It can also be used as a wind barrier in a ventilated, lightweight external wall cladding. DAFA RooFoil 150 may only be used behind cladding or roofing that is sealed against UV light.

It is made from a three-layer foil with high tearing strength and a watertight special coating with UV and IR stabilizers that impede the aging process.

DAFA RooFoil 150 is supplied with dotted lines on both sides marking the 150 mm overlap. The fabric is coated with a special anti-reflective layer and is permeable, with an Sd value of approximately 0.02 m. The Sd value must be multiplied by a factor of approximately 5.7 to obtain the Z value. The maximum exposure time without cover is 4 weeks.

DAFA RooFoil 150 is CE-marked according to EU standards EN 13859-2:2014 and EN 13859-1:2014.

Further information can be found at:
https://dafa-build.com/en

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	0	-
Fossil materials	100	EU
Bio-based materials	0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0,00037

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m2
Mass per declared unit	0,15 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

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

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

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

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

RooFoil 150 membranes are produced on fully automated production lines. The process is divided into several key stages:

Material Preparation

Raw materials, including polypropylene granulate and additives, are prepared for use in the production of the membrane layers.

Extrusion of Inner and Bottom Layers

Two automated extrusion lines are used to produce the inner and bottom film layers of the membrane.

a. Mixing and Feeding – Polypropylene granulate and additives are thoroughly mixed and fed into the extruder.

b. Melting and Forming – In the extruder, the raw materials are heated to a liquid state and formed into uniform film layers. The inner layer, which acts as the functional film of the membrane, undergoes additional processing to meet specific performance requirements.

Lamination Combined with Extrusion of the Top Layer

During lamination, the inner and bottom layers are bonded into a multi-layer structure while the top layer is simultaneously extruded.

Cooling and Calendering

a. Cooling – The laminated membrane is passed through cooling rollers to stabilize its form.

b. Calendering – A series of rollers is used to ensure the membrane has the desired thickness and a smooth surface finish.

Cutting

The membrane is cut into specified widths and lengths using cutting blades.

Packaging

The finished membranes are rolled, wrapped in polyethylene (PE) film, and arranged on reusable wooden pallets for transport and storage.

The energy source for the production comes from the electricity grid, with standard market supply. The raw materials are supplied directly from fixed suppliers. The primary production loss occurs during cutting, with some

additional loss during raw material handling. The production waste is minimal (3%) The waste cannot be recycled and is transported directly to waste facilities that convert waste into energy.
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 from the production site to the sale location is 711 km. From the sale location to the final usage site, the maximum distance is 82 km. Based on the Product Category Rules (PCR), the average transportation distance is considered. Vehicles are assumed to be fully loaded, with a capacity utilization volume factor of 1. Although actual loads may vary, this assumption is made because transportation emissions have a minimal impact on the overall environmental results. Therefore, variations in load are considered insignificant. No product losses occur during transportation, as proper packaging ensures that the products remain intact. During installation, only minimal waste is generated when starting a new roll, approximately 2%, corresponding to a maximum of 1 meter per roll (distance at the rafter). This waste is collected and sent to a recycling center or waste facility for proper disposal.

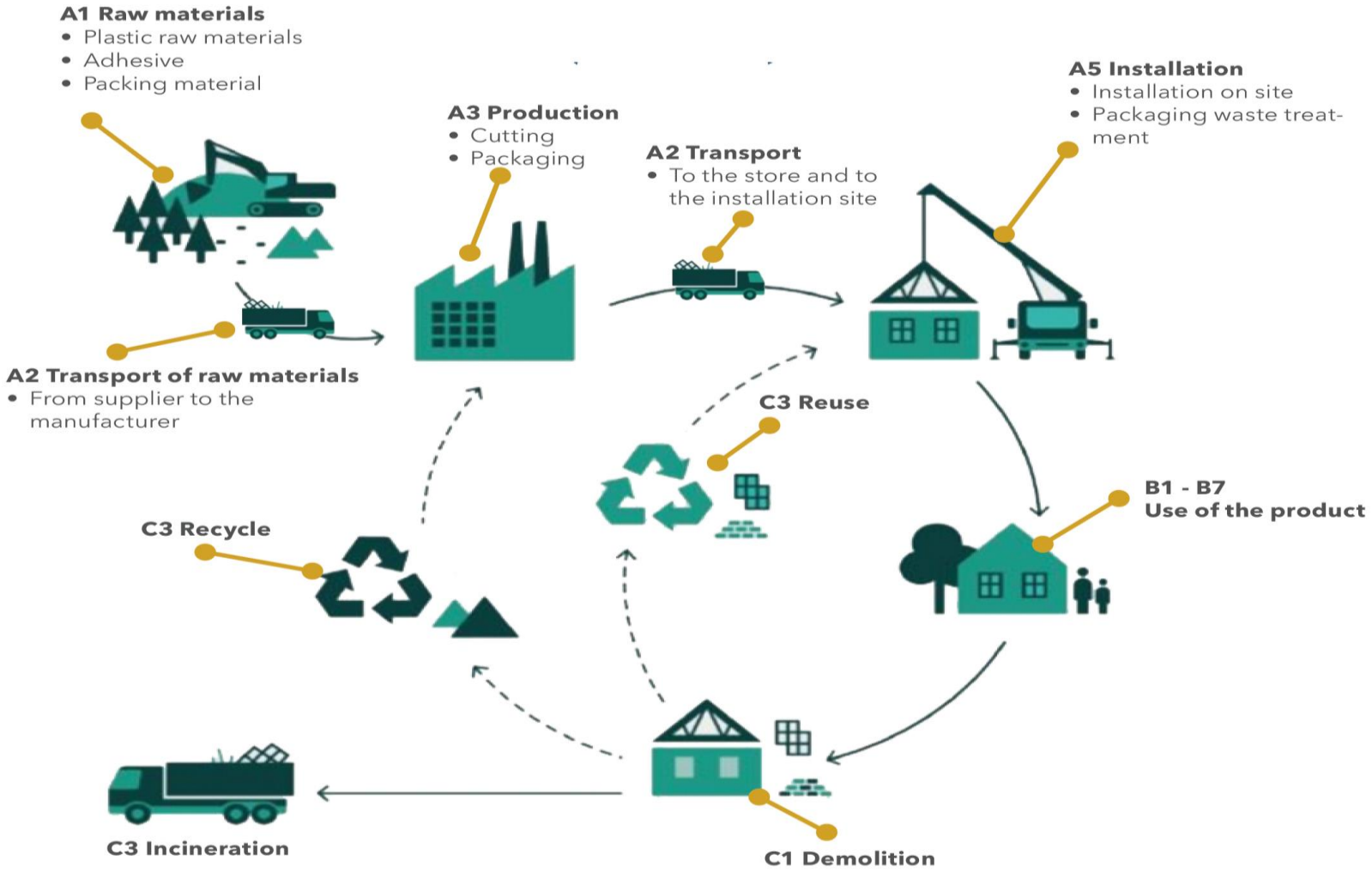
PRODUCT USE AND MAINTENANCE (B1-B7)

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)

At the end-of-life, during the deconstruction stage (Module C1), it is assumed that 100% of the product will be manually removed using hand cutting tools. No energy or material usage is accounted for in this phase. In Module C2, the entire product is assumed to be transported to the nearest recycling facility, with a transportation distance of 50 km using lorries. At end of life, the product is exclusively disposed of by incineration with energy recovery. No waste is directed to recycling processes or to landfill (C4). Energy recovery from incineration is modelled with a recovery efficiency of greater than 60%. Finally, in Module D, the system boundary is set to include only the incineration process. The benefits and loads associated with incineration, including energy recovery, are considered. It is assumed that the energy recovered through incineration offsets the need for external electricity and heat production, based on the current energy grid and technology (reference year 2025) All end of life waste is assumed to be sent to the nearest available treatment facilities, with the goal of maximizing recycling and energy recovery, although recycling is not considered in this module's benefits for D stage. This approach aligns with a sustainable waste management strategy, emphasizing energy recovery over disposal. These assumptions are made based on current waste management practices and policies relevant in Denmark.

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	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	No allocation

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 and EPD System Verification 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'.

EN 15804
DS/EN 15804 + A2:2019 - Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products

EN 15942
DS/EN 15942:2021 – Sustainability of construction works – Environmental product declarations – Communication format business-to-business

ISO 14025
DS/EN ISO 14025:2010 – Environmental labels and declarations – Type III environmental declarations – Principles and procedures

ISO 14040
DS/EN ISO 14040:2008 – Environmental management – Life cycle assessment – Principles and framework

ISO 14044
DS/EN ISO 14044:2006/A1:2018 – Environmental management – Life cycle assessment – Requirements and guidelines

All data and assumptions used in the assessment are based on current literature, industry standards, manufacturer data, and applied models in accordance with the above standards. Where applicable, references to specific technical datasheets, scientific articles, or authoritative sources are provided to ensure transparency and traceability.

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	3,62E-01	8,56E-04	-6,17E-03	3,56E-01	2,41E-02	2,57E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,42E-03	4,45E-01	0,00E+00	-1,36E-02
GWP – fossil	kg CO_2e	3,97E-01	8,55E-04	3,88E-03	4,02E-01	2,41E-02	1,57E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,42E-03	4,45E-01	0,00E+00	-1,10E-02
GWP – biogenic	kg CO_2e	-3,54E-02	1,86E-07	-1,01E-02	-4,55E-02	4,84E-06	1,01E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,86E-07	-1,39E-04	0,00E+00	-2,66E-03
GWP – LULUC	kg CO_2e	0,00E+00	3,82E-07	7,24E-06	7,62E-06	8,64E-06	1,88E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,11E-07	0,00E+00	0,00E+00	-2,84E-06
Ozone depletion pot.	kg CFC_{-11}e	1,83E-09	1,27E-11	1,35E-09	3,19E-09	4,79E-10	1,30E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,83E-11	-1,43E-11	0,00E+00	-8,36E-11
Acidification potential	mol H^+e	1,40E-03	2,91E-06	2,56E-03	3,97E-03	5,01E-05	8,75E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,96E-06	1,66E-03	0,00E+00	-8,34E-05
EP-freshwater[2)]	kg Pe	1,13E-05	6,66E-08	-1,54E-04	-1,42E-04	1,62E-06	-1,12E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,58E-08	3,66E-08	0,00E+00	-4,51E-06
EP-marine	kg Ne	2,70E-04	9,54E-07	4,51E-06	2,76E-04	1,20E-05	9,98E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,11E-07	5,18E-04	0,00E+00	-1,08E-05
EP-terrestrial	mol Ne	2,97E-03	1,04E-05	4,91E-05	3,03E-03	1,30E-04	9,80E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,68E-06	5,68E-03	0,00E+00	-1,16E-04
POCP ("smog")[3)]	kg NMVOCe	8,59E-04	4,29E-06	1,91E-05	8,82E-04	8,33E-05	3,29E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,93E-06	1,62E-03	0,00E+00	-3,58E-05
ADP-minerals & metals[4)]	kg Sbe	1,51E-11	2,40E-09	3,66E-08	3,90E-08	8,01E-08	1,60E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,74E-09	1,52E-10	0,00E+00	-3,26E-09
ADP-fossil resources	MJ	1,87E+04	1,24E-02	5,28E-02	1,87E+04	3,39E-01	3,74E+02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,00E-02	2,19E+04	0,00E+00	-1,12E-01
Water use[5)]	m^3e depr.	0,00E+00	6,14E-05	6,38E-02	6,38E-02	1,68E-03	1,67E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,95E-05	0,00E+00	0,00E+00	-8,64E-04

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	6,55E-09	8,53E-11	2,64E-10	6,90E-09	1,77E-09	3,12E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,05E-10	6,26E-09	0,00E+00	-8,73E-10
Ionizing radiation[6)]	kBq U235e	0,00E+00	1,09E-05	1,01E-04	1,12E-04	4,37E-04	6,41E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,58E-05	0,00E+00	0,00E+00	-3,74E-04
Ecotoxicity (freshwater)	CTUe	4,74E-02	1,76E-03	4,67E-02	9,58E-02	4,50E-02	1,42E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,66E-03	5,14E-02	0,00E+00	-3,10E-01
Human toxicity, cancer	CTUh	7,32E-13	1,41E-13	5,31E-12	6,18E-12	4,04E-12	-1,41E-12	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,39E-13	6,86E-12	0,00E+00	-1,82E-12
Human tox. non-cancer	CTUh	8,35E-10	8,03E-12	4,02E-11	8,83E-10	2,14E-10	5,05E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,27E-11	8,57E-10	0,00E+00	-6,80E-11
SQP[7)]	-	0,00E+00	1,24E-02	1,06E+00	1,07E+00	2,05E-01	4,58E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,21E-02	0,00E+00	0,00E+00	-6,68E-02

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	0,00E+00	1,71E-04	6,65E-02	6,67E-02	5,93E-03	-1,04E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,51E-04	0,00E+00	0,00E+00	4,05E-03
Renew. PER as material	MJ	0,00E+00	0,00E+00	9,24E-02	9,24E-02	0,00E+00	-9,24E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,70E-02
Total use of renew. PER	MJ	0,00E+00	1,71E-04	1,59E-01	1,59E-01	5,93E-03	-1,96E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,51E-04	0,00E+00	0,00E+00	3,10E-02
Non-re. PER as energy	MJ	0,00E+00	1,24E-02	4,17E-02	5,41E-02	3,39E-01	-2,64E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,00E-02	0,00E+00	0,00E+00	-1,12E-01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	1,11E-02	1,11E-02	0,00E+00	-1,11E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,80E-03
Total use of non-re. PER	MJ	0,00E+00	1,24E-02	5,28E-02	6,52E-02	3,39E-01	-3,75E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,00E-02	0,00E+00	0,00E+00	-1,10E-01
Secondary materials	kg	8,71E-04	5,29E-06	2,46E-05	9,00E-04	1,57E-04	4,66E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,30E-06	4,95E-03	0,00E+00	-1,17E-05
Renew. secondary fuels	MJ	0,00E+00	6,71E-08	5,32E-05	5,33E-05	1,99E-06	1,40E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,18E-07	0,00E+00	0,00E+00	-6,25E-08
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	9,91E-07	9,91E-07	0,00E+00	1,98E-08	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	6,89E-03	1,84E-06	4,02E-05	6,93E-03	4,61E-05	1,36E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,73E-06	2,26E-03	0,00E+00	-1,93E-05

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	0,00E+00	2,10E-05	2,40E-05	4,51E-05	4,92E-04	9,66E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,91E-05	0,00E+00	0,00E+00	-9,16E-04
Non-hazardous waste	kg	4,84E-01	3,90E-04	1,29E-03	4,86E-01	1,04E-02	2,17E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,14E-04	8,47E-01	0,00E+00	-2,21E-02
Radioactive waste	kg	0,00E+00	2,67E-09	1,22E-07	1,24E-07	1,09E-07	2,60E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,42E-09	0,00E+00	0,00E+00	-9,51E-08

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	2,42E-05	2,42E-05	0,00E+00	2,10E-03	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	4,15E-10	4,15E-10	0,00E+00	3,24E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,50E-01	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	2,01E-05	2,01E-05	0,00E+00	1,52E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	7,36E+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	4,51E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,20E-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	1,47E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,74E+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	3,94E-01	8,51E-04	2,22E-03	3,97E-01	2,39E-02	1,58E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,41E-03	4,44E-01	0,00E+00	-1,09E-02
Ozone depletion Pot.	kg CFC_{-11}e	1,83E-09	1,01E-11	1,47E-11	1,85E-09	3,81E-10	8,36E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,25E-11	-1,43E-11	0,00E+00	-7,21E-11
Acidification	kg SO_2e	1,16E-03	2,22E-06	6,35E-06	1,17E-03	4,02E-05	2,93E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,38E-06	1,28E-03	0,00E+00	-7,11E-05
Eutrophication	kg PO_4^3e	1,30E-04	5,41E-07	1,30E-06	1,32E-04	1,02E-05	4,90E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,01E-07	1,78E-04	0,00E+00	-5,66E-06
POCP (“smog”)	kg C_2H_4e	8,55E-05	1,98E-07	5,54E-07	8,62E-05	4,26E-06	1,94E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,52E-07	7,12E-05	0,00E+00	-3,92E-06
ADP-elements	kg Sbe	1,51E-11	2,34E-09	1,63E-10	2,52E-09	7,83E-08	1,49E-08	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,63E-09	1,52E-10	0,00E+00	-3,19E-09
ADP-fossil	MJ	1,87E+04	1,22E-02	4,64E+00	1,87E+04	3,31E-01	3,75E+02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,96E-02	2,19E+04	0,00E+00	-1,05E-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	3,97E-01	8,56E-04	3,89E-03	4,02E-01	2,41E-02	1,57E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,42E-03	4,45E-01	0,00E+00	-1,10E-02

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, Poland, residual mix, 2023, Poland, One Click LCA, 0.93 kgCO2e/kWh
2. District Heat, Poland, 2022, Poland, One Click LCA, 0.26 kgCO2e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry 16-32 metric ton, EURO6, 711 km
2. Market for transport, freight, lorry 16-32 metric ton, EURO6, 82 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50
Bulk density of transported products	0,00E+00
Volume capacity utilization factor	1

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste wood, post-consumer, sorting and shredding, Ecoinvent, Materials for recycling, 0.0021 kg
2. Exported Energy: Electricity, Ecoinvent, 0.0045 MJ
3. Exported Energy: Electricity, Ecoinvent, 1.24E-5 MJ
4. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, 0.002 kg
5. Treatment of waste wood, untreated, sanitary landfill, Ecoinvent, 0.003 kg
6. Exported Energy: Thermal, Ecoinvent, 0.0061 MJ
7. Exported Energy: Thermal, Ecoinvent, 0.1412 MJ
8. PP (Polypropylene) waste incineration with electricity, Ecoinvent, Materials for energy recovery, 0.003 kg
9. PE (Polyethylene) waste incineration with electricity, Ecoinvent, Materials for energy recovery, 2.4E-4 kg

Use stages scenario documentation - C1-C4 (Data source)

1. Exported Energy: Electricity, Ecoinvent, Materials for energy recovery, 0.62 MJ
2. Exported Energy: Thermal, Ecoinvent, Materials for energy recovery, 6.74 MJ
3. Sand-lime brick, Xtra-generic\Limestone, ProBas, Materials for energy recovery, 0.0183549 kg
4. Lldpe products, Chem-Org\LLDPE (from EcoInvent), ProBas, Materials for energy recovery, 0.0084252 kg
5. Pp granulate, Chem-Org\PP-DE-2000, ProBas, Materials for energy recovery, 0.1232199 kg

Scenario information	Value
Scenario assumptions e.g. transportation	The actual scenario is used in the EPD

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

Magaly Gonzalez Vazquez as an authorized verifier for EPD Hub Limited
23.01.2026

VERIFIED ISO 14025