ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2:2019 & ISO 14025

OBEX UK EPDM Rubber Membrane
OBEX Protection Ltd

EPD HUB, HUB-3674
Published on 21.07.2025, last updated on 21.07.2030

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	OBEX Protection Ltd
Address	Unit 5, Norton Road, Broomhall, Worcester, WR5 2QR
Contact details	technical@obexuk.com
Website	obexglobal.com

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN15804+A2:2019 (EN_15804+A2:2019) 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 options, A4-A5, and modules C1-C4, D
EPD author	Callum Doouss
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Imane Uald Lamkaddam 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	BEX UK EPDM Rubber Membrane
Additional labels	-
Product reference	EPDM Rubber Membrane
Place(s) of raw material origin	Europe
Place of production	United Kingdom (Worcester)
Place(s) of installation and use	United Kingdom (Worcester)
Period for data	01/01/2024 until 31/12/2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m2 of EPD Rubber Membrane
Declared unit mass	0.72 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	2.50E+00
GWP-total, A1-A3 ($kgCO_2e$)	2.44E+00
Secondary material, inputs (%)	1.06
Secondary material, outputs (%)	70
Total energy use, A1-A3 (kWh)	16.1
Net freshwater use, A1-A3 (m^3)	0.04

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

OBEX Protection Ltd specializes in the manufacture and distribution of innovative protection films and membrane solutions for the construction industry.

The company was founded in Worcester UK by the Francis family in January 2010 and has since become the global leader in fire-rated membrane innovation for the window and façade industry.
In the early years, OBEX focused on the production of protection tapes and films for the window manufacturing industry, building a reputation for quality products backed by an excellent service.

In 2013, OBEX received ISO 9001 certification. We also opened our Australian office, shipping product from the UK to supply the growing demand in Australasia.
Two years later in 2015 we opened our French division, where the SPEEDSTER taping system proved to be very popular.

It was during 2015 that OBEX took the step of diversification into the production of EPDM membranes, quickly becoming a key supplier of membranes and associated products to the construction industry. Over the next few months, the rapidly increasing demand for OBEX products required investment in state-of-the-art machinery, including sending the first slitting machine out to Australia.

One of the most significant innovations in the history of OBEX has been the development of our OBEX CORTEX fire-rated membrane systems. This has become a real game-changer for the construction industry for two reasons:

- Firstly, architects, contractors and installers now have a source for façade membrane systems that are not only compliant with the government's fire-regulations but, importantly, are also rigorously tested to the correct EN standards for performance.
- Secondly, they also have access to our expertise in correct product specification, correct installation procedures and compatibility data, as well as a free site-support provision for install training and QA reporting.

July **2020** saw us relocate to our brand new 27,500 sq.ft. premises, providing space for greater stock holding, a new R&D zone and a great environment for the OBEX team.
Today, OBEX Protection continues its rapid growth, based on a strong commitment to innovation, quality and service, backed by a culture of openness, honesty and fairness.

We look forward to working with you, so that together, we can play a key part in protecting and enhancing the buildings of the future.

PRODUCT DESCRIPTION

OBEX CORTEX EPDM Membrane is a flexible membrane which is used to create water and airtight seals around openings such as windows, doors and SFS sections on construction projects. CORTEX EPDM has excellent water resistance properties and is BBA approved for façade applications. The use of CORTEX EPDM is limited under the England and Wales building regulations. Refer to the OBEX Technical team for further details.

Typical Uses

Weather & airtight seals around windows, doors and curtain walling systems
Weather & airtight seals from SFS sections to the concrete frame
Top of parapet walls Balcony waterproofing

Further information can be found at:
obexglobal.com

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	1.43	Spain
Minerals	12.26	Spain
Fossil materials	81.73	Spain
Bio-based materials	4.58	Spain

BIOGENIC CARBON CONTENT

The mass of biogenic carbon containing materials in the product or packaging is less than 5 % of the mass of the product or packaging, the declaration of biogenic carbon content is omitted.

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

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m2 of EPD Rubber Membrane
Mass per declared unit	0.72 kg
Functional unit	1 m2 of EPD Rubber Membrane
Reference service life	50 Years

SUBSTANCES, REACH - VERY HIGH CONCERN

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

TECHNICAL SPECIFICATIONS

Harmonised standard
EN 13984

3rd party certification
BBA Certificate No.17/5396

Fire Classification | EN 13501-1
E

Watertightness | EN 1928
Pass – 2 kPa for 24 hours

Air Tightness | EN 12114
<0.1m^3

Tensile Strength (both directions) | EN 12311-2
≥6MPa

Resistance to tearing (nail shank) | EN 12310-1
≥10N

Water Vapour Permeability | EN 1931
50,000μ

Equivalent air layer thickness (Sd value) | EN 1931
37.5 m

Vapour resistance | EN 1931
188 MNs/g

Elongation at break (both directions) | EN 12311-2
≥ 300%

Vapour resistivity | EN 1931
25,000 MNs/gm

Durability against ageing | EN1296/EN 1931
Pass

Service temperature (approx)
-45°C to 130°C

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.

All transportation from raw material suppliers to the construction site is incorporated into the EPD. Most materials are transported using lorries and ships, as specified in the product's EPD. All packaging involved in the packing of the EPDM rubber membrane is included in the EPD.

The manufacturing process begins with the purchase of EPDM membrane from an authorized supplier. Once the membranes are received, the Environmental Product Declaration (EPD) provided by the supplier is used to incorporate sustainability and environmental impact data into our manufacturing documentation. The process then moves slitting as per desired dimensions to packaging, where the membrane is carefully secured with shrink wrap to ensure stability and protection. They are shrink-wrapped to further safeguard them during transport and minimize damage. Finally, the finished and securely packaged EPDM rubber membrane are delivered to the customer. This streamlined process ensures that the EPDM rubber membranes maintain their integrity while adhering to sustainability practices outlined in the supplier's EPD. All processes are covered by the site's ISO 9001:2015-certified Quality Management System and ISO 14001:2015-certified Environmental Management System.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) by lorry cover fuel direct exhaust emissions, environmental impacts of fuel production. To calculate the distance of average distance of product deliver to customer main customers of 2024 year are determined and average distance of all customer is calculated which is 266.14 km which is considered in the EPD. As per the 1m2 of the declared unit the weight of the product with packaging as per declared unit 0.72 kg which is transported to the customer site. All packaging (plastic and wood) of materials waste during installation of product are consider in the EPD A5 section. There is no need of the energy for the installation of the EPDM rubber membrane that's why no energy element is needed in it.

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)

No Energy consumption is considered in this section for the process of de-construction (C1) from the building as is it remove from building manually by hand. It is assumed that 70% of final product is recycle and 30% is transported to landfill.

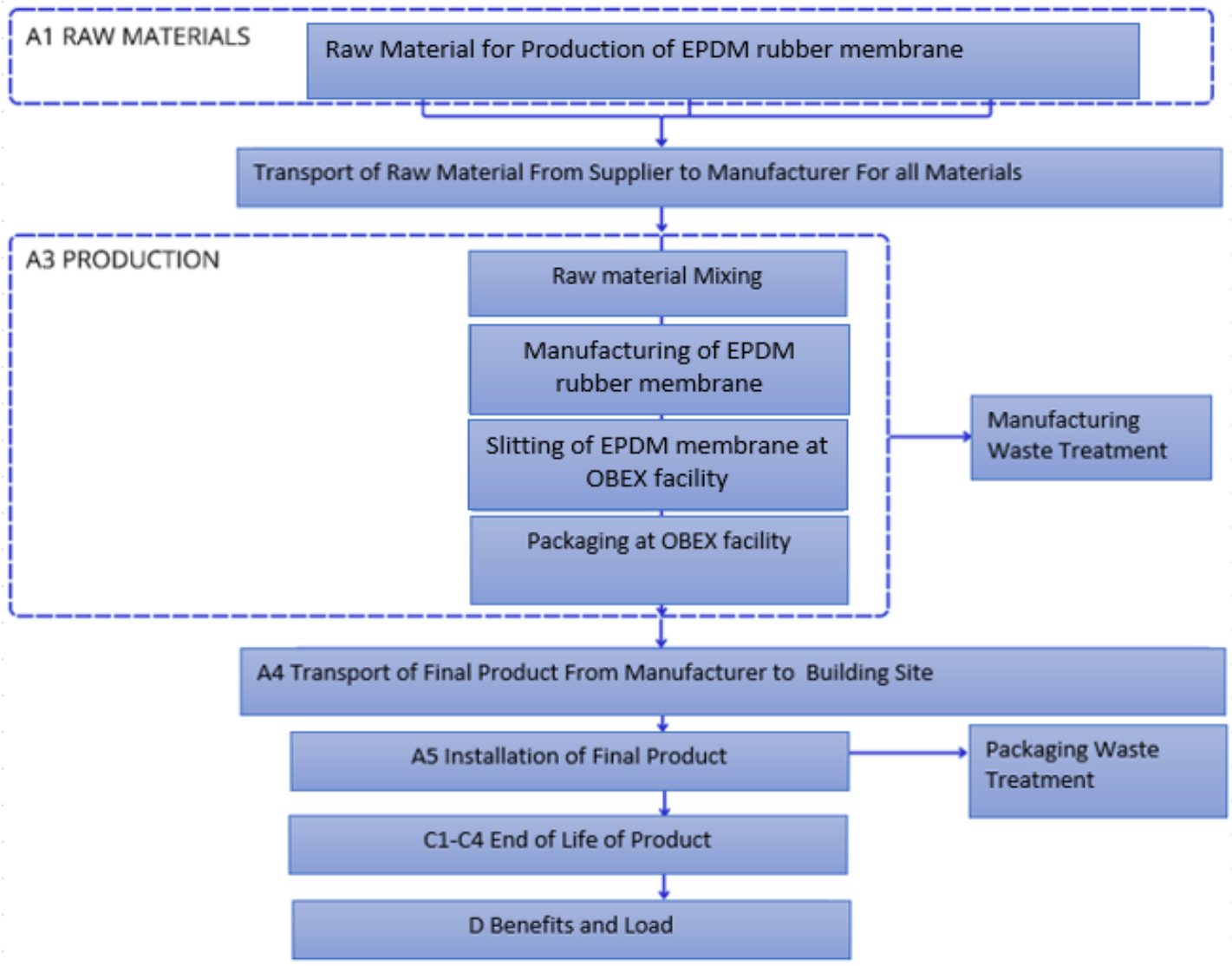
For plastic packaging It is assumed that 70% of the packaging is recycled and 30% is transported to landfill for packaging plastic material in the end-of-life section as per EU directives.

The landfill site is assumed to be 50 km away from the demolition site all the distance is covered using EURO 5 lorry 3.5-7.5 metric ton.

The wooden pallet is taken as per the RICS WLCA methodology, which states that the end-of-life scenarios for wood panel products are 99% incineration for energy recovery, with 1% disposed of in landfill.

As demolition did not involve any process or energy that's why it is not included in the C1 section it is done manually, In C2 transportation from the demolition site to incineration/ recycling/ landfilling are included in the EPD. All transportation involve in the end of life is incorporated in the EPD. For recycling of the packaging material after end-of-life benefits of recycled material is added in the section 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.

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. No allocation is done in the study. 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. 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, 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	1.75E+00	7.28E-01	-4.06E-02	2.44E+00	5.01E-02	8.40E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.13E-02	2.05E-01	7.81E-02	-1.39E+00
GWP – fossil	kg CO_2e	1.75E+00	7.28E-01	1.98E-02	2.50E+00	5.01E-02	2.36E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.13E-02	2.05E-01	7.81E-02	-1.37E+00
GWP – biogenic	kg CO_2e	0.00E+00	1.90E-04	-6.04E-02	-6.02E-02	1.12E-05	6.03E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.56E-06	-4.36E-05	-6.11E-05	-1.89E-02
GWP – LULUC	kg CO_2e	0.00E+00	3.89E-04	5.02E-05	4.39E-04	2.15E-05	1.28E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.13E-05	0.00E+00	3.17E-05	-5.50E-04
Ozone depletion pot.	kg CFC_{-11}e	0.00E+00	1.03E-08	2.63E-10	1.05E-08	6.82E-10	3.02E-10	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.83E-10	8.23E-11	3.86E-10	-4.28E-08
Acidification potential	mol H^+e	6.65E-03	1.72E-03	1.11E-04	8.48E-03	1.63E-04	8.04E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	6.85E-05	2.65E-04	2.49E-04	-4.35E-03
EP-freshwater[2)]	kg Pe	8.06E-04	6.63E-05	5.41E-06	8.77E-04	3.87E-06	5.10E-06	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.95E-06	1.70E-02	2.18E-04	-2.35E-04
EP-marine	kg Ne	1.14E-03	3.65E-04	2.97E-05	1.54E-03	5.16E-05	2.61E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.03E-05	5.98E-05	8.17E-05	-8.27E-04
EP-terrestrial	mol Ne	1.25E-02	3.95E-03	3.23E-04	1.68E-02	5.61E-04	2.70E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.21E-04	6.58E-04	8.26E-04	-8.98E-03
POCP ("smog")[3)]	kg NMVOCe	3.22E-03	2.17E-03	1.15E-04	5.51E-03	2.22E-04	1.03E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	8.89E-05	1.88E-04	2.41E-04	-6.51E-03
ADP-minerals & metals[4)]	kg Sbe	0.00E+00	3.16E-06	7.20E-08	3.24E-06	1.62E-07	1.03E-07	MND	MND	MND	MND	MND	MND	MND	0.00E+00	9.26E-08	3.45E-09	3.32E-07	-1.00E-05
ADP-fossil resources	MJ	4.61E+01	9.94E+00	2.85E-01	5.63E+01	6.90E-01	3.10E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.90E-01	2.70E+00	4.73E-01	-3.85E+01
Water use[5)]	m^3e depr.	0.00E+00	5.11E-02	1.42E-02	6.52E-02	3.07E-03	2.80E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.50E-03	1.26E-05	4.95E-03	-3.71E-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	3.20E-08	4.05E-08	2.24E-09	7.47E-08	3.48E-09	1.47E-09	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.29E-09	2.17E-09	2.60E-09	-3.50E-08
Ionizing radiation[6)]	kBq U235e	0.00E+00	9.49E-03	1.73E-03	1.12E-02	5.67E-04	3.09E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.78E-04	4.73E-04	8.27E-04	-4.11E-02
Ecotoxicity (freshwater)	CTUe	0.00E+00	2.06E+00	1.02E-01	2.16E+00	1.19E-01	3.21E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	6.04E-02	9.01E-12	2.47E+02	-9.64E+00
Human toxicity, cancer	CTUh	1.23E-10	1.29E-10	8.34E-11	3.35E-10	8.00E-12	4.63E-11	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.87E-12	4.42E-11	3.18E-09	-1.92E-10
Human tox. non-cancer	CTUh	1.23E-10	6.00E-09	1.67E-10	6.29E-09	4.06E-10	9.47E-09	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.77E-10	4.42E-11	7.23E-07	-9.98E-09
SQP[7)]	-	0.00E+00	4.19E+00	7.79E+00	1.20E+01	3.57E-01	1.38E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.23E-01	7.81E-03	4.94E-01	-3.26E+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	0.00E+00	1.74E-01	5.47E-01	7.22E-01	9.96E-03	-5.81E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.10E-03	2.20E-01	2.04E-02	-9.22E-02
Renew. PER as material	MJ	0.00E+00	0.00E+00	5.30E-01	5.30E-01	0.00E+00	-5.30E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.85E-01
Total use of renew. PER	MJ	0.00E+00	1.74E-01	1.08E+00	1.25E+00	9.96E-03	-1.11E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.10E-03	2.20E-01	2.04E-02	-5.77E-01
Non-re. PER as energy	MJ	4.70E+01	9.94E+00	2.50E-01	5.72E+01	6.90E-01	7.20E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.90E-01	2.69E+00	4.73E-01	-3.85E+01
Non-re. PER as material	MJ	0.00E+00	0.00E+00	3.50E-02	3.50E-02	0.00E+00	-3.50E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E+01
Total use of non-re. PER	MJ	4.70E+01	9.94E+00	2.85E-01	5.72E+01	6.90E-01	3.71E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.90E-01	2.69E+00	4.73E-01	-1.68E+01
Secondary materials	kg	7.60E-03	5.29E-03	1.71E-03	1.46E-02	2.95E-04	1.88E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.55E-04	2.43E-03	1.20E-04	5.36E-01
Renew. secondary fuels	MJ	9.91E-03	6.81E-05	1.43E-02	2.42E-02	3.53E-06	2.24E-06	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.99E-06	3.61E-04	2.58E-06	-4.46E-05
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^3	3.56E-02	1.43E-03	3.28E-04	3.73E-02	8.75E-05	5.33E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	4.10E-05	6.22E-08	2.27E-04	-9.27E-03

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	8.73E-02	2.03E-02	1.40E-03	1.09E-01	1.18E-03	7.20E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.95E-04	1.00E-02	4.96E-01	-7.30E-02
Non-hazardous waste	kg	2.86E+00	3.94E-01	3.01E-02	3.29E+00	2.28E-02	4.91E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.16E-02	3.65E-06	4.33E-02	-5.30E+00
Radioactive waste	kg	2.53E-04	2.33E-06	4.37E-07	2.56E-04	1.39E-07	7.58E-08	MND	MND	MND	MND	MND	MND	MND	0.00E+00	6.82E-08	3.75E-06	2.06E-07	-9.85E-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	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	5.60E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	5.04E-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	7.20E-01	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	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 – Electricity	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
Exported energy –	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

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	1.75E+00	7.24E-01	1.98E-02	2.49E+00	4.98E-02	2.36E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.12E-02	2.03E-01	7.80E-02	-1.33E+00
Ozone depletion Pot.	kg CFC_{-11}e	0.00E+00	8.21E-09	2.15E-10	8.43E-09	5.45E-10	2.42E-10	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.27E-10	1.53E-10	3.11E-10	-3.51E-08
Acidification	kg SO_2e	5.54E-03	1.40E-03	8.71E-05	7.03E-03	1.25E-04	6.20E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.33E-05	2.15E-04	1.86E-04	-3.59E-03
Eutrophication	kg PO_4^3e	4.03E-04	3.34E-04	3.87E-04	1.12E-03	2.90E-05	1.57E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.30E-05	2.04E-05	3.93E-05	-2.47E-02
POCP (“smog”)	kg C_2H_4e	1.95E-04	1.29E-04	9.26E-06	3.33E-04	1.10E-05	5.45E-06	MND	MND	MND	MND	MND	MND	MND	0.00E+00	4.67E-06	1.68E-05	1.33E-05	-5.55E-04
ADP-elements	kg Sbe	0.00E+00	3.07E-06	7.07E-08	3.15E-06	1.58E-07	9.85E-08	MND	MND	MND	MND	MND	MND	MND	0.00E+00	9.00E-08	4.61E-09	2.01E-07	-9.90E-06
ADP-fossil	MJ	6.60E+01	9.79E+00	2.56E-01	7.60E+01	6.81E-01	3.05E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.86E-01	2.19E+00	4.60E-01	-3.78E+01

ENVIRONMENTAL IMPACTS – FRENCH NATIONAL COMPLEMENTS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements	kg Sbe	0.00E+00	3.08E-06	7.07E-08	3.15E-06	1.58E-07	9.85E-08	MND	MND	MND	MND	MND	MND	MND	0.00E+00	9.00E-08	4.61E-09	2.01E-07	-9.90E-06
Hazardous waste disposed	kg	8.73E-02	2.03E-02	1.40E-03	1.09E-01	1.18E-03	7.20E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.95E-04	1.00E-02	4.96E-01	-7.30E-02
Non-haz. waste disposed	kg	2.86E+00	3.94E-01	3.01E-02	3.29E+00	2.28E-02	4.91E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.16E-02	3.65E-06	4.33E-02	-5.30E+00
Air pollution	m^3	3.70E+02	1.33E+02	7.79E+00	5.11E+02	9.44E+00	4.55E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	4.04E+00	1.63E+01	1.10E+01	-4.74E+02
Water pollution	m^3	1.31E+01	4.52E+00	1.33E-01	1.78E+01	3.10E-01	3.57E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.29E-01	4.57E-01	1.74E+01	-1.76E+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	1.75E+00	7.28E-01	1.98E-02	2.50E+00	5.01E-02	2.36E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.13E-02	2.05E-01	7.81E-02	-1.37E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

THIRD-PARTY VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Imane Uald Lamkaddam as an authorized verifier for EPD Hub Limited
21.07.2025