ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

OBEX CORTEX 0560FR Class B Self-Adhesive ISM (Interface Sealing Membrane)
OBEX Protection Ltd

EPD HUB, HUB-5797
Published on 20.03.2026, last updated on 20.03.2026, valid until 19.03.2031

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	OBEX Protection Ltd
Address	Unit 5, Norton Road, Broomhall, Worcester, WR5 2QR, United Kingdom
Contact details	technical@obexuk.com
Website	obexglobal.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	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	Muhammad Zeeshan (Independent consultant)
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Sarah Curpen 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	OBEX CORTEX 0560FR Class B Self-Adhesive ISM (Interface Sealing Membrane)
Additional labels	-
Product reference	0560FR
Place(s) of raw material origin	Europe
Place of production	United Kingdom
Place(s) of installation and use	United Kingdom
Period for data	01/01/2024 until 31/12/2024
Averaging in EPD	No grouping
A1-A3 Specific data (%)	52.2

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m2 of 0560FR Self-Adhesive ISM
Declared unit mass	0.65 kg
Mass of packaging	0.02756 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	3.03
GWP-total, A1-A3 ($kgCO_2e$)	3.03
Secondary material, inputs (%)	15.9
Secondary material, outputs (%)	40
Total energy use, A1-A3 (kWh)	18.6
Net freshwater use, A1-A3 (m^3)	0.07

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.

PRODUCT DESCRIPTION

The OBEX CORTEX 0560FR Class B Self-Adhesive ISM (Interface Sealing Membrane) is a specialised fire-classified sealing membrane developed for interface sealing, joint protection, and continuity control within cavity barrier systems, façade assemblies, and building envelope transitions.
Unlike DPC-focused membranes, 0560FR is engineered primarily as an interface management and sealing layer, providing airtightness, watertightness, and fire-performance continuity at construction junctions, penetrations, and material transitions. The product is fully self-adhesive, enabling rapid application without additional adhesives, mechanical fixings, or bonding compounds.
The membrane exhibits strong adhesion to multiple construction substrates, resistance to moisture ingress, alkaline durability, and thermal stability, ensuring long-term performance in exposed interface zones. Its high flexibility enables conformability around complex geometries, service penetrations, and structural junctions.
OBEX CORTEX 0560FR is specifically designed to act as a system continuity membrane, ensuring the integrity of fire, air, and moisture control layers across interfaces where conventional DPC membranes are not geometrically or functionally suitable.

TYPICAL USES INCLUDE;

Weather & airtight seals around windows, doors and curtain walling systems
Weather & airtight seals from SFS sections to the concrete frame
Top of parapet walls
Many other applications where a robust, self-adhesive Class B EPDM-alternative is required

Further information can be found at:
obexglobal.com

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	17.198	Europe
Fossil materials	79.71	Europe
Bio-based materials	3.092	Europe

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	0.011645

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m2 of 0560FR Self-Adhesive ISM
Mass per declared unit	0.65 kg
Functional unit	-
Reference service life	60

SUBSTANCES, REACH - VERY HIGH CONCERN

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

TECHNICAL SPECIFICATIONS

Technical Specs

Harmonised standard
EN 13984

Tensile Strength | EN 12311-2
Longitudinal – 2490 N/50mm, Transverse – 2079 N/50mm

Vapour resistance | EN 1931
59 MNs/g

UV & heat ageing | 1296
Pass (watertightness, tensile, tear strength)

Air Tightness | EN 12114
<0.1m³

Equivalent air layer thickness (Sd value) | EN 1931
12m

Calcium sulphate durability | EN 1847
Pass

Watertightness | EN 1928
Pass – 2 kPa for 24 hours

Water vapour permeability (μ)
23,726 μ

Cold temperature flexibility | EN 1109/495-5
-40°C, no cracks

Fire Classification | EN 13501-1
B-s3,d0

Resistance to tearing (nail shank) | EN 12310-1
MD 429 N, CD 452 N

Elongation at break % | EN 12311-2
MD 28%, CD 452 N

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 (A1–A3) include the manufacturing of all raw materials used in the production of the product, as well as packaging materials and other ancillary materials. This stage also includes electricity and fuels consumed by production machinery which is location based, the handling and treatment of waste generated during the manufacturing processes, and material losses occurring at the manufacturing facilities.

Transportation associated with the supply of raw materials from suppliers to the manufacturing site, as well as transport to the construction site, is included within the EPD. The primary transport modes considered are lorry and ship, as specified in the product EPD. All packaging materials used for the packing of the OBEX CORTEX 0560FR membrane are included within the system boundary. Electricity modelling is based on a Location-based approach.

The manufacturing process for the coated fabric begins with raw material supply. The materials are subsequently processed during the base fabric weaving stage, after which the fabric is prepared for coating. This is followed by the compounding and mixing of the polymer compound in accordance with product specifications, and the coating of the base fabric.

After coating, the fabric undergoes cooling and surface treatment processes, which may include the application of specific textures, colours, or other surface characteristics. The product then passes through quality control checks to verify that all specifications are met. During manufacturing, mixed molten plastic is generated as process waste; this material is collected and directed for recycling. Wastewater generated during production is treated in accordance with site procedures.

In the final stage, the fabric proceeds to rewinding, cutting, and packaging. The finished product is rewound and cut to the required dimensions, packed in cardboard packaging, and sealed with tape. The packaged products are then wrapped using heat-shrink film and placed on wooden pallets for transportation from the manufacturing site to the customer.

Manufacturing operations are carried out under an ISO 9001:2015-certified quality management system and an ISO 14001:2015-certified environmental management system.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts associated with the delivery of the final product to the construction site are included in Module A4. Transport is modelled using lorry transport and includes direct exhaust emissions from fuel combustion as well as the environmental impacts associated with fuel production.

To determine the transport distance, the main customers served during the 2024 calendar year were identified, and an average delivery distance was calculated based on these locations. The resulting average transport distance of 174 km is applied in the EPD.

For the declared unit of 1 m², the total mass of the product, including packaging, is 0.139 kg, which is transported to the construction site and used for modelling transport impacts.

Impacts associated with packaging waste generated during installation are included in Module A5. This includes the treatment and disposal of all packaging materials related to the product, including plastic, cardboard, and wooden packaging, arising during the installation process.

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.

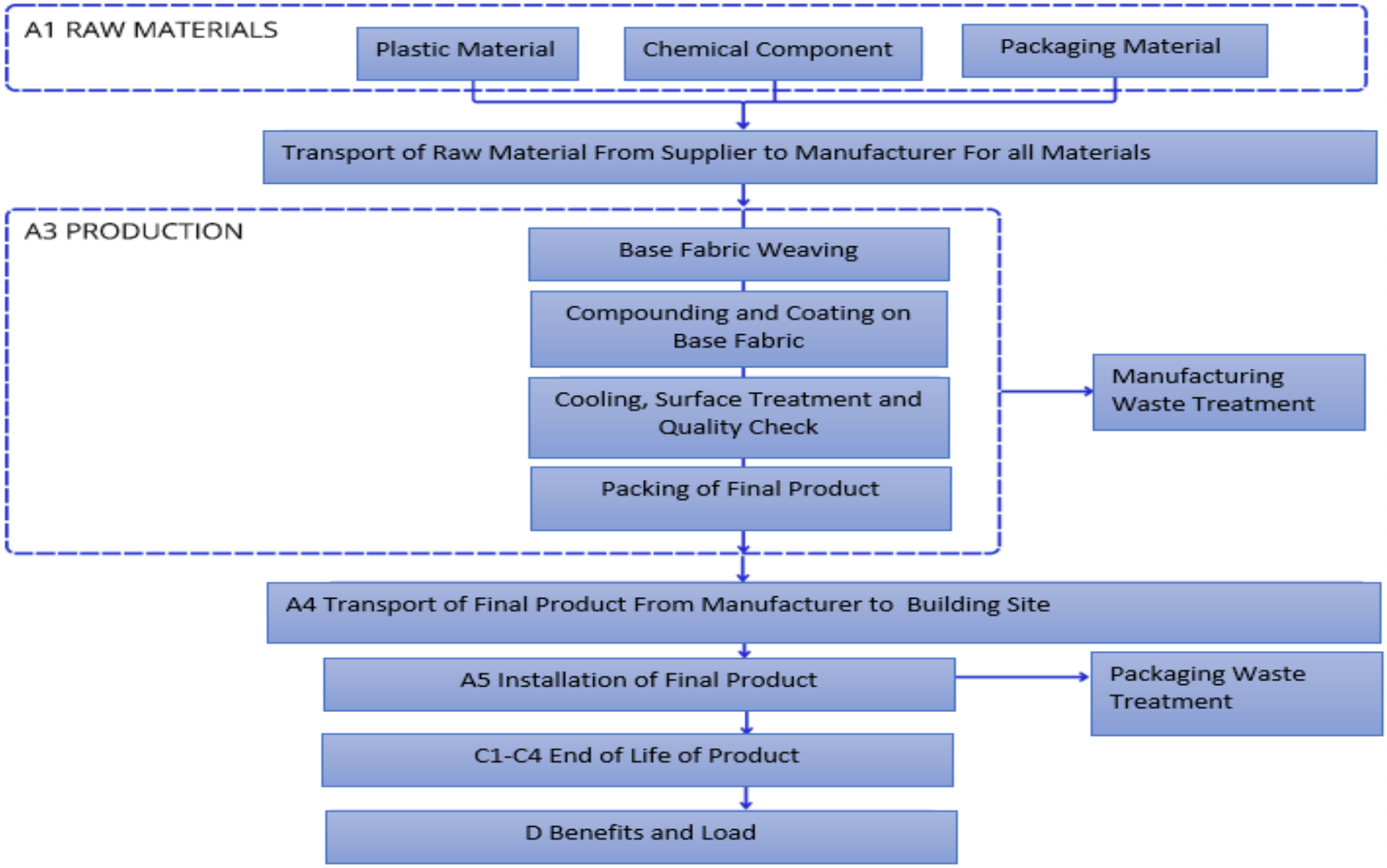
PRODUCT END OF LIFE (C1-C4, D)

No energy consumption is considered for the de-construction process in Module C1, as the product is assumed to be manually removed from the building without the use of mechanical equipment. The end-of-life scenario for the final PVC-based product assumes 40% recycling and 60% landfill, reflecting the comparatively lower recycling rates of PVC products and aligned with European PVC industry practices, including the PVC industry Product Stewardship Programme (VinylPlus).

For plastic packaging, an end-of-life scenario of 70% recycling and 30% landfill is assumed in accordance with EU-average packaging waste management practices. Cardboard packaging is modelled with 80% recycling and 20% landfill, consistent with European Commission and Eurostat statistics for paper and cardboard packaging waste. The end-of-life treatment of wooden pallets follows the RICS Whole Life Carbon Assessment (WLCA) methodology, which identifies incineration with energy recovery (99%) as the predominant treatment route for wood-based products, with the remaining 1% disposed of in landfill.

Recycling, incineration, and landfill facilities are assumed to be located 50 km from the demolition site, with all end-of-life transport modelled using a EURO 5 lorry (3.5–7.5 t). As de-construction does not involve energy consumption, no impacts are reported in Module C1. Module C2 includes transport from the demolition site to recycling, incineration, and landfill facilities. Module C3 covers recycling of plastic and cardboard materials and incineration of wood-based products with energy recovery, while Module C4 accounts for final landfill disposal of residues remaining after treatment. The potential benefits of recycled materials from the final product are reported separately in Module D.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

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 for this product.

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+A2
European Committee for Standardization (CEN).
Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products (EN 15804:2012+A2:2019).
CEN, Brussels.

VinylPlus® – European PVC Industry Product Stewardship Programme
VinylPlus.
VinylPlus® Product Stewardship Programme.
Available at: https://vinylplus.eu

Packaging and Packaging Waste Directive (94/62/EC)
European Parliament and Council of the European Union.
Directive 94/62/EC on packaging and packaging waste.
Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31994L0062

Eurostat – Packaging Waste Statistics
European Commission, Eurostat.
Packaging waste statistics in the European Union.
Available at:
https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Packaging_waste_statistics

RICS Whole Life Carbon Assessment (WLCA)
Royal Institution of Chartered Surveyors (RICS).
Whole Life Carbon Assessment for the Built Environment (2nd edition).
Available at:
https://www.rics.org/profession-standards/rics-standards-and-guidance/sector-standards/construction/whole-life-carbon-assessment

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	2.01E+00	6.97E-01	3.24E-01	3.03E+00	3.15E-02	4.14E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.29E-02	0.00E+00	3.60E-02	-4.43E-01
GWP – fossil	kg CO_2e	1.98E+00	6.96E-01	3.63E-01	3.03E+00	3.04E-02	1.93E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.29E-02	0.00E+00	3.60E-02	-4.56E-01
GWP – biogenic	kg CO_2e	0.00E+00	0.00E+00	-3.95E-02	-3.95E-02	0.00E+00	3.95E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-02
GWP – LULUC	kg CO_2e	3.63E-02	3.69E-04	4.94E-04	3.72E-02	1.10E-03	1.11E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.76E-06	0.00E+00	2.62E-06	-2.74E-04
Ozone depletion pot.	kg CFC_{-11}e	3.17E-08	9.30E-09	1.56E-08	5.65E-08	1.11E-09	1.87E-11	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.74E-10	0.00E+00	1.08E-10	-2.11E-07
Acidification potential	mol H^+e	1.76E-02	2.29E-03	9.83E-04	2.09E-02	9.94E-05	8.99E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.19E-05	0.00E+00	3.09E-05	-1.44E-03
EP-freshwater[2)]	kg Pe	9.22E-03	6.34E-05	3.25E-03	1.25E-02	2.91E-06	2.05E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.16E-06	0.00E+00	4.51E-07	-1.47E-04
EP-marine	kg Ne	3.20E-03	6.75E-04	2.63E-04	4.14E-03	4.05E-05	4.03E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.26E-05	0.00E+00	8.00E-04	-2.75E-04
EP-terrestrial	mol Ne	4.29E-02	7.35E-03	2.87E-03	5.32E-02	3.41E-04	3.59E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.37E-04	0.00E+00	1.26E-04	-2.64E-03
POCP ("smog")[3)]	kg NMVOCe	1.49E-02	2.95E-03	8.72E-04	1.87E-02	1.34E-04	1.07E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.52E-05	0.00E+00	5.19E-05	-1.97E-03
ADP-minerals & metals[4)]	kg Sbe	2.29E-02	3.00E-06	9.73E-07	2.29E-02	1.47E-07	8.40E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.40E-08	0.00E+00	8.12E-09	-8.97E-06
ADP-fossil resources	MJ	2.18E+01	9.51E+00	9.17E+00	4.04E+01	4.34E-01	1.91E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.78E-01	0.00E+00	9.52E-02	-1.28E+01
Water use[5)]	m^3e depr.	9.86E-01	4.89E-02	8.85E-02	1.12E+00	3.17E-03	8.86E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.11E-04	0.00E+00	4.17E-03	-1.41E-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	1.57E-07	4.26E-08	7.04E-09	2.06E-07	2.41E-09	1.44E-10	ND	ND	ND	ND	ND	ND	ND	0.00E+00	8.37E-10	0.00E+00	6.91E-10	-3.35E-09
Ionizing radiation[6]	kBq U235e	8.62E-02	9.08E-03	2.90E-01	3.86E-01	4.73E-04	2.47E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.68E-04	0.00E+00	8.04E-05	-7.11E-02
Ecotoxicity (freshwater)	CTUe	9.77E+01	1.96E+00	5.54E+00	1.05E+02	1.17E+00	1.47E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.56E-02	0.00E+00	1.53E+00	-2.67E+00
Human toxicity, cancer	CTUh	4.85E-09	1.26E-10	1.50E-10	5.12E-09	7.38E-12	2.16E-11	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.33E-12	0.00E+00	2.40E-12	-8.96E-10
Human tox. non-cancer	CTUh	9.38E-08	5.79E-09	1.72E-09	1.01E-07	3.91E-10	4.44E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.09E-10	0.00E+00	4.18E-10	-5.41E-09
SQP[7]	-	9.85E+00	4.15E+00	7.37E+00	2.14E+01	3.61E-01	1.20E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	8.69E-02	0.00E+00	2.25E-01	-1.55E+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	3.15E+00	1.66E-01	2.26E+00	5.58E+00	1.09E-02	-3.85E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.04E-03	0.00E+00	1.31E-03	-7.09E-01
Renew. PER as material	MJ	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	6.02E-04
Total use of renew. PER	MJ	3.15E+00	1.66E-01	2.26E+00	5.58E+00	1.09E-02	-3.85E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.04E-03	0.00E+00	1.31E-03	-7.08E-01
Non-re. PER as energy	MJ	2.71E+01	9.51E+00	9.09E+00	4.57E+01	4.41E-01	-1.08E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.78E-01	-5.20E+00	-1.41E+01	-1.82E+01
Non-re. PER as material	MJ	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	1.12E+01
Total use of non-re. PER	MJ	2.71E+01	9.51E+00	9.09E+00	4.57E+01	4.41E-01	-1.08E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.78E-01	-5.20E+00	-1.41E+01	-7.05E+00
Secondary materials	kg	1.42E-02	5.05E-03	2.24E-03	2.14E-02	2.44E-04	2.34E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.26E-05	0.00E+00	3.27E-05	2.76E-01
Renew. secondary fuels	MJ	2.38E-04	6.48E-05	9.48E-03	9.79E-03	3.09E-06	2.07E-07	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.19E-06	0.00E+00	6.55E-07	-2.56E-05
Non-ren. secondary fuels	MJ	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
Use of net fresh water	m^3	3.13E-02	1.34E-03	2.00E-03	3.46E-02	1.19E-04	8.62E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.52E-05	0.00E+00	-1.44E-03	-3.77E-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	3.22E-01	1.94E-02	1.38E-02	3.55E-01	1.08E-03	3.80E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.57E-04	0.00E+00	1.59E-04	-2.38E-02
Non-hazardous waste	kg	3.80E+00	3.77E-01	1.94E-01	4.37E+00	1.72E-02	2.47E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.91E-03	0.00E+00	1.03E+00	-1.75E+01
Radioactive waste	kg	4.40E-05	2.23E-06	6.36E-05	1.10E-04	1.15E-07	6.14E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.13E-08	0.00E+00	1.97E-08	-1.86E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	5.00E-02	5.00E-02	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	0.00E+00	0.00E+00	0.00E+00	3.22E-03	ND	ND	ND	ND	ND	ND	ND	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	0.00E+00	2.28E-02	ND	ND	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	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	2.06E+00	6.93E-01	3.59E-01	3.11E+00	3.14E-02	1.96E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.29E-02	0.00E+00	3.44E-02	-4.37E-01
Ozone depletion Pot.	kg $CFC_{-11}e$	2.90E-08	7.45E-09	1.25E-08	4.90E-08	8.84E-10	1.51E-11	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.39E-10	0.00E+00	8.65E-11	-2.10E-07
Acidification	kg SO_2e	1.33E-02	1.78E-03	7.58E-04	1.59E-02	7.61E-05	6.65E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.25E-05	0.00E+00	2.29E-05	-1.20E-03
Eutrophication	kg PO_4^3e	8.77E-03	4.28E-04	4.01E-04	9.60E-03	8.40E-05	1.98E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.94E-06	0.00E+00	3.22E-05	-6.28E-04
POCP (“smog”)	kg C_2H_4e	3.05E-03	1.54E-04	6.37E-05	3.27E-03	8.03E-06	5.87E-07	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.85E-06	0.00E+00	6.94E-06	-1.29E-04
ADP-elements	kg Sbe	2.29E-02	2.91E-06	9.47E-07	2.29E-02	1.44E-07	7.21E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.25E-08	0.00E+00	7.86E-09	-7.08E-06
ADP-fossil	MJ	3.11E+01	9.37E+00	5.22E+00	4.57E+01	4.26E-01	1.87E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.75E-01	0.00E+00	9.39E-02	-1.15E+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	2.28E-02	2.91E-06	3.91E-09	2.29E-02	1.44E-07	6.96E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.25E-08	0.00E+00	0.00E+00	-7.08E-06
Hazardous waste disposed	kg	3.22E-01	1.94E-02	1.38E-02	3.55E-01	1.08E-03	3.80E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.57E-04	0.00E+00	1.59E-04	-2.38E-02
Non-haz. waste disposed	kg	3.80E+00	3.77E-01	1.94E-01	4.37E+00	1.72E-02	2.47E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.91E-03	0.00E+00	1.03E+00	-1.75E+01
Air pollution	m^3	1.94E+03	1.33E+02	6.25E+01	2.14E+03	7.35E+00	4.06E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.53E+00	0.00E+00	9.92E-01	-4.23E+01
Water pollution	m^3	1.29E+01	4.22E+00	6.37E+00	2.35E+01	3.52E-01	1.12E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.90E-02	0.00E+00	4.45E-02	-9.49E+00

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	2.01E+00	6.97E-01	3.63E-01	3.07E+00	3.15E-02	1.93E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.29E-02	0.00E+00	3.60E-02	-4.56E-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. Market for electricity, medium voltage, United Kingdom, Ecoinvent, 0.30 kgCO2e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry 3.5-7.5 metric ton, EURO5, 174 km

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.002989 kg
2. Treatment of residues, MSWI, waste plastic, consumer electronics, residual material landfill, Ecoinvent, 0.001281 kg
3. Treatment of residues, MSWI, waste plastic, consumer electronics, residual material landfill, Ecoinvent, 5.8E-5 kg
4. Treatment of waste plaster-cardboard sandwich, recycling, Ecoinvent, Materials for recycling, 2.32E-4 kg
5. Treatment of waste wood, untreated, municipal incineration, Ecoinvent, Materials for energy recovery, 0.02277 kg
6. Treatment of residues, MSWI, waste wood, untreated, residual material landfill, Ecoinvent, 2.3E-4 kg

End of Life scenario documentation - C1-C4 (Data source)

1. Treatment of waste polyvinylchloride, recycling, Ecoinvent, Materials for recycling, 0.26 kg
2. Treatment of waste plastic, mixture, sanitary landfill, Ecoinvent, 0.39 kg

Scenario information	Value
Scenario assumptions e.g. transportation	50 km

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

Sarah Curpen as an authorized verifier for EPD Hub Limited 20.03.2026