

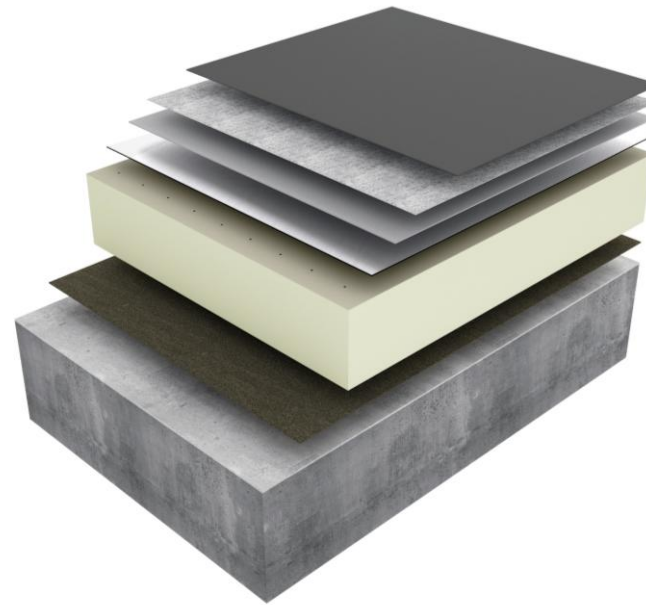


ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Caltech FCP

Alumasc Roofing



EPD HUB, HUB-3670

Published on 18.07.2025, last updated on 18.07.2025, valid until 17.07.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1.



Created with One Click LCA



GENERAL INFORMATION

MANUFACTURER

Manufacturer	Alumasc Roofing
Address	Alumasc Roofing, White House Works, Bold Rd, Sutton, St Helens, Merseyside, WA9 4JG, United Kingdom
Contact details	info@alumascroofing.com
Website	https://www.alumascroofing.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 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Neil Delve, Operations Director, Alumasc Roofing
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	Sarah Curpen, 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	Caltech FCP
Additional labels	-
Product reference	-
Place(s) of raw material origin	UK, Europe and Asia
Place of production	Alumasc Roofing, White House Works, Bold Rd, Sutton, St Helens, Merseyside, WA9 4JG
Place(s) of installation and use	-
Period for data	30/09/2023 to 01/10/2024
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 (%)	5.34

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m2
Declared unit mass	2.711 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	7.88E+00
GWP-total, A1-A3 (kgCO ₂ e)	7.73E+00
Secondary material, inputs (%)	3.24
Secondary material, outputs (%)	9.59
Total energy use, A1-A3 (kWh)	35.6
Net freshwater use, A1-A3 (m ³)	0.42

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Alumasc Building Product Ltd (Alumasc) provides premium products for building exteriors and drainage, backed up with high levels of technical expertise and project support.

The company has a proven track record in the UK Construction Industry, accumulated over 60 years, during which time Alumasc products and systems have been used on some of Europe's most prestigious buildings. Highly regarded brands such as Eurorof, Derbigum, Hydrotech, Blackdown Roof and Podium Landscaping and Roofpro have been independently certified, and in some cases have a lifespan in excess of 50 years or for the life of the building.

The company's commitment to making ongoing improvements is demonstrated through its accreditation to the ISO14001:2015 Environmental Management System, ISO9001:2015 Quality Management System and ISO45001:2018 Occupational Health and Safety Management System, which are incorporated into our Integrated Management System.

PRODUCT DESCRIPTION

Caltech FCP High Performance Roofing Systems comprise a rapid curing two-component, cold-applied, fully reinforced hybrid polymer resin, insulation boards and air and vapour control layers (AVCL). The application with embedded glass fibre matting forms a seamless, durable membrane that is rainproof in just 30 minutes. Caltech FCP has a proven track record and is subject to the highest levels of certification and testing. The system is fully adaptable to meet the individual requirements of every project, including a wide range of colours and optional finishes, for use across all building sectors in both refurbishment and new-build roofing and waterproofing projects.

The results in this EPD refer to a Caltech FCP waterproofing membrane laid with Caltech FCP resin (laid at typical coverage rate of 1.2 L/m² embedment coat, 0.5 L/m² top coat), Caltech FCP 225 GSM (Glass fibre reinforcing matt) CSM reinforcement and Caltech FCP Catalyst (laid at typical catalyst rate of 3%).

Further information can be found at: <https://www.alumascroofing.com/>

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0.09	UK
Minerals	50.06	UK, Europe and Asia
Fossil materials	49.68	UK, Europe and Asia
Bio-based materials	0.18	UK

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	0.038612727

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m2
Mass per declared unit	2.711 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

Substances of very high concern	EC	CAS
Dicyclohexyl phthalate (DCHP)	201-545-9	84-61-7

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	MND	MND	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 resin portion of the membrane is manufactured as follows: Enterprise resource planning software manages the complete manufacturing process for the resin element of the membrane. It generates a batch manufacturing record that contains strict procedures to produce each product in accordance with ISO 9001. The process involves an automated loading of raw materials into a high-shear reactor with conditions including mixing time, vacuum pressure and temperature. All batches are quality control tested in accordance with quality plans. The vessels are decanted using low-pressure air via a filtering system into product pails. The pails are stored on site before delivery to the distribution site; and stored at the distribution site prior to delivery to the customer.

The Caltech FCP Catalyst and Caltech FCP 225 GSM (Glass fibre reinforcing matt) are processed and packaged; they are then stored on site until ready for delivery to the distribution site - where they are stored prior to deliver to the customer. The Caltech FCP Catalyst is used to cure the resin and is introduced to the resin during the construction phase. The Caltech FCP 225 GSM (Glass fibre reinforcing matt) is embedded into the embedment coat of the system during the construction phase.

TRANSPORT AND INSTALLATION (A4-A5)

Modules not declared. 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.

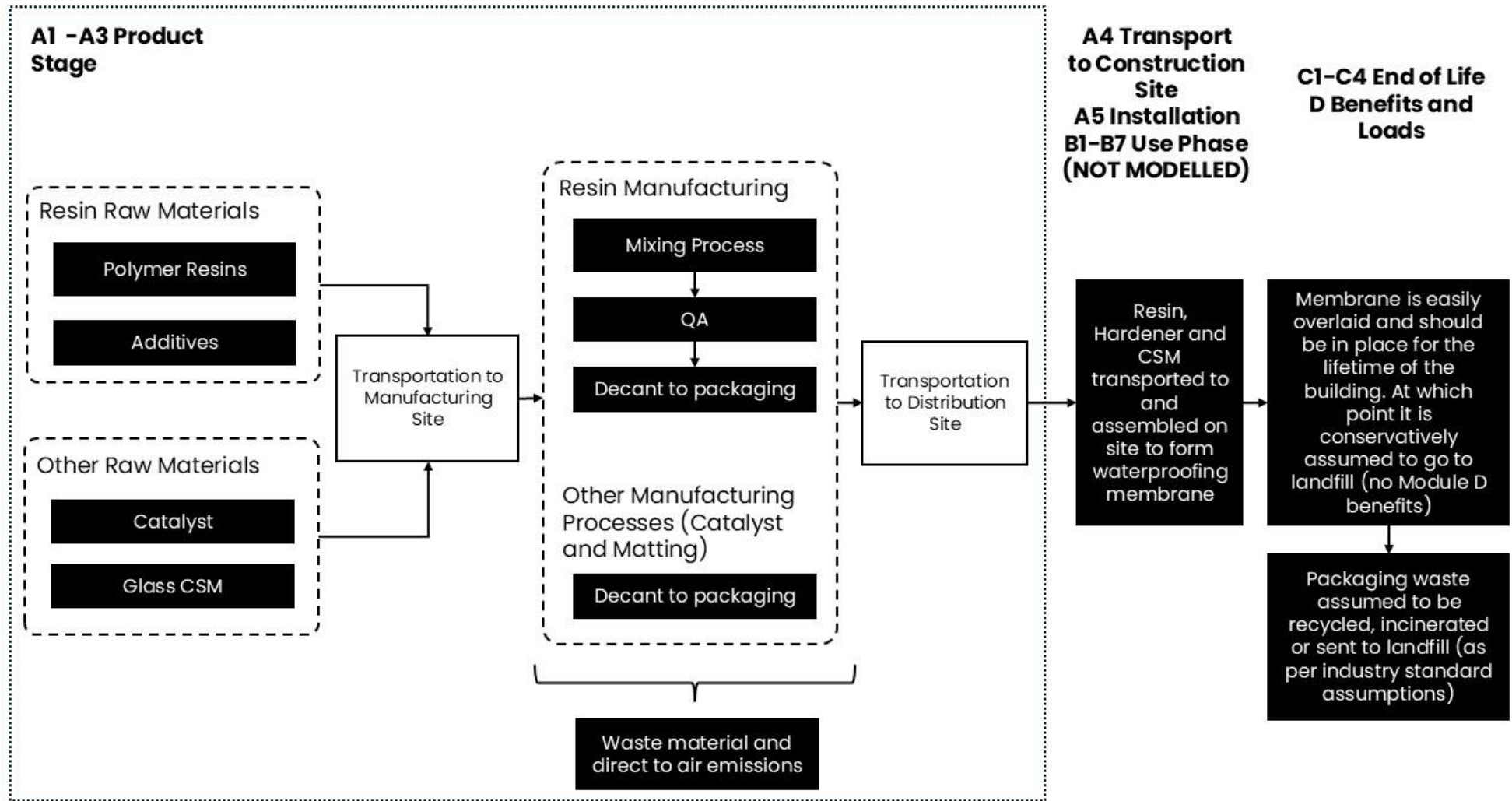
PRODUCT USE AND MAINTENANCE (B1-B7)

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

PRODUCT END OF LIFE (C1-C4, D)

In the majority of situations, the membrane will be in place until the building is demolished, as it can be easily overlaid at end of life (with either a new waterproofing system or as part of a thermal upgrade). It is expected that the membrane will be sent to incineration with energy recovery plant alongside any attached substrate or roofing materials following demolition of the building. This EPD assumes a conservative model where the waste membrane, alongside any attached substrate, is disposed of in landfill at the end of life, however, less conservative options, for example incineration with energy recovery, may be applicable in practice.

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	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, %	-

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 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

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 ₂ e	6.05E+00	3.54E-01	1.32E+00	7.73E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	9.77E-03	1.76E-02	1.19E-01	7.87E-02	-3.83E-01
GWP – fossil	kg CO ₂ e	6.06E+00	3.54E-01	1.47E+00	7.88E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	9.77E-03	1.76E-02	2.49E-02	1.80E-02	-3.51E-01
GWP – biogenic	kg CO ₂ e	-1.32E-02	0.00E+00	-1.41E-01	-1.55E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	9.40E-02	6.07E-02	-3.22E-02
GWP – LULUC	kg CO ₂ e	9.52E-03	1.46E-04	1.19E-03	1.09E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.00E-06	6.72E-06	7.91E-06	1.01E-05	-7.03E-05
Ozone depletion pot.	kg CFC-11e	2.46E-06	7.01E-09	1.07E-08	2.48E-06	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.50E-10	3.64E-10	5.73E-11	5.09E-10	-1.89E-09
Acidification potential	mol H ⁺ e	3.00E-02	2.12E-03	4.88E-03	3.70E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	8.82E-05	4.43E-05	3.53E-05	1.25E-04	-1.41E-03
EP-freshwater ²⁾	kg Pe	1.56E-03	2.30E-05	2.35E-04	1.81E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	2.82E-07	1.22E-06	2.45E-06	1.67E-06	-1.50E-04
EP-marine	kg Ne	5.17E-03	5.39E-04	1.10E-03	6.81E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	4.09E-05	1.25E-05	1.64E-05	5.97E-05	-3.05E-04
EP-terrestrial	mol Ne	5.01E-02	5.93E-03	1.13E-02	6.73E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	4.48E-04	1.35E-04	1.14E-04	5.20E-04	-3.32E-03
POCP (“smog”) ³⁾	kg NMVOCe	2.72E-02	2.30E-03	5.80E-03	3.53E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.34E-04	7.51E-05	3.29E-05	1.87E-04	-1.18E-03
ADP-minerals & metals ⁴⁾	kg Sbe	1.20E-04	9.23E-07	4.07E-05	1.61E-04	MND	MND	MND	MND	MND	MND	MND	MND	MND	3.50E-09	5.18E-08	9.69E-08	2.82E-08	-3.24E-06
ADP-fossil resources	MJ	1.34E+02	5.18E+00	1.90E+01	1.58E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.28E-01	2.61E-01	6.05E-02	4.31E-01	-3.62E+00
Water use ⁵⁾	m ³ e depr.	1.94E+00	2.52E-02	1.49E-02	1.98E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	3.19E-04	1.33E-03	2.61E-03	1.26E-03	-6.21E-02

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

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	2.73E-07	3.14E-08	1.01E-07	4.05E-07	MND	MND	MND	MND	MND	MND	MND	MND	MND	2.51E-09	1.65E-09	5.62E-10	2.84E-09	-2.24E-08
Ionizing radiation ⁶⁾	kBq I1235e	4.66E-01	5.75E-03	8.74E-02	5.59E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	5.66E-05	3.18E-04	6.38E-04	2.75E-04	6.08E-03
Ecotoxicity (freshwater)	CTUe	9.05E+01	5.89E-01	4.97E+00	9.60E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	7.04E-03	3.14E-02	7.62E-02	5.37E-02	-8.46E-01
Human toxicity, cancer	CTUh	6.37E-09	6.11E-11	6.80E-10	7.11E-09	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.00E-12	2.95E-12	7.74E-12	3.32E-12	-5.73E-11
Human tox. non-cancer	CTUh	8.49E-08	3.12E-09	9.69E-09	9.77E-08	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.59E-11	1.68E-10	2.32E-10	9.11E-11	-2.77E-09
SQP ⁷⁾	-	1.96E+01	4.68E+00	2.00E+01	4.43E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	8.96E-03	2.42E-01	2.05E-01	8.51E-01	-1.06E+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	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	6.69E+00	7.89E-02	2.14E+00	8.91E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	8.09E-04	4.30E-03	-7.77E-01	-4.57E-01	-4.66E-02
Renew. PER as material	MJ	1.10E-01	0.00E+00	1.23E+00	1.34E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	-8.15E-01	-5.26E-01	2.82E-01
Total use of renew. PER	MJ	6.80E+00	7.89E-02	3.37E+00	1.03E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	8.09E-04	4.30E-03	-1.59E+00	-9.83E-01	2.35E-01
Non-re. PER as energy	MJ	9.58E+01	5.18E+00	1.82E+01	1.19E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.28E-01	2.61E-01	-4.14E-01	2.94E-01	-3.62E+00
Non-re. PER as material	MJ	3.82E+01	0.00E+00	4.17E-01	3.87E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	-4.37E-01	-3.82E+01	2.78E-01
Total use of non-re. PER	MJ	1.34E+02	5.18E+00	1.86E+01	1.58E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.28E-01	2.61E-01	-8.50E-01	-3.79E+01	-3.34E+00
Secondary materials	kg	8.78E-02	2.26E-03	6.47E-02	1.55E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	5.31E-05	1.14E-04	1.14E-04	1.09E-04	1.83E-01
Renew. secondary fuels	MJ	3.32E-04	2.57E-05	2.85E-02	2.89E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.39E-07	1.44E-06	5.67E-06	2.26E-06	-2.55E-05
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	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	m³	5.04E-02	7.19E-04	3.74E-01	4.25E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	8.45E-06	3.78E-05	3.38E-05	3.26E-04	-9.97E-04

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	7.91E-01	7.46E-03	9.11E-02	8.90E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.42E-04	3.77E-04	9.79E-04	4.82E-04	-1.08E-01
Non-hazardous waste	kg	1.21E+01	1.44E-01	3.11E+00	1.54E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.94E-03	7.62E-03	6.22E-02	1.64E-01	-9.99E-01
Radioactive waste	kg	1.20E-04	1.42E-06	1.87E-05	1.40E-04	MND	MND	MND	MND	MND	MND	MND	MND	MND	1.39E-08	7.87E-08	1.63E-07	6.70E-08	1.60E-06

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	MND	MND	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	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	2.60E-01	0.00E+00	0.00E+00
Materials for energy rec	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	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	MND	MND	MND	MND	MND	MND	MND	MND	MND	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	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	1.04E-01	0.00E+00
Exported energy – Heat	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	1.02E-01	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 ₂ e	6.01E+00	3.52E-01	1.49E+00	7.85E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	9.72E-03	1.75E-02	2.79E-02	2.07E-02	-3.48E-01
Ozone depletion Pot.	kg CFC-11e	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acidification	kg SO ₂ e	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Eutrophication	kg PO ₄ ³ e	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
POCP (“smog”)	kg C ₂ H ₄ e	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADP-elements	kg Sbe	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADP-fossil	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

ENVIRONMENTAL IMPACTS – 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 ₂ e	6.07E+00	3.54E-01	1.47E+00	7.89E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	9.77E-03	1.76E-02	2.49E-02	1.80E-02	-3.51E-01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO₂ is set to zero.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Market for electricity, medium voltage (Reference product: electricity, medium voltage)
Electricity CO2e / kWh	0.28692
District heating data source and quality	Not applicable
District heating CO2e / kWh	-

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

Sarah Curpen, as an authorized verifier acting for EPD Hub Limited.
18.07.2025

