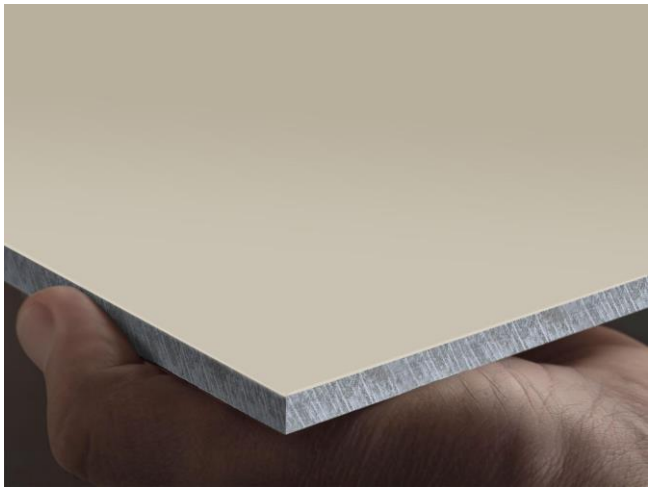


ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

EQUITONE [coloura]

Etex Poland Sp. z o.o.



EPD HUB, HUB-5699

Published on 15.03.2026, last updated on 15.03.2026, valid until 15.09.2027

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	Etex Poland Sp. z o.o.
Address	ul. Poznańska 43, 62-090 Sobota, Poland
Contact details	info@etexgroup.com
Website	https://www.equitone.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	Design phase EPD
Scope of the EPD	Cradle to gate with options, A4-B7, and modules C1-C4, D
EPD author	Peggy Van De Velde, PRTC N.V., Etex Group
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	EQUITONE [coloura]
Place(s) of raw material origin	Mainly Poland but also France, Germany, Finland, Italy, India and Japan
Place of production	Sobota, Poland
Place(s) of installation and use	Europe
Period for data	October 2025
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	/
A1-A3 Specific data (%)	89,5

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m² EQUITONE [coloura] with thickness 8mm
Declared unit mass	15,6 kg
Mass of packaging	0,8 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	26.2
GWP-total, A1-A3 ($kgCO_2e$)	24,4
Secondary material, inputs (%)	8,26
Secondary material, outputs (%)-landfilling scenario	0
Secondary material, outputs (%)-recycling scenario	99.8
Total energy use, A1-A3 (kWh)	84.3
Net freshwater use, A1-A3 (m^3)	0,17

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Etex Poland Sp. z o.o. is a leading supplier of quality products for architecturally sophisticated facades made of fibre cement.
Etex Poland Sp. z o.o. is part of the global Etex Group of Companies, which operates across Europe, Africa, Near & Middle East and South America. The Etex group operates more than 160 sites in 45 countries and employs over 13 500 people worldwide.

PRODUCT DESCRIPTION

EQUITONE [coloura] is a high-density fibre cement panel with a coloured double layer PU-acrylic coating and is available in a wide range of standard and special colours. The surface finish is smooth, hard and matt. The panels are calibrated for a constant thickness. The back side is finished with an UV coating to balance the humidity of the panel.
The boards made of fibre cement are composed by cement, inert materials and reinforced with cellulose and synthetic fibres.

Main application of the panels is external cladding, but also other applications (like internal applications) are possible.
The technical product specification is set by European standard EN 12467:2013 + A2:2018 ‘ Fibre-cement flat sheets’. The boards are standard delivered in two dimensions being 2500x1250mm and 3100x1250mm with a 8mm thickness. Boards are non-combustible (fire rating of A2-s1, d0 according to EN 13501-1) which makes them perfectly suitable for high-rise and public buildings.
The product has an estimated reference service life of 60 years, providing the product is installed as per Etex recommendations.

Further information can be found at:
https://www.equitone.com

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	/	/
Minerals	93,5	World
Fossil materials	3,3	World
Bio-based materials	3,3	Europe

BIOGENIC CARBON CONTENT

Product’s biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0,23
Biogenic carbon content in packaging, kg C	0,26

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m² EQUITONE [coloura] with thickness 8mm
Mass per declared unit	15,6 kg
Functional unit	1m² EQUITONE [coloura] with thickness 8mm installed with screws for a period of 60 years.
Reference service life	60 years

SUBSTANCES, REACH - VERY HIGH CONCERN

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

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

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

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Not declared = ND.

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage.

In this study the packaging materials of the final products were considered but not those of the raw materials as neglectable in quantities (most of the raw materials are delivered in bulk).

The study also considers the material losses occurring during the manufacturing processes. The extra raw material and energy needed to cover production losses and wastes were included in the input data. Treatment of production waste is considered (transport by diesel powered truck was considered), part of it is recycled internally.

Transport for raw materials considers the distance from the manufacturing location of the raw material to the production plant and the modelling of the relevant transportation type (e.g. bulk sea freight, road lorry, train, ...) for each raw material (Ecoinvent default scenarios were used for transport datasets).

A market-based approach is used in modelling the electricity mix utilized in the factory. Losses occurring during electricity transmission were considered in the data.
The electricity used in the manufacturing plant is 100% sourced from the renewable sources (from solar PV technologies locally sourced in Poland). 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.

For the transportation from the production plant to the building site, a scenario was assumed with a transportation distance of 100 km and using a lorry as transportation method. For other transportation distances with lorry the impacts can be easily calculated by multiplying the impacts in module A4 with the lorry transport distance to the specific location and dividing by 100.

The product is installed according to the following scenario(s): fixation of the panel to a substructure. This EPD declares the screws and energy consumption to fix the panels but does not include the substructure as several substructures are possible. During the installation, depending on how the Equitone boards are cut, there is a loss rate between 5-30%. For this study, an average loss rate of 10% is used (scenario considered for the fibre cement losses: landfill, truck transport 50 km). All packaging material for the Equitone boards is transported to EoL (scenario assumed: transport by diesel powered truck driving 50km in case of landfilling and 100km in case of recycling) and waste treatment is included (scenario assumed: plastic strap was sent 100% to landfill and cardboard and wooden pallet were 100% recycled).

PRODUCT USE AND MAINTENANCE (B1-B7)

The product has an estimated reference service life of 60 years, providing the product is installed as per Etex recommendations. In such case, the product will last during its life of use generally without any requirements for maintenance, repair, replacement, or refurbishment throughout this period, providing normal and no accidental conditions of usage are encountered. The product will also not need any operational energy nor operational water to fulfil its duty, once installed in the building.

The only impact during the use phase is that of carbonation, where some CO2 is adsorbed from the atmosphere over the lifetime of the board. Depending on the application where the boards are used, the degree of carbonation will vary. The carbonation was calculated for the outdoor exposed to rain use scenarios and reported in the B1 module. In case one would use the board for indoor applications, the B1 impact could be recalculated by multiplying it by the factor 0.471.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Two possible end-of-life scenarios are considered for the fibre cement boards in Europe and these scenarios are considered representative for the most probable alternatives among all possible scenarios:
Scenario 1: 100% landfilling scenario in Europe: 100% of boards + screws from demolition wastes are going to inert landfill at end of life.
Scenario 2: 100% recycling scenario in Europe: 100% of boards + screws from demolition wastes are going to recycling at end of life.

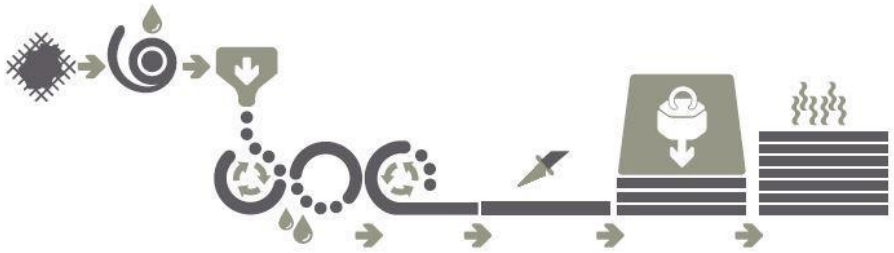
For the dismantling of the EQUITONE boards in C1, the same amount of energy was assumed as for the installation. The transport of the waste to the end-of-life (C2) is considered to be 50km by diesel powered truck from the plant in the landfilling scenarios and 100 km from the plant in the recycling scenario.

Outside the system boundaries, module D shows benefits and loads from the recycling processes.
In scenario 1 these are related to the recycling of the packaging materials, being the cardboard and wooden pallet, leaving the system in the installation process (A5).
In scenario 2 these are in addition to the recycling of the packaging materials from A5, related to the recycling of the fibre cement boards and the screws leaving the system in the waste processing step at the end-of-life (C3).
Loads considered are these for the recycling process (generation of wood chips from pallet, paper production from cardboard, steel production from recycled screws), whereas the benefits considered are the replacement of virgin material (wood chips (from wooden pallet) and cardboard, metal (from screws) and limestone (from recycled fibre cement).

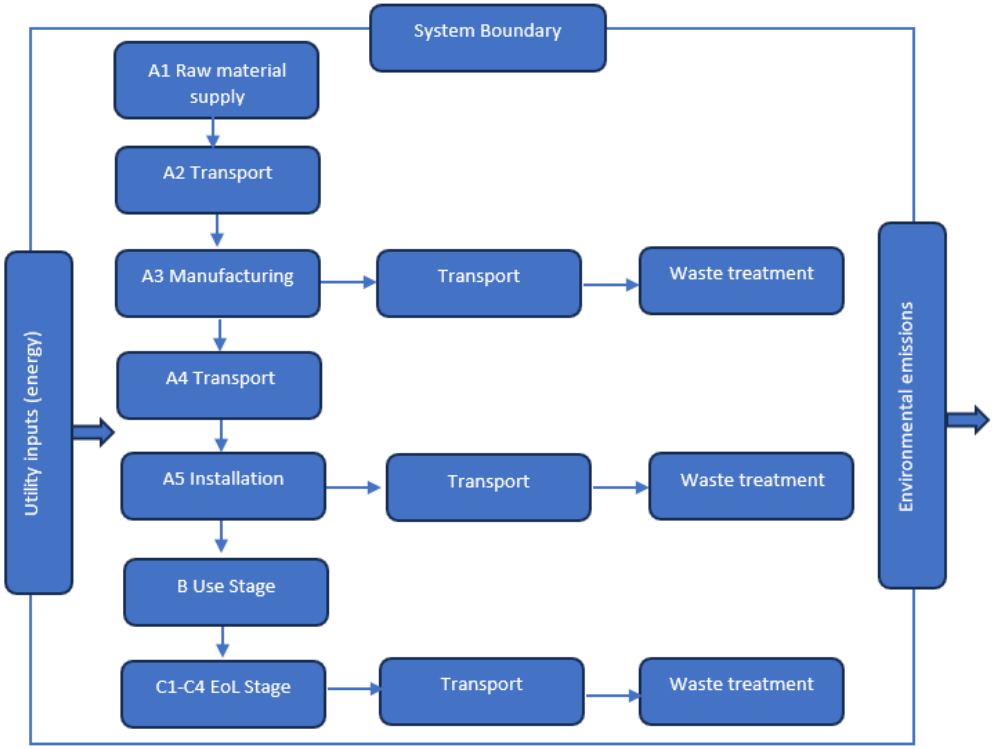
MANUFACTURING PROCESS

DESCRIPTION

The EQUITONE products are large format panels made of fibre cement. They are manufactured through the Hatschek process where the raw materials are first mixed together with water to form a slurry. No potable water is being used in the industrial processes. The slurry is then pumped into several vats with rotating cylindrical sieves on the surface of which a film of fibre cement is formed through a sieving mechanism as they rotate, which is then transferred to a felt belt traveling overhead. This thin layer of fibre cement is then dewatered before being transferred via the felt belt to a forming drum on which several layers of fibre cement are collected and squeezed together until the required thickness is achieved. Once this occurs, this fresh sheet of fibre cement is cut by an automatic cutting knife. A conveyor then transports the sheet to where all the sheets are stacked with an interleaving steel plate. The stacked sheets are then highly compressed, resulting in a high density material. This is followed by a curing process where the panels harden under ambient temperature and without vapour pressure. Subsequently the EQUITONE products are then dried and coated.



See below the included life cycle stages within the system boundary of this study:



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	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	Not applicable
Variation in GWP-fossil for A1-A3, %	Not applicable

This EPD is product and factory specific.

LCA SOFTWARE AND BIBLIOGRAPHY

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

- Electricity transmission and distribution losses :
https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS

- CO2 uptake by carbonation :
EN16757 Sustainability of construction works - Environmental product declarations - Product Category rules for concrete and concrete elements; annex BB
https://www.greenbooklive.com/filelibrary/EN_15804/BRE-PN514-EN15804-A2-PCR-V3.1.pdf

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.

Two end- of- life scenarios have been calculated: “100% landfill” (referred in the tables as modules C2/1, C3/1, C4/1 and D/1) and “100% recycling” (referred in the tables as modules C2/2; C3/2; C4/2 and D/2).

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2/1	C2/2	C3/1	C3/2	C4/1	C4/2	D/1	D/2
GWP – total[1)]	kg CO_2e	2,44E+01	3,06E-01	3,74E+00	-4,16E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,19E-03	1,46E-01	2,92E-01	0,00E+00	8,53E-01	9,21E-01	0,00E+00	-9,79E-01	-1,83E+00
GWP – fossil	kg CO_2e	2,62E+01	3,05E-01	2,78E+00	-4,16E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,05E-03	1,46E-01	2,91E-01	0,00E+00	2,84E-02	9,77E-02	0,00E+00	8,28E-02	3,39E-02
GWP – biogenic	kg CO_2e	-1,83E+00	1,98E-04	9,66E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,30E-04	9,44E-05	1,89E-04	0,00E+00	8,24E-01	8,24E-01	0,00E+00	-1,03E+00	-1,03E+00
GWP – LULUC	kg CO_2e	1,80E-02	1,03E-04	1,91E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,19E-05	4,92E-05	9,83E-05	0,00E+00	6,84E-05	5,60E-05	0,00E+00	-3,45E-02	-8,35E-01
Ozone depletion pot.	kg CFC-$_{11}$e	4,00E-06	6,65E-09	4,01E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,52E-11	3,18E-09	6,35E-09	0,00E+00	4,62E-10	2,72E-09	0,00E+00	1,79E-09	1,10E-09
Acidification potential	mol H^+e	9,33E-02	6,55E-04	1,01E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,33E-05	3,13E-04	6,26E-04	0,00E+00	1,64E-04	6,84E-04	0,00E+00	4,74E-04	-3,98E-04
EP-freshwater[2)]	kg Pe	4,33E-03	2,12E-05	4,57E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,88E-06	1,01E-05	2,02E-05	0,00E+00	2,13E-05	8,55E-06	0,00E+00	4,26E-05	3,77E-05
EP-marine	kg Ne	1,83E-02	1,58E-04	1,96E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,71E-06	7,54E-05	1,51E-04	0,00E+00	4,29E-05	2,63E-04	0,00E+00	5,85E-05	-2,54E-04
EP-terrestrial	mol Ne	2,72E-01	1,70E-03	2,85E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,29E-05	8,13E-04	1,63E-03	0,00E+00	4,23E-04	2,87E-03	0,00E+00	5,42E-04	-3,78E-03
POCP (“smog”)[3)]	kg NMVOCe	8,86E-02	1,04E-03	9,37E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,05E-05	4,96E-04	9,93E-04	0,00E+00	1,30E-04	1,04E-03	0,00E+00	1,28E-04	-8,62E-04
ADP-minerals & metals4)	kg Sbe	1,57E-04	1,07E-06	1,87E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,49E-08	5,11E-07	1,02E-06	0,00E+00	7,76E-08	1,46E-07	0,00E+00	4,34E-07	2,67E-07
ADP-fossil resources	MJ	2,54E+02	4,34E+00	2,77E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,33E-02	2,07E+00	4,14E+00	0,00E+00	6,04E-01	2,39E+00	0,00E+00	1,59E+00	9,50E-01
Water use[5)]	m^3e depr.	6,86E+00	2,30E-02	7,20E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,61E-03	1,10E-02	2,20E-02	0,00E+00	1,43E-02	1,05E-01	0,00E+00	1,45E-01	1,23E-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-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2/1	C2/2	C3/1	C3/2	C4/1	C4/2	D/1	D/2
Particulate matter	Incidence	4,34E-07	2,29E-08	5,01E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,29E-11	1,09E-08	2,18E-08	0,00E+00	1,81E-09	1,57E-08	0,00E+00	3,39E-09	-1,02E-08
Ionizing radiation[6]	kBq U235e	4,46E-01	5,24E-03	4,94E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,61E-03	2,50E-03	5,00E-03	0,00E+00	1,50E-02	1,43E-03	0,00E+00	3,49E-02	3,62E-02
Ecotoxicity (freshwater)	CTUe	2,45E+02	3,69E+00	2,60E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,29E-01	1,76E+00	3,52E+00	0,00E+00	6,24E-01	1,60E+00	0,00E+00	4,56E+00	-3,02E+01
Human toxicity, cancer	CTUh	4,13E-09	5,14E-11	4,31E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,21E-12	2,45E-11	4,90E-11	0,00E+00	5,26E-12	1,77E-11	0,00E+00	3,88E-11	6,03E-11
Human tox. non-cancer	CTUh	3,27E-07	2,73E-09	3,36E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,58E-11	1,31E-09	2,61E-09	0,00E+00	2,34E-10	3,98E-10	0,00E+00	1,15E-09	9,54E-10
SQP[7]	-	2,88E+02	2,60E+00	2,99E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,83E-02	1,24E+00	2,49E+00	0,00E+00	8,93E-02	4,70E+00	0,00E+00	7,95E+00	7,41E+00

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2/1	C2/2	C3/1	C3/2	C4/1	C4/2	D/1	D/2
Renew. PER as energy[8]	MJ	8,51E+01	7,15E-02	7,05E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,52E-02	3,42E-02	6,83E-02	0,00E+00	1,21E-01	2,24E-02	0,00E+00	2,19E+00	2,19E+00
Renew. PER as material	MJ	1,75E+01	0,00E+00	-1,05E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,99E+00	-6,99E+00	0,00E+00	1,16E+01	1,82E+01
Total use of renew. PER	MJ	1,03E+02	7,15E-02	-3,46E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,52E-02	3,42E-02	6,83E-02	0,00E+00	-6,87E+00	-6,97E+00	0,00E+00	1,37E+01	2,04E+01
Non-re. PER as energy	MJ	2,18E+02	4,34E+00	2,38E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,33E-02	2,07E+00	4,14E+00	0,00E+00	6,04E-01	2,39E+00	0,00E+00	1,56E+00	9,15E-01
Non-re. PER as material	MJ	1,63E+01	0,00E+00	-8,26E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,55E+01	-1,55E+01	0,00E+00	6,74E-01	1,49E+00
Total use of non-re. PER	MJ	2,34E+02	4,34E+00	2,30E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,33E-02	2,07E+00	4,14E+00	0,00E+00	-1,49E+01	-1,31E+01	0,00E+00	2,23E+00	2,41E+00
Secondary materials	kg	1,45E+00	1,97E-03	1,57E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,50E-05	9,38E-04	1,88E-03	0,00E+00	1,34E-04	5,95E-04	0,00E+00	8,16E-02	9,81E-02
Renew. secondary fuels	MJ	3,15E-01	2,58E-05	3,15E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,29E-07	1,23E-05	2,46E-05	0,00E+00	5,93E-07	1,24E-05	0,00E+00	-2,84E-04	-2,93E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,70E-01	5,31E-04	1,78E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,08E-05	2,53E-04	5,07E-04	0,00E+00	3,32E-04	2,47E-03	0,00E+00	3,07E-03	2,60E-03

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2/1	C2/2	C3/1	C3/2	C4/1	C4/2	D/1	D/2
Hazardous waste	kg	4,63E-01	6,30E-03	4,98E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,26E-04	3,01E-03	6,01E-03	0,00E+00	1,29E-03	2,72E-03	0,00E+00	1,28E-02	1,42E-02
Non-hazardous waste	kg	1,58E+01	1,35E-01	1,73E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,91E-02	6,45E-02	1,29E-01	0,00E+00	1,05E-01	6,30E-02	0,00E+00	1,66E-01	1,30E-01
Radioactive waste	kg	1,80E-04	1,29E-06	4,15E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,70E-07	6,17E-07	1,23E-06	0,00E+00	3,86E-06	3,49E-07	0,00E+00	9,00E-06	9,36E-06

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2/1	C2/2	C3/1	C3/2	C4/1	C4/2	D/1	D/2
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	2,09E-01	0,00E+00	8,46E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,56E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	1,15E-07	0,00E+00	1,15E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2/1	C2/2	C3/1	C3/2	C4/1	C4/2	D/1	D/2
Global Warming Pot.	kg CO_2e	2,48E+01	3,04E-01	2,63E+00	-4,13E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,05E-03	1,45E-01	2,90E-01	0,00E+00	2,84E-02	9,68E-02	0,00E+00	4,82E-02	-8,00E-01
Ozone depletion Pot.	kg CFC_{-11}e	5,16E-06	5,31E-09	5,18E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,40E-11	2,54E-09	5,07E-09	0,00E+00	3,77E-10	2,17E-09	0,00E+00	1,48E-09	9,26E-10
Acidification	kg SO_2e	5,25E-02	5,26E-04	5,88E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,99E-05	2,51E-04	5,02E-04	0,00E+00	1,32E-04	5,06E-04	0,00E+00	4,10E-04	-1,64E-04
Eutrophication	kg PO_4^3e	7,65E-02	1,38E-04	7,73E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,70E-06	6,60E-05	1,32E-04	0,00E+00	2,20E-05	1,67E-04	0,00E+00	1,36E-04	-7,90E-06
POCP (“smog”)	kg C_2H_4e	8,98E-03	5,43E-05	9,39E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,07E-06	2,59E-05	5,18E-05	0,00E+00	8,08E-06	4,81E-05	0,00E+00	1,22E-05	-2,50E-05
ADP-elements	kg Sbe	2,56E-02	1,05E-06	2,57E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,47E-08	5,00E-07	1,00E-06	0,00E+00	7,67E-08	1,42E-07	0,00E+00	3,93E-07	2,27E-07
ADP-fossil	MJ	2,25E+02	4,25E+00	2,46E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,72E-02	2,03E+00	4,06E+00	0,00E+00	3,38E-01	2,37E+00	0,00E+00	9,74E-01	3,05E-01

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2/1	C2/2	C3/1	C3/2	C4/1	C4/2	D/1	D/2
GWP-GHG[9)]	kg CO_2e	2,62E+01	3,05E-01	2,78E+00	-4,16E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,06E-03	1,46E-01	2,92E-01	0,00E+00	2,85E-02	9,78E-02	0,00E+00	4,83E-02	-8,01E-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

DATA SOURCES

Manufacturing energy scenario documentation

1. Heat production, natural gas, at industrial furnace >100kW, Poland, Ecoinvent, 0.0754 kgCO2e/MJ
2. Electricity production, photovoltaic, 3kWp slanted-roof installation, single-Si, panel, mounted, Poland, Ecoinvent, 0.0996 kgCO2e/kWh
3. Market for diesel, Poland, Ecoinvent, 0.87 kgCO2e/kg
4. Market for diesel, burned in diesel-electric generating set, 18.5kW, World, Ecoinvent, 0.10 kgCO2e/MJ
5. LPG for transport, including combustion, World, Ecoinvent, 0.35 kgCO2e/kg

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry, 16-32 metric ton, diesel, EURO 6, 100 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	default Ecoinvent Scenario
Bulk density of transported products	2,05E+03
Volume capacity utilization factor	<1

Installation scenario documentation - A5 (Installation resources)

1. Stainless steel screws, GaBi, 0.0154 kg
2. Market for electricity, low voltage, Ecoinvent, 0.0123 kWh

Installation scenario documentation - A5 (Installation waste)

1. Wood chipping, industrial residual wood, stationary electric chipper, Ecoinvent, Materials for recycling, 0.715 kg
2. Treatment of waste paperboard, unsorted, sorting, Ecoinvent, Materials for recycling, 0.11 kg
3. Treatment of waste plastic, mixture, sanitary landfill, Ecoinvent, 0.0055 kg
4. Treatment of inert waste, inert material landfill, Ecoinvent, 1.56 kg

Use stages scenario documentation - B2 Maintenance

Scenario information	Value
Maintenance process / Description or source where description can be found	None
Maintenance cycle / Number per RSL or year *(Not applicable if only B2 is declared)*	0

Use stages scenario documentation - B3 Repair

Scenario information	Value
Repair process / Description or source where description can be found	None
Inspection Process / Description or source where description can be found	None
Repair cycle / Number per RSL or year	0

Use stages scenario documentation - B4 Replacement

Scenario information	Value
Replacement cycle / Number per RSL or year	0

Use stages scenario documentation - B5 Refurbishment

Scenario information	Value
Refurbishment process / Description or source where description can be found	None
Refurbishment cycle / Number per RSL or year	0
Further assumptions for scenario development, e.g., frequency and time period of use, number of occupants / Units as appropriate	None

Use stages scenario documentation - B6 (Energy data source)

Use stages scenario documentation - B7 (Water data source)

Use stages scenario documentation - B6-B7 Use of energy and use of water

Scenario information	Value
Ancillary materials specified by material / kg or units as appropriate	None
Characteristic performance, e.g., energy efficiency, emissions, variation of performance with capacity utilization, etc.	Not applicable
Further assumptions for scenario development, e.g., frequency and period of use, number of occupants	None

End-of-life scenario documentation - C1-C4_landfilling scenario (Data source)

1. Market group for electricity, low voltage, Ecoinvent, 0.0123 kWh
2. Treatment of inert waste, inert material landfill, Ecoinvent, 15.6 kg
3. Treatment of inert waste, inert material landfill, Ecoinvent, 0.0154 kg

End-of-life scenario documentation - C1-C4_recycling scenario (Data source)

1. Market group for electricity, low voltage, Ecoinvent, 0.0123 kWh
2. Sorting and pressing of iron scrap, Ecoinvent, Materials for recycling, 0.0154 kg
3. Market group for electricity, medium voltage, Ecoinvent, 0.0577 kWh
4. Diesel, burned in building machine, Ecoinvent, 0.0524 MJ
5. Rock crushing, Ecoinvent, Materials for recycling, 15.6 kg

Scenario information	Value
Scenario assumptions on transportation	Diesel powered truck, 50 km in landfill scenario and 100km in recycling scenario

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

Magaly Gonzalez Vazquez as an authorized verifier for EPD Hub Limited
15.03.2026



VERIFIED ISO 14025