ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

100mm Aglite Ultima 4.2N/mm^2 - Great Heck

AGLITE Ultima®

EPD HUB, HUB-6338

Published on 16.05.2026, last updated on 16.05.2026, valid until 16.05.2031

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

Plasmor CONCRETE PRODUCTS

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Plasmor Limited
Address	PO Box 44, Womersley Road, Knottingley, West Yorkshire, WF11 0DN, United Kingdom
Contact details	Technical@plasmor.co.uk
Website	https://www.plasmor.co.uk/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	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-B1, and modules C1-C4, D
EPD author	Wiktor Aleksiejczyk - Plasmor
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Magaly González Vázquez, 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	100mm Aglite Ultima 4.2N – Great Heck
Additional labels	Aglite
Product reference	100AL04
Place(s) of raw material origin	United Kingdom
Place of production	Plasmor, Great Heck DN14 0BZ, United Kingdom
Place(s) of installation and use	United Kingdom
Period for data	Jan 24 to Dec 24
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 (%)	96.8

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m² of aggregate concrete block wall, 100mm thickness, with a compressive strength of 4.2 N/mm² and a dry density of 1050 kg/m
Declared unit mass	110 kg
Mass of packaging	0.0684 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	17.9
GWP-total, A1-A3 ($kgCO_2e$)	18.1
Secondary material, inputs (%)	2.77
Secondary material, outputs (%)	80
Total energy use, A1-A3 (kWh)	57.3
Net freshwater use, A1-A3 (m^3)	0.04

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Plasmor Limited is a privately owned concrete block and concrete block paving manufacturer supplying a comprehensive range of over 1000 concrete products to the building industry throughout the UK. Established in 1959, the Plasmor Group of companies has grown to be one of Britain's largest independent concrete products manufacturers.

A continual programme of capital investment and new product development contributes to sustained organic growth. Plasmor's commitment to research and development, in-house engineering excellence and the deployment of leading-edge technology, has gained the Company recognition as pioneers in the building products industry. Together with the highest levels of customer service through understanding, responsiveness, adaptability and flexibility, customer satisfaction is unrivalled.

PRODUCT DESCRIPTION

This Environmental Product Declaration is based on production site in Great Heck.

AGLITE ULTIMA is a low-density, lightweight load-bearing concrete masonry unit (CMU) manufactured across Plasmor production sites (Boughton / Great Heck / Knottingley / Sabey Kirby / Widnes) using a proprietary blend of Plasmor's own man-made expanded clay aggregate combined with other high-quality lightweight aggregates. The product is available in multiple compressive strength classes (4.2N/mm², 7.3N/mm², and 10.4N/mm²) and in two thicknesses (100mm and 140mm). The blocks are solid, plain-ended, open-textured, and grey in colour. The open texture is designed to directly accept plaster or render.

AGLITE ULTIMA - 100mm Aglite Ultima 4.2N/mm2

Lightweight & Low Density	Ultra-lightweight construction with a dry density of 1,050 kg/m³
High Thermal Efficiency	Low thermal conductivity (λ = 0.31 W/m·K) supports compliance with Building Regulations Part L
Good Sound Insulation	Complies with Robust Details E-WM-12, E-WM-17, E-WM-34, and E-FC-4, supporting compliance with Building Regulations Part E.
Fire Resistant	Offers inherent non-combustibility and fire resistance performance in accordance with applicable standards.
Load Bearing	Compressive strength classes, suitable for load-bearing wall applications across residential and commercial construction
Accepts Plaster & Paint Without Bonding Coat	The open-textured surface finish directly receives plaster, render, and paint, eliminating the need for additional bonding treatments and reducing material use.
Low Shrinkage	The aggregate composition minimizes drying shrinkage, reducing the risk of cracking and contributing to the long-term durability and integrity of the masonry structure.
Authority	Manufactured under BSI Quality Assurance standards with full CE marking, demonstrating conformance with EN 771-3 and all prevailing UK Building Regulations.
Easily Cut & Chased	The block can be cut and chased on site without specialist equipment.
Excellent Fixability	Accepts standard masonry fixings and fasteners reliably, supporting a wide range of internal and external finish systems

AGLITE ULTIMA is intended for use in:

External walls – outer and inner leaf
Internal load-bearing walls
Internal partition walls
Party walls
Walls below DPC (7.3N only)
Suspended floors – beam and block construction

Suitable for: Residential (housebuilding), commercial, industrial, and repair, maintenance & improvement projects.

100mm Aglite Ultima 4.2N/mm2 - Technical Specifications:

Compressive Strength	4.2 N/mm²
Dry Density	1,050 kg/m³
Thermal Conductivity (λ)	0.31 W/m·K
Block Thickness	100mm
Work Size (L × H × W)	440 × 215 × 100mm
Unit Weight (100mm)	~ 11.5 kg
Pack Coverage	9.6 m² (100mm)

https://www.plasmor.co.uk/building-blocks/ultra-lightweight-blocks/aglite-ultima/

PRODUCT RAW MATERIAL MAIN COMPOSITION

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

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0.0
Biogenic carbon content in packaging, kg C	0.0

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m² of aggregate concrete block wall, 100mm thickness, with a compressive strength of 4.2 N/mm² and a dry density of 1050 kg/m³.
Mass per declared unit	110 kg
Functional unit	1 m² aggregate concrete block wall (AGLITE ULTIMA, 100mm thickness, 440 × 215 × 100mm work size), with a compressive strength of 4.2 N/mm², dry density of 1050 kg/m³, thermal conductivity λ = 0.31 W/m·K, complying with EN 771-3, suitable for load-bearing internal and external masonry wall applications, with inherent fire resistance and sound insulation performance, for a reference service life of 100 years.
Reference service life	100 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	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

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. 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 raw materials (A1) used in block production at Plasmor Great Heck are acquired in United Kingdom and transported by road haulage and rail freight. Vehicle capacity utilization volume factor is assumed to be 1 which means full load. It may vary but as the role of transportation emission in total results is small and so the variety in load is assumed to be negligible. Empty returns are conservatively considered with average loading factors in the Ecoinvent background data.

Concrete blocks are made from cement, aggregates, water and admixtures. The blocks covered by this EPD have been manufactured where the dry components are thoroughly mixed, water and additives are then included, the mix is then placed onto the mould with aid of complex vibration and weighing systems to form required block dimensions and density. Raw material losses during production are assessed as insignificant (<0.01%). Waste generated during production is returned into the cycle. Once demoulded, the blocks are cured in specially designed curing chambers. Once cured, blocks are packaged into packs of 96 blocks, secured for loading with two vertical and 1 horizontal strap & stored on the yard awaiting release by quality control.

Manufacturing of concrete blocks requires electricity supplied from the grid and natural gas used in blocks curing chambers, for the purpose of production (A3). Machinery and equipment are counted as capital good and are not taken into consideration in the calculations. All industrial processes from raw material acquisition and pre-processing, production, are included. Further, water used for cleaning and maintenance of the equipment, transportation and delivering the raw materials to the factory are omitted since the quantified mass contribution is less than 0.1%. These include ancillary materials in very small amounts and have no serious impact on the emissions of the product.

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

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

(A4) This EPD includes transport of the finished goods to the wider market from Heck, Biggleswade & Bow depot, taking into account a combined delivery average of the rail freight system from Great Heck and the average road delivery of 32km. Material is then distributed to the merchants / contractors / projects. Vehicle capacity utilization is assumed to be 100% which means full load. Empty returns are conservatively considered with average loading factors in the Ecoinvent background data. Transportation does not cause losses as products are packaged properly.

Installation includes cement mortar at 7% per m^2 (7.7 kg), sourced from standard UK supply. No energy-consuming machinery is required for the installation of concrete masonry blocks as they are hand-laid. No significant energy consumption is associated with the installation of concrete masonry blocks. Blocks are hand-laid using standard masonry techniques and no mechanical lifting or specialist equipment is required.

(A5) Waste assumptions: Installation waste is assumed at 3% material loss, based on a current industry study by MPA, CBA and APA.
Waste treatment assumptions are as follows:
Waste concrete (non-reinforced): 80% recycled, 20% to inert landfill,
Packaging waste (polyethylene strapping): part recycled, part incinerated for energy recovery, remainder to sanitary landfill.

Transport of A5 waste: Waste generated on site during installation is transported to the nearest construction waste treatment facility, assumed at 25 km by lorry (>32 metric ton, EURO6), consistent with the end-of-life transport assumption used in C2.

PRODUCT USE AND MAINTENANCE (B1-B7)

The reference service life (RSL) of AGLITE ULTIMA, when installed as part of a permanent masonry structure in accordance with EN 771-3 and applicable building regulations, is declared as 100 years. Aggregate blocks are durable, fire resistant not attacked by vermin or insects, do not introduce harmful substances into the internal environment of buildings and require minimal or no maintenance over the full life of the building. Given the nature of the product and its application, No impacts are associated with the use stage (B2–B7 are not declared) of the lifetime of the building. However, from the production stage through to construction stage and during the lifetime of the building aggregate blocks will readily carbonate absorbing atmospheric carbon dioxide (B1).
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The end-of-life scenarios declared in this EPD are based on current UK waste management practice and are representative of the most likely scenario alternatives for concrete masonry blocks at end of life in the United Kingdom.

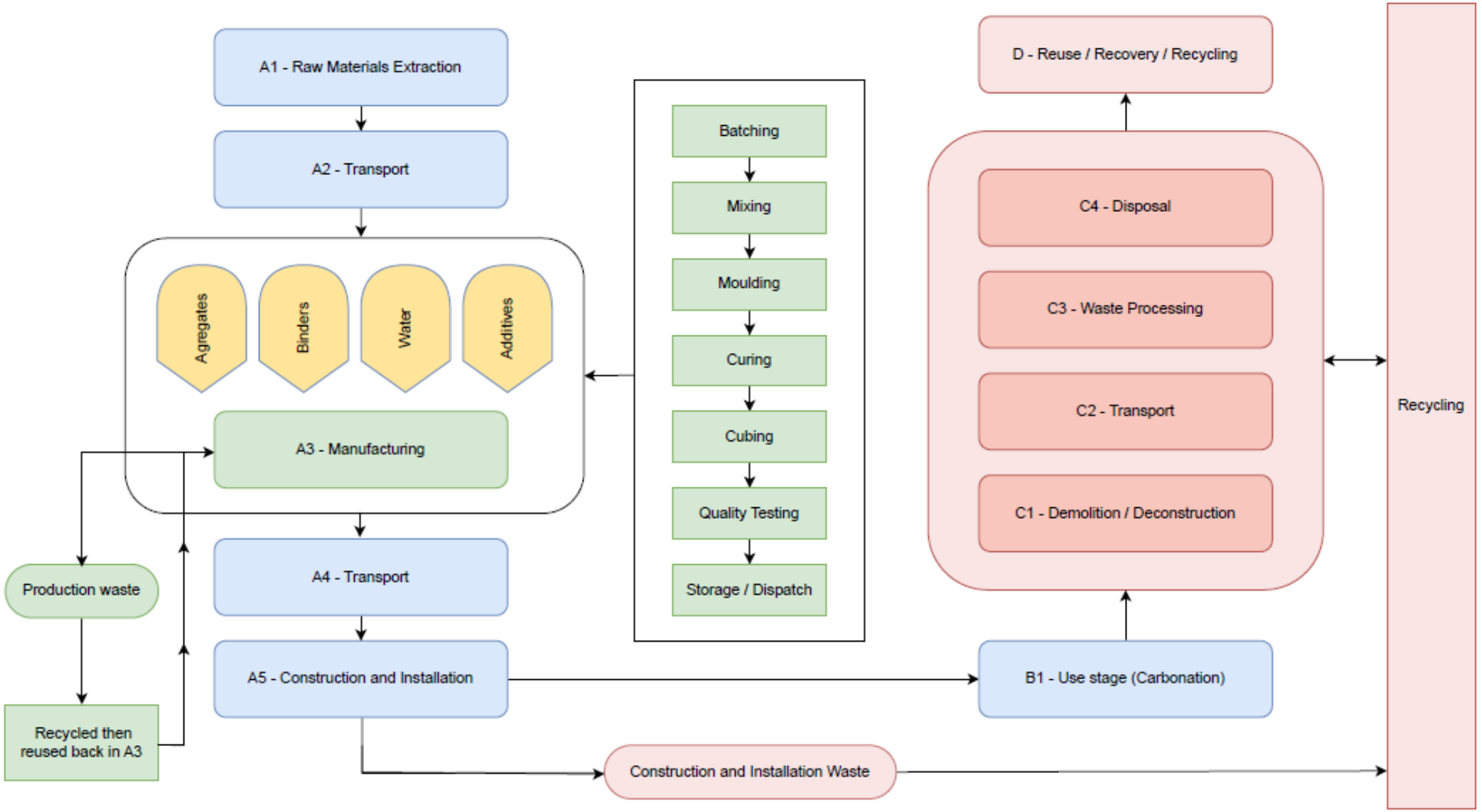
C1	At the end-of-life, in the demolition phase 100% of the waste is assumed to be collected as separate construction waste. The demolition process consumes energy in the form of diesel fuel used by building machines. Energy consumption of a demolition process is on the average 10 kWh/m2 (Bozdağ, Ö & Seçer, M. 2007). Based on a Level(s) project, an average mass of a reinforced concrete building is about 1000 kg/m2. Therefore, energy consumption demolition is assumed to be 10 kWh/1000 kg = 0,01 kWh/kg. The source of energy is diesel fuel used by work machines.
C2	Demolished concrete block waste is transported by lorry (>32 metric ton) within the United Kingdom to the nearest construction waste treatment facility, assumed at a distance of 25 km from the project site. Reference: UK landfill site map (lovejunk.com/blog/trash-talk/uk-landfill-site-map).
C3	Waste Processing: The waste treatment plant is located in the United Kingdom. It is assumed that 100% of demolished concrete blocks are transported to a waste treatment plant where they are crushed and separated. 80% of concrete waste is sent for recycling as secondary aggregate, achieving end-of-waste status as recycled material (Betoniteollisuus ry, 2020). Process losses at the waste treatment plant are assumed to be negligible.
C4	The remaining 20% of concrete waste that cannot be recycled is sent to an inert material landfill within the United Kingdom.
Module D	Reuse, Recovery and Recycling Potential: 80% of concrete waste processed for recycling is converted into secondary raw material (recycled aggregate), which substitutes virgin primary gravel aggregate. The net benefit declared in Module D reflects the avoided production of primary gravel aggregate. These scenarios are currently in use in the UK construction industry and are representative of the most likely end-of-life pathway for concrete masonry blocks.

Concrete block recycling benefit: The 80% of demolished concrete 88 kg + 6.16 kg (80% mortar) - 2.918 kg (Secondary material already used in the mix) that is processed into recycled aggregate substitutes primary virgin gravel aggregate production. The substitution is based on Ecoinvent background data for gravel production in the United Kingdom.

Packaging recycling benefit: Polyethylene packaging waste from installation (A5) that is sent for recycling (0.023 kg per declared unit) generates a recycling benefit by substituting primary polyethylene production. Packaging waste sent to municipal incineration (0.023 kg) generates exported energy benefits — Thermal: 0.19 MJ and Electricity: 0.14 MJ — substituting average UK grid electricity and heat production.

Exclusions from Module D: No benefits are declared for the 20% of concrete sent to inert landfill (C4), as no substitution potential is assumed for landfilled material. No energy recovery benefits are declared from concrete demolition waste itself. No loads or benefits from co-product allocation flows have been included 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.

All industrial processes from raw material acquisition and pre-processing, production, product distribution and installation, and end-of-life management are included. For easier modelling and because of lack of accuracy in available modelling resources many constituents under 0,1% of product mass are excluded. These include some concrete admixtures which are all present in the product only in very small amounts and have no serious impact on the emissions of the product. Further, water used for cleaning and maintenance of the equipment, transportation and waste streams of the packaging materials used for delivering the raw materials to the factory are omitted since the quantified mass contribution is less than 0.1%.

The production of capital equipment, construction activities, and infrastructure, 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	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

Modules A2: Vehicle capacity utilization volume factor is assumed to be 1, which means full load. It may vary but as the role of transportation emission in total results is small and so the variety in load is assumed to be negligible. Empty returns are conservatively considered with average loading factors in the ecoinvent background data
Module A4: Transportation doesn't cause losses as products are packaged properly.
Module A5: Installation energy is included to account for product installation at site. Packaging materials are recycled/incinerated for energy recovery. Installation includes the mortar required (7% per m2), packaging waste generated, and installation loss of 3%, based on a current industry study by MPA, CBA and APA
Module C1: Consumed energy for demolition process is assumed as 0.01 kWh/kg.
▪ Module C2: Transportation distance to the closest disposal area is estimated as 25 km and the transportation method is assumed as lorry which is the most common. https://www.lovejunk.com/blog/trash-talk/uk-landfill-site-map/
Modules C3, C4: 80% of concrete is sent for recycling while the remaining materials is assumed to be landfilled.
Module D: Recycling benefits from replacing the primary gravel.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

There is no average result considered in this study since this EPD refers to one specific product produced in one production plant.

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 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'.

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	1.59E+01	7.88E-01	1.38E+00	1.81E+01	1.30E+00	2.65E+00	-2.07E+00	ND	ND	ND	ND	ND	ND	4.24E-01	5.53E-01	3.87E-01	1.47E-01	-1.00E+00
GWP – fossil	kg CO_2e	1.59E+01	7.87E-01	1.17E+00	1.79E+01	1.30E+00	2.63E+00	-2.07E+00	ND	ND	ND	ND	ND	ND	4.24E-01	5.53E-01	3.87E-01	1.47E-01	-1.00E+00
GWP – biogenic	kg CO_2e	-8.34E-03	2.55E-04	2.07E-01	1.99E-01	7.21E-04	2.37E-02	0.00E+00	ND	ND	ND	ND	ND	ND	4.33E-05	1.10E-04	9.70E-06	-3.94E-05	-3.10E-03
GWP – LULUC	kg CO_2e	3.54E-03	5.32E-04	5.24E-04	4.60E-03	1.13E-03	1.17E-03	0.00E+00	ND	ND	ND	ND	ND	ND	4.35E-05	1.97E-04	4.38E-05	8.40E-05	-1.02E-03
Ozone depletion pot.	kg CFC_{-11}e	1.30E-06	1.22E-08	1.83E-07	1.49E-06	1.68E-08	1.43E-07	0.00E+00	ND	ND	ND	ND	ND	ND	6.50E-09	1.09E-08	5.92E-09	4.25E-09	-1.02E-08
Acidification potential	mol H^+e	4.10E-02	1.12E-02	2.65E-03	5.48E-02	9.18E-03	1.02E-02	0.00E+00	ND	ND	ND	ND	ND	ND	3.83E-03	1.73E-03	3.48E-03	1.04E-03	-6.03E-03
EP-freshwater[2)]	kg Pe	5.33E-04	6.68E-05	1.01E-04	7.01E-04	1.97E-04	4.72E-05	0.00E+00	ND	ND	ND	ND	ND	ND	1.22E-05	3.69E-05	1.25E-05	1.21E-05	-3.62E-04
EP-marine	kg Ne	6.88E-03	2.87E-03	8.05E-04	1.05E-02	3.49E-03	2.51E-03	0.00E+00	ND	ND	ND	ND	ND	ND	1.78E-03	5.84E-04	1.61E-03	3.97E-04	-1.41E-03
EP-terrestrial	mol Ne	1.19E-01	3.17E-02	8.45E-03	1.59E-01	3.80E-02	2.96E-02	0.00E+00	ND	ND	ND	ND	ND	ND	1.95E-02	6.35E-03	1.77E-02	4.34E-03	-1.68E-02
POCP ("smog")[3)]	kg NMVOCe	3.25E-02	9.44E-03	3.87E-03	4.58E-02	1.16E-02	8.11E-03	0.00E+00	ND	ND	ND	ND	ND	ND	5.80E-03	2.71E-03	5.27E-03	1.55E-03	-4.87E-03
ADP-minerals & metals[4)]	kg Sbe	1.67E-05	1.63E-06	2.53E-06	2.09E-05	3.46E-06	1.40E-04	0.00E+00	ND	ND	ND	ND	ND	ND	1.52E-07	1.80E-06	1.42E-07	2.33E-07	-5.81E-06
ADP-fossil resources	MJ	1.70E+02	1.04E+01	1.95E+01	2.00E+02	1.73E+01	2.10E+01	0.00E+00	ND	ND	ND	ND	ND	ND	5.55E+00	7.77E+00	5.07E+00	3.61E+00	-1.39E+01
Water use[5)]	m^3e depr.	1.19E+00	6.10E-02	2.01E-01	1.45E+00	1.58E-01	3.69E-01	0.00E+00	ND	ND	ND	ND	ND	ND	1.39E-02	3.82E-02	1.35E-02	2.01E-02	-1.42E+00

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	1.11E-07	6.15E-08	3.83E-08	2.11E-07	1.61E-07	1.23E-07	0.00E+00	ND	ND	ND	ND	ND	ND	1.09E-07	4.39E-08	7.53E-07	2.37E-08	-9.01E-08
Ionizing radiation[6]	kBq U235e	1.12E-01	1.45E-02	2.85E-02	1.55E-01	4.10E-02	6.56E-02	0.00E+00	ND	ND	ND	ND	ND	ND	2.46E-03	9.79E-03	3.19E-03	2.26E-03	-1.13E-01
Ecotoxicity (freshwater)	CTUe	2.49E+01	1.33E+00	3.45E+00	2.97E+01	3.29E+00	2.66E+01	0.00E+00	ND	ND	ND	ND	ND	ND	3.06E-01	1.02E+00	3.16E-01	4.40E-01	-2.56E+01
Human toxicity, cancer	CTUh	3.13E-10	1.67E-10	1.67E-10	6.48E-10	2.92E-10	4.92E-10	0.00E+00	ND	ND	ND	ND	ND	ND	4.36E-11	9.41E-11	4.01E-11	2.71E-11	-2.71E-10
Human tox. non-cancer	CTUh	8.60E-09	4.77E-09	3.93E-09	1.73E-08	9.53E-09	1.69E-08	0.00E+00	ND	ND	ND	ND	ND	ND	6.91E-10	4.88E-09	6.51E-10	6.21E-10	-8.38E-09
SQP[7]	-	9.30E+00	5.68E+00	1.77E+00	1.68E+01	1.29E+01	2.37E+01	0.00E+00	ND	ND	ND	ND	ND	ND	3.89E-01	4.75E+00	3.58E-01	7.10E+00	-1.06E+01

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	4.73E+00	2.28E-01	1.40E+00	6.35E+00	6.70E-01	1.22E+00	0.00E+00	ND	ND	ND	ND	ND	ND	3.51E-02	1.33E-01	3.96E-02	3.47E-02	-1.34E+00
Renew. PER as material	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renew. PER	MJ	4.73E+00	2.28E-01	1.40E+00	6.35E+00	6.70E-01	1.22E+00	0.00E+00	ND	ND	ND	ND	ND	ND	3.51E-02	1.33E-01	3.96E-02	3.47E-02	-1.34E+00
Non-re. PER as energy	MJ	1.72E+02	1.04E+01	1.74E+01	2.00E+02	1.73E+01	1.86E+01	0.00E+00	ND	ND	ND	ND	ND	ND	5.55E+00	7.77E+00	5.07E+00	3.61E+00	-1.39E+01
Non-re. PER as material	MJ	1.17E-01	0.00E+00	2.06E+00	2.18E+00	0.00E+00	-2.06E+00	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	-9.39E-02	-2.35E-02	9.30E-01
Total use of non-re. PER	MJ	1.72E+02	1.04E+01	1.95E+01	2.02E+02	1.73E+01	1.66E+01	0.00E+00	ND	ND	ND	ND	ND	ND	5.55E+00	7.77E+00	4.98E+00	3.58E+00	-1.30E+01
Secondary materials	kg	3.05E+00	7.55E-03	4.44E-03	3.06E+00	1.88E-02	9.31E-02	0.00E+00	ND	ND	ND	ND	ND	ND	2.31E-03	3.55E-03	2.11E-03	9.06E-04	1.01E-02
Renew. secondary fuels	MJ	2.40E-04	3.82E-05	1.76E-03	2.03E-03	8.93E-05	7.16E-05	0.00E+00	ND	ND	ND	ND	ND	ND	6.03E-06	4.48E-05	5.49E-06	1.88E-05	-9.17E-05
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	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	3.02E-02	1.57E-03	4.92E-03	3.67E-02	4.05E-03	4.44E-02	0.00E+00	ND	ND	ND	ND	ND	ND	3.67E-04	1.05E-03	3.54E-04	3.75E-03	-3.31E-02

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	5.10E-01	2.44E-02	2.55E-02	5.60E-01	6.64E-02	7.13E-02	0.00E+00	ND	ND	ND	ND	ND	ND	6.18E-03	1.12E-02	5.70E-03	3.99E-03	-9.42E-02
Non-hazardous waste	kg	5.37E+00	4.09E-01	2.75E+00	8.53E+00	1.15E+00	2.09E+00	0.00E+00	ND	ND	ND	ND	ND	ND	8.42E-02	2.36E-01	8.32E-02	9.13E-02	-2.37E+00
Radioactive waste	kg	2.09E-04	3.55E-06	7.07E-06	2.20E-04	9.98E-06	5.95E-05	0.00E+00	ND	ND	ND	ND	ND	ND	6.03E-07	2.43E-06	7.94E-07	5.51E-07	-2.78E-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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	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	8.78E-04	0.00E+00	0.00E+00	8.78E-04	0.00E+00	2.30E-02	0.00E+00	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	9.42E+01	0.00E+00	0.00E+00
Materials for energy rec	kg	1.40E-03	0.00E+00	0.00E+00	1.40E-03	0.00E+00	4.19E-05	0.00E+00	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	3.30E-01	0.00E+00	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	1.40E-01	0.00E+00	ND	ND	ND	ND	ND	ND	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	1.90E-01	0.00E+00	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	1.54E+01	7.83E-01	1.17E+00	1.73E+01	1.30E+00	2.60E+00	-2.07E+00	ND	ND	ND	ND	ND	ND	4.22E-01	5.49E-01	3.85E-01	1.46E-01	-9.96E-01
Ozone depletion Pot.	kg CFC_{-11}e	1.04E-06	9.70E-09	1.28E-07	1.17E-06	1.34E-08	1.14E-07	0.00E+00	ND	ND	ND	ND	ND	ND	5.15E-09	8.66E-09	4.69E-09	3.37E-09	-8.58E-09
Acidification	kg SO_2e	3.29E-02	8.87E-03	2.06E-03	4.38E-02	6.80E-03	7.87E-03	0.00E+00	ND	ND	ND	ND	ND	ND	2.69E-03	1.32E-03	2.45E-03	7.71E-04	-4.71E-03
Eutrophication	kg PO_4^3e	9.89E-03	1.11E-03	2.58E-03	1.36E-02	1.45E-03	2.16E-03	0.00E+00	ND	ND	ND	ND	ND	ND	6.29E-04	3.35E-04	5.72E-04	2.46E-04	-9.84E-04
POCP (“smog”)	kg C_2H_4e	1.99E-03	4.95E-04	2.93E-04	2.78E-03	5.20E-04	3.64E-04	0.00E+00	ND	ND	ND	ND	ND	ND	2.02E-04	1.25E-04	1.84E-04	7.29E-05	-4.11E-04
ADP-elements	kg Sbe	2.11E-05	1.60E-06	2.45E-06	2.51E-05	3.38E-06	1.41E-04	0.00E+00	ND	ND	ND	ND	ND	ND	1.48E-07	1.76E-06	1.38E-07	2.28E-07	-5.73E-06
ADP-fossil	MJ	1.75E+02	1.01E+01	1.90E+01	2.04E+02	1.66E+01	2.10E+01	0.00E+00	ND	ND	ND	ND	ND	ND	5.51E+00	7.61E+00	5.02E+00	3.57E+00	-1.21E+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	1.59E+01	7.87E-01	1.17E+00	1.79E+01	1.30E+00	2.63E+00	-2.07E+00	ND	ND	ND	ND	ND	ND	4.24E-01	5.53E-01	3.87E-01	1.47E-01	-1.00E+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.

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Heat production, natural gas, at boiler fan burner non-modulating <100kW, Albania, Ecoinvent, 0.0801 kgCO2e/MJ
2. Diesel, burned in building machine, World, Ecoinvent, 0.10 kgCO2e/MJ
3. Electricity production, hydro, pumped storage, United Kingdom, Ecoinvent, 0.48 kgCO2e/kWh
4. Heat and power co-generation, biogas, gas engine, United Kingdom, Ecoinvent, 0.81 kgCO2e/kWh
5. Heat and power co-generation, biogas, gas engine, United Kingdom, Ecoinvent, 0.81 kgCO2e/kWh
6. Electricity production, wind, 1-3MW turbine, offshore, United Kingdom, Ecoinvent, 0.0165 kgCO2e/kWh
7. Electricity production, wind, 1-3MW turbine, onshore, United Kingdom, Ecoinvent, 0.0141 kgCO2e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight train, 161.5 km
2. Market for transport, freight, lorry >32 metric ton, EURO6, 32.0 km

Transport scenario documentation A4

Scenario parameter	Value
Capacity utilization (including empty return) %	100
Bulk density of transported products	1.10E+03
Volume capacity utilization factor	1

Installation scenario documentation - A5 (Installation resources)

1. Cement mortar, One Click LCA, 7.7 kg

Installation scenario documentation - A5 (Installation waste)

1. Treatment of waste concrete, not reinforced, collection for final disposal, Ecoinvent, 3.3 kg
2. Exported Energy: Thermal, Ecoinvent, 0.19 MJ
3. Exported Energy: Electricity, Ecoinvent, 0.14 MJ
4. Treatment of waste polyethylene, for recycling, unsorted, sorting, Ecoinvent, Materials for recycling, 0.023 kg
5. Treatment of waste polyethylene, municipal incineration, Ecoinvent, 0.021 kg
6. Treatment of waste polyethylene, sanitary landfill, Ecoinvent, 0.013 kg

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

1. Diesel, burned in building machine, Ecoinvent, 1.177 kWh
2. Treatment of waste concrete, not reinforced, recycling, Ecoinvent, Materials for recycling, 88.0 kg
3. Treatment of waste concrete, inert material landfill, Ecoinvent, 22.0 kg
4. Rock crushing, Ecoinvent, Materials for recycling, 6.16 kg
5. Treatment of waste concrete, inert material landfill, Ecoinvent, 1.54 kg

Scenario information	Value
Scenario assumptions e.g. transportation	C1: Demolition energy 0.01 kWh/kg diesel fuel (Bozdağ & Seçer, 2007). C2: Transport 25km by lorry >32t EURO6 to nearest UK waste treatment facility. C3: 80% concrete recycled as secondary aggregate, 20% to inert landfill (Betoniteollisuus ry, 2020). C4: Inert material landfill, United Kingdom

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 González Vázquez, as an authorized verifier acting for EPD Hub Limited
16.05.2026