



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Dukkaboard®

Dukkaboard Original-Panel



EPD HUB, HUB-6950

Published on 13.07.2026, last updated on 13.07.2026, valid until 12.07.2031

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

Dukkaboard®

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Dukkaboard®
Address	Trimline Group Ltd, Teardrop Centre, Swanley, London BR8 8TS
Contact details	info@dukkaboard.com
Website	https://dukkaboard.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	Akos Brandecker, Living Building Consultancy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Afzal khan Peerukhan as an authorized verifier for EPD Hub

PRODUCT

Product name	Dukkaboard Original-Panel
Additional labels	-
Product reference	-
Place(s) of raw material origin	UK, Europe
Place of production	United Kingdom
Place(s) of installation and use	UK, Europe
Period for data	2024 calendar year
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 (%)	74.6

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.

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 sqm of board with a thickness of 12.5mm
Declared unit mass	3.198 kg
Mass of packaging	0.614 kg
GWP-fossil, A1-A3 (kgCO₂e)	2.83
GWP-total, A1-A3 (kgCO₂e)	2.63
Secondary material, inputs (%)	4.53
Total energy use, A1-A3 (kWh)	12.6
Net freshwater use, A1-A3 (m³)	0.12

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Dukkaboard® is a UK-based manufacturer and supplier of specialist construction materials, serving the building and interior fit-out sectors. The company's portfolio includes a wide range of products for tiling, waterproofing, insulation, and finishing applications, distributed across domestic and international markets.

Dukkaboard® focuses on the development and supply of practical, high-performance solutions designed to support modern construction methods. The company works closely with contractors, distributors, and design professionals to ensure its products meet relevant technical, regulatory, and performance requirements.

Operations are supported by a certified integrated management system, with Trimline Group Ltd holding ISO 9001 (Quality Management), ISO 14001 (Environmental Management), and ISO 45001 (Occupational Health and Safety) certifications. These certifications demonstrate the company's commitment to consistent product quality, environmental stewardship, and the health and safety of its workforce.

Dukkaboard® places importance on continuous improvement across its activities, including manufacturing efficiency, responsible sourcing, and waste minimisation. The company also supports transparency and sustainability within the construction industry through the provision of technical documentation and environmental data, enabling informed product selection and specification.

PRODUCT DESCRIPTION

Dukkaboard OG-Panel is a high-performance construction board developed and supplied by Dukkaboard® for use as a tile backer and substrate in both internal and external applications. The product consists of an extruded polystyrene (XPS) core, which is factory-coated on both sides with a polymer-modified cementitious layer reinforced with alkali-resistant glass fibre mesh. This engineered composite structure provides a robust combination of strength, durability, and moisture resistance.

The board has been specifically designed for use in moisture-critical environments such as bathrooms, wet rooms, kitchens, and spa facilities. Its closed-cell XPS core ensures very low water absorption, while the reinforced coating system provides excellent adhesion for finishes and contributes to long-term performance in demanding conditions.

Dukkaboard OG-Panel is manufactured in a range of thicknesses and dimensions to support a variety of applications, including wall lining, floor substrates, partitioning, and bespoke interior features such as curved or shaped structures. The lightweight nature of the board facilitates ease of handling, cutting, and installation, improving on-site efficiency compared with traditional cement-based alternatives.

The insulating properties of the XPS core contribute to enhanced thermal performance within building assemblies. In addition, the product is designed to be compatible with a broad range of surface finishes, including ceramic tiles, natural stone, and decorative coatings, making it a versatile solution within modern construction systems.

Dukkaboard OG-Panel is typically installed as part of a complete system, including proprietary adhesives, fixings, and waterproofing components, ensuring reliable and durable performance across its intended service life.

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

TECHNICAL DATA

Properties	Value
Compressive Strength (10% deformation) BSEN 826	300 kPa
Thermal Conductivity to BSEN 13164	0.031 W/mK
Water Absorption by Immersion EN12087	≤ 1.5%
Temperature Range	-50°C, + 75°C
Fire Performance EN 13501-1	Euroclass E
Sound Reduction to BS EN ISO 10140-3 test result based on 6mm board	(Δ/w) 19dB
Static loads fixed over concrete and structurally stable floors (based on a 1 m x 1 m tile fixed over the thermal construction board)	30 Tons per sqm

Dukkaboard® manufacture Original-Panel in multiple sizes and a range of panel thicknesses. The impact indicators for other product thicknesses are available in the scaling table in Appendix 1.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	84	UK
Fossil materials	16	UK, Europe
Bio-based materials	-	-

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	0.0256

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 sqm of board with a thickness of 12.5mm
Mass per declared unit	3.198 kg
Functional unit	1 sqm of board with a thickness of 12.5mm
Reference service life	-

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	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

Not declared = ND.

MANUFACTURING AND PACKAGING (A1-A3)

The EPD is based on a life cycle assessment (LCA) study using primary production data for the year 2024 from Trimline. The system boundary for modules A1–A3 includes raw material supply, transport to the manufacturing site, and manufacturing, including packaging.

The environmental impacts considered at the product stage include the production of raw materials, packaging materials, and ancillary materials. Energy consumption (electricity and fuels), operation of manufacturing equipment, and the treatment of waste generated during production are included. Material losses occurring during manufacturing, as well as electricity transmission losses, are also taken into account. Electricity consumption is modelled using the UK residual electricity mix.

The manufacturing process consists of cutting extruded polystyrene (XPS) insulation boards to the required dimensions, followed by the application of a polymer-modified cementitious coating to both faces. During this process, an alkali-resistant glass fibre mesh is embedded into the coating layer. The boards are then passed through a continuous in-line oven where curing takes place under controlled temperature conditions.

XPS waste generated during the cutting and trimming processes is collected and compacted using a baler before being sent for recycling into new XPS products. Other production waste streams, including off-cuts and packaging waste, are segregated and sent for recycling or energy recovery.

The XPS waste generated during production is considered a co-product. However, as the economic value of this secondary material is estimated to be less than 1% of the total product revenue, no allocation is applied and all environmental burdens are assigned to the main product in line with EN 15804.

The following assumptions were used in the modelling of the A1–A3 stages:

Transport assumptions for A1 materials: An average transport distance of 666 km for the XPS foam, 26 km for the cement and 1596 km for the glass fibre mesh was used in the calculations. All vehicles used were Euro 5 standard large lorries.

Production losses: Production losses were considered at 5% resulting from the slicing or XPS blocks and final trimming of the boards. 50% of these losses were sent for recycling and 50% for municipal incineration with energy recovery. Transportation for both has been accounted for with a distance of 701 km and 30 km respectively.

Energy sources: Electricity consumption in the factory and distribution centre was modelled using the UK residual electricity mix, in accordance with national residual mix disclosure conventions. Other energy sources included LPG gas used in building machinery and natural gas for heating purposes.

Packaging and ancillary materials: Packaging was modelled based on supplier data and included cardboard and film packaging, adhesive tapes and reused timber pallets. Transportation impact from suppliers to the manufacturing facility have been included. Ancillary materials include machine lubricants and small metal hand tools/ blades.

End of life and transportation assumptions for A3 manufacturing waste: Manufacturing plastic packaging waste was sent for incineration while any cement waste was modelled to be landfilled as inert material and cardboard materials sent for recycling. The associated transportation distances were 7.5 km and 30km from the main manufacturing facility and 21km from the distribution centre.

Waste arising from A3 Ancillary materials included small metal tools which were sent for recycling and lubricating oils which were modelled as leaving the system as hazardous mineral oils for incineration with energy recovery. The associated transportation distances were 30 km and 50 km respectively.

TRANSPORT AND INSTALLATION (A4-A5)

Module A4 includes the transportation of finished products from the manufacturing facility to the distribution centre and from there to the construction site. The associated environmental impacts arise from direct exhaust emissions from fuel combustion, as well as upstream impacts related to fuel production, distribution, and transport infrastructure.

Transport distances from the manufacturing site to distribution centres and subsequently to customer locations were estimated using sales volume-weighted averages. Where specific logistics data were not available, conservative assumptions were applied to ensure a representative assessment of transport impacts. The average transport distance from the manufacturing facility to the distribution centre was 376km and from there to customers was calculated as 167 km, using Euro 5 compliant heavy goods vehicles. No losses during transport were considered, as the products are securely packaged.

Module A5 includes impacts associated with installation at the construction site. These comprise the treatment of packaging waste and installation losses. Installation losses were assumed to be 5% of the installed product mass. Both packaging waste and installation losses were modelled as being treated by incineration with energy recovery, with an assumed average transport distance of 50 km.

Energy consumption during installation was included and modelled as electricity use of 0.2 kWh per sqm of installed product. This value represents a conservative estimate based on approximately 6 minutes of power tool operation with an average power rating of 2 kW. In addition, the use of auxiliary installation materials was considered, including 0.08 kg of galvanised steel screws per sqm of installed product.

Given the wide range of installation scenarios, the type and quantity of installation materials may vary depending on project-specific requirements. Detailed installation guidance is available in manufacturer documentation provided by Trimline Group.

PRODUCT END OF LIFE (C1-C4, D)

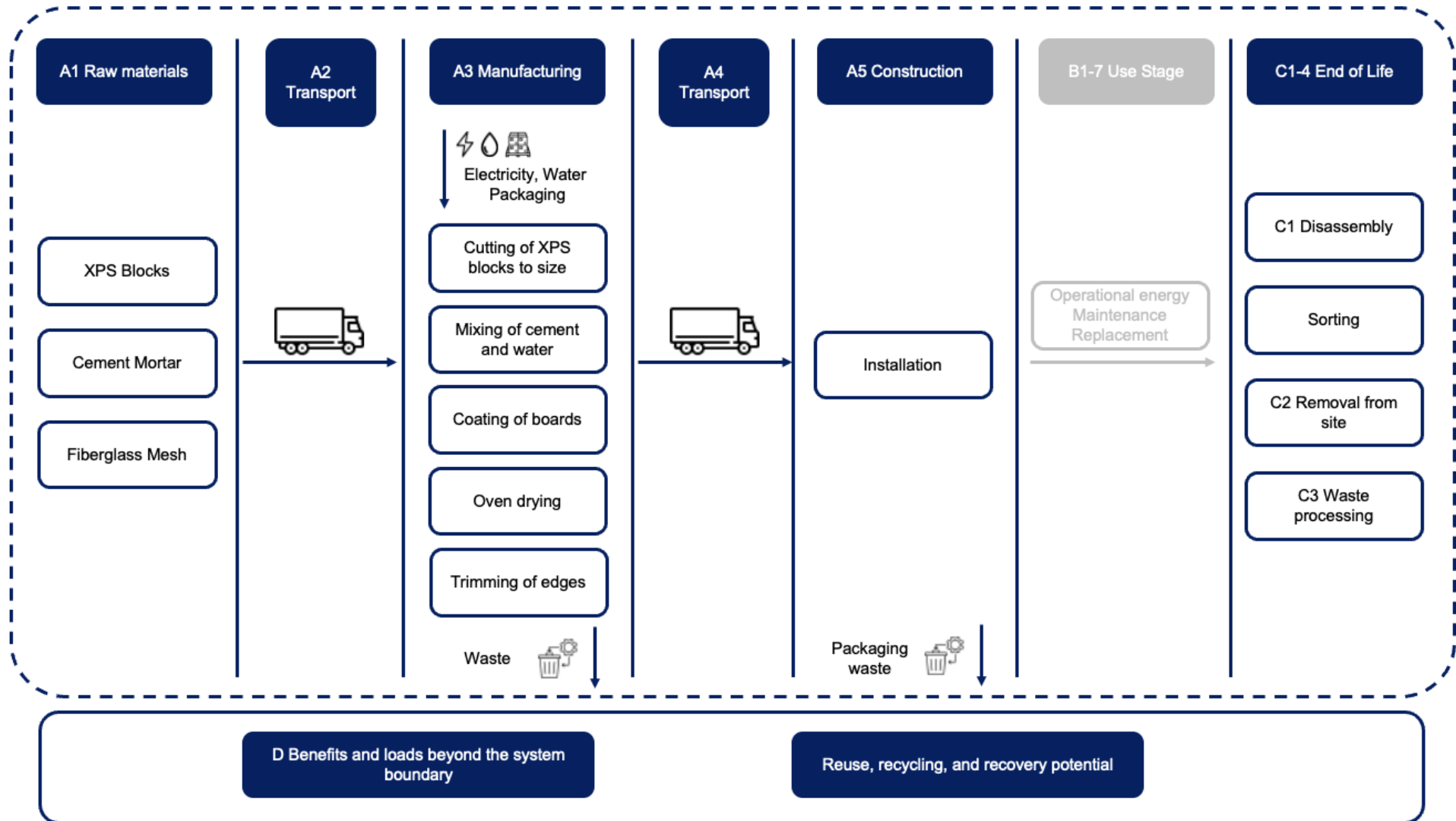
The end-of-life scenario is based on a conservative assumption in which all products are dismantled at the end of their service life and disposed of as inert waste in landfill. Module C1 (deconstruction/demolition) and C2 (transport) include impacts associated with dismantling activities and transport of the waste material to disposal. A transport distance of 50 km to landfill has been assumed, representing typical distances from construction sites in urban areas to regional waste treatment facilities.

Module C3 (waste processing) is not applicable, as no material recovery is assumed for the product in this conservative scenario. Module C4 (disposal) includes the impacts associated with landfilling of inert material.

Module D includes the potential benefits and loads beyond the system boundary associated with the end-of-life treatment of packaging materials. Recycling and energy recovery processes are considered for materials such as cardboard, wood, and plastics. The impacts associated with recycling processes (e.g. energy use and processing) are included as loads, while the benefits are accounted for through the avoided production of equivalent primary materials.

For packaging materials sent to incineration with energy recovery, the environmental benefits are modelled as avoided primary energy production. The corresponding environmental burdens associated with waste treatment and processing are included within the system.

LIFE CYCLE FLOW DIAGRAM



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in EN 15804:2012+A2:2019 and EPD HUB. The study does not exclude any hazardous materials or substances.

The study includes all major raw materials and energy consumption. All inputs and outputs of the unit processes for which data are available are included in the calculation. There is no neglected unit process of more than 1% of total mass and energy flows. The total neglected input and output flows do also not exceed 5% of energy usage or mass. The life cycle analysis covers all industrial processes from raw material acquisition to production, distribution, and end-of-life stages.

Major equipment manufacturing, construction and infrastructure activities, equipment maintenance and operation, 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

As multiple products are manufactured in the same facility, co-product allocation was used to divide the environmental impacts from manufacturing (A3 energy and waste). As the products differ significantly in value, their impacts were allocated based on the economic value of each co-product.

Within the same product group, allocation of environmental impacts was done based on product mass.

PRODUCT & MANUFACTURING SITES GROUPING

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

This EPD is product and factory specific.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.5. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

Other references used:

- EPD Hub Core Product Category Rules version 1.2, March 2025
- EPD Hub General Program Instructions version 1.3, March 2025
- EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
- EN 15942:2011 Sustainability of construction works - Environmental product declarations - Communication format business-to-business

- ISO 14040:2006 Environmental management - Life cycle assessment - Principles and framework
- ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines
- ISO 14025:2006 Environmental statements and programmes for products - Principles and general requirements
- EN 16783:2024 Thermal insulation products - Environmental Product Declarations (EPD) - Product Category Rules (PCR) complementary to EN 15804 for factory made and in-situ formed products

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 ₂ e	1.18E+00	1.87E-01	1.26E+00	2.63E+00	1.18E+00	7.01E-01	ND	ND	ND	ND	ND	ND	ND	1.09E-01	3.17E-02	0.00E+00	1.92E-02	-4.43E-01
GWP – fossil	kg CO ₂ e	1.30E+00	1.87E-01	1.35E+00	2.83E+00	1.18E+00	6.20E-01	ND	ND	ND	ND	ND	ND	ND	1.08E-01	3.17E-02	0.00E+00	1.92E-02	-2.12E-01
GWP – biogenic	kg CO ₂ e	-1.14E-01	3.95E-05	-8.94E-02	-2.04E-01	2.64E-04	8.09E-02	ND	ND	ND	ND	ND	ND	ND	1.12E-04	6.29E-06	0.00E+00	3.25E-05	-2.31E-01
GWP – LULUC	kg CO ₂ e	1.61E-03	7.37E-05	1.35E-03	3.03E-03	4.75E-04	3.32E-04	ND	ND	ND	ND	ND	ND	ND	1.27E-05	1.12E-05	0.00E+00	5.05E-06	-1.68E-04
Ozone depletion pot.	kg CFC-11e	4.25E-08	3.58E-09	3.73E-08	8.34E-08	2.32E-08	9.09E-09	ND	ND	ND	ND	ND	ND	ND	3.21E-09	6.31E-10	0.00E+00	6.86E-10	-1.49E-09
Acidification potential	mol H ⁺ e	3.46E-03	5.65E-04	3.74E-03	7.76E-03	3.45E-03	1.69E-03	ND	ND	ND	ND	ND	ND	ND	3.01E-04	9.91E-05	0.00E+00	1.33E-04	-1.07E-03
EP-freshwater ²⁾	kg Pe	4.21E-05	1.42E-05	4.60E-04	5.16E-04	9.34E-05	7.63E-05	ND	ND	ND	ND	ND	ND	ND	3.81E-05	2.10E-06	0.00E+00	1.90E-06	-1.13E-04
EP-marine	kg Ne	1.02E-03	1.82E-04	9.74E-04	2.18E-03	1.09E-03	5.46E-04	ND	ND	ND	ND	ND	ND	ND	7.17E-05	3.34E-05	0.00E+00	5.51E-05	-2.08E-04
EP-terrestrial	mol Ne	1.11E-02	1.97E-03	9.41E-03	2.25E-02	1.18E-02	4.82E-03	ND	ND	ND	ND	ND	ND	ND	7.11E-04	3.63E-04	0.00E+00	6.03E-04	-2.20E-03
POCP (“smog”) ³⁾	kg NMVOCe	5.92E-03	8.56E-04	3.25E-03	1.00E-02	5.24E-03	1.72E-03	ND	ND	ND	ND	ND	ND	ND	2.10E-04	1.55E-04	0.00E+00	2.26E-04	-7.14E-04
ADP-minerals & metals ⁴⁾	kg Sbe	2.06E-06	7.49E-07	8.46E-06	1.13E-05	5.24E-06	7.97E-06	ND	ND	ND	ND	ND	ND	ND	8.32E-07	1.04E-07	0.00E+00	1.32E-07	-7.35E-06
ADP-fossil resources	MJ	2.94E+01	2.60E+00	2.45E+01	5.66E+01	1.64E+01	9.09E+00	ND	ND	ND	ND	ND	ND	ND	2.16E+00	4.45E-01	0.00E+00	4.84E-01	-2.54E+00
Water use ⁵⁾	m ³ e depr.	4.28E-01	1.41E-02	2.87E-01	7.29E-01	9.36E-02	7.81E-02	ND	ND	ND	ND	ND	ND	ND	1.76E-02	2.19E-03	0.00E+00	2.21E-02	-5.91E-02

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO₄e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, 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	1.08E-08	1.21E-08	2.33E-08	4.62E-08	6.79E-08	1.02E-08	ND	ND	ND	ND	ND	ND	ND	1.27E-09	2.49E-09	0.00E+00	3.21E-09	-1.28E-08
Ionizing radiation ⁶⁾	kBq 11235e	9.88E-02	4.25E-03	4.72E-01	5.75E-01	3.07E-02	8.27E-02	ND	ND	ND	ND	ND	ND	ND	5.12E-02	5.68E-04	0.00E+00	6.37E-04	-2.11E-02
Ecotoxicity (freshwater)	CTUe	1.91E+00	4.29E-01	2.96E+00	5.30E+00	2.92E+00	8.10E-01	ND	ND	ND	ND	ND	ND	ND	1.93E-01	5.85E-02	0.00E+00	4.83E-02	-3.89E+00
Human toxicity, cancer	CTUh	9.20E-11	3.35E-11	2.72E-10	3.97E-10	2.17E-10	7.00E-11	ND	ND	ND	ND	ND	ND	ND	1.76E-11	5.40E-12	0.00E+00	3.57E-12	-7.47E-11
Human tox. non-cancer	CTUh	2.57E-09	1.59E-09	1.10E-08	1.52E-08	9.92E-09	2.94E-09	ND	ND	ND	ND	ND	ND	ND	9.66E-10	2.80E-10	0.00E+00	1.59E-10	-2.79E-09
SQP ⁷⁾	-	5.90E-01	1.25E+00	1.93E+01	2.11E+01	6.86E+00	1.95E+00	ND	ND	ND	ND	ND	ND	ND	1.59E-01	2.65E-01	0.00E+00	9.89E-01	-8.40E-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	1.67E+00	5.62E-02	9.59E-01	2.68E+00	3.97E-01	-8.44E+00	ND	ND	ND	ND	ND	ND	ND	5.87E-02	7.70E-03	0.00E+00	1.34E-02	1.46E+00
Renew. PER as material	MJ	1.82E+00	0.00E+00	1.07E+00	2.89E+00	0.00E+00	-1.16E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	-1.73E+00	2.30E+00
Total use of renew. PER	MJ	3.49E+00	5.62E-02	2.03E+00	5.57E+00	3.97E-01	-9.60E+00	ND	ND	ND	ND	ND	ND	ND	5.87E-02	7.70E-03	0.00E+00	-1.72E+00	3.76E+00
Non-re. PER as energy	MJ	1.91E+01	2.60E+00	2.09E+01	4.25E+01	1.64E+01	8.38E+00	ND	ND	ND	ND	ND	ND	ND	2.16E+00	4.45E-01	0.00E+00	4.84E-01	-2.54E+00
Non-re. PER as material	MJ	1.05E+01	0.00E+00	-4.86E-01	9.99E+00	0.00E+00	-1.32E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	-9.98E+00	1.59E-01
Total use of non-re. PER	MJ	2.96E+01	2.60E+00	2.04E+01	5.25E+01	1.64E+01	8.36E+00	ND	ND	ND	ND	ND	ND	ND	2.16E+00	4.45E-01	0.00E+00	-9.49E+00	-2.38E+00
Secondary materials	kg	1.45E-01	1.33E-03	5.82E-01	7.28E-01	8.97E-03	5.09E-02	ND	ND	ND	ND	ND	ND	ND	2.34E-04	2.04E-04	0.00E+00	1.38E-04	7.51E-02
Renew. secondary fuels	MJ	2.01E-02	1.51E-05	1.92E-03	2.21E-02	9.69E-05	1.11E-03	ND	ND	ND	ND	ND	ND	ND	1.23E-06	2.57E-06	0.00E+00	3.97E-06	-3.54E-06
Non-ren. secondary fuels	MJ	3.02E-02	0.00E+00	0.00E+00	3.02E-02	0.00E+00	1.51E-03	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	1.07E-01	3.89E-04	1.37E-02	1.22E-01	2.59E-03	6.53E-03	ND	ND	ND	ND	ND	ND	ND	4.08E-04	5.99E-05	0.00E+00	5.43E-04	-1.16E-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	1.34E-02	4.03E-03	4.29E-01	4.47E-01	2.55E-02	5.39E-02	ND	ND	ND	ND	ND	ND	ND	2.78E-02	6.39E-04	0.00E+00	1.28E-03	-4.72E-02
Non-hazardous waste	kg	1.93E-01	9.24E-02	3.51E+00	3.80E+00	6.19E-01	1.91E+00	ND	ND	ND	ND	ND	ND	ND	1.97E-01	1.35E-02	0.00E+00	3.22E+00	-6.05E-01
Radioactive waste	kg	1.41E-03	1.06E-06	1.11E-04	1.52E-03	7.69E-06	1.58E-04	ND	ND	ND	ND	ND	ND	ND	1.16E-05	1.41E-07	0.00E+00	1.51E-07	-5.39E-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	6.44E-07	6.44E-07	0.00E+00	3.22E-08	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	4.14E-02	0.00E+00	5.85E-02	9.99E-02	0.00E+00	2.47E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	6.80E-02	0.00E+00
Materials for energy rec	kg	3.55E-05	0.00E+00	4.96E-02	4.97E-02	0.00E+00	5.66E-01	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	1.77E-03	0.00E+00	3.29E-03	5.06E-03	0.00E+00	9.37E-01	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	3.95E-01	ND	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	5.42E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+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 ₂ e	1.30E+00	1.87E-01	1.35E+00	2.83E+00	1.18E+00	6.20E-01	ND	ND	ND	ND	ND	ND	ND	1.08E-01	3.17E-02	0.00E+00	1.92E-02	-2.13E-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. Electricity, low voltage, residual mix, United Kingdom, Ecoinvent, 0.54 kgCO₂e/kWh
2. Electricity, low voltage, residual mix, United Kingdom, Ecoinvent, 0.54 kgCO₂e/kWh
3. Propane, burned in building machine, World, Ecoinvent, 0.0858 kgCO₂e/MJ
4. Propane, burned in building machine, World, Ecoinvent, 0.0858 kgCO₂e/MJ

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry 16-32 metric ton, EURO5, 376.0 km
2. Transport, freight, lorry 3.5-7.5 metric ton, EURO5, 166.8 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	100
Bulk density of transported products	322
Volume capacity utilization factor	1

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	Electricity, low voltage, residual mix, United Kingdom, Ecoinvent, 0.45 kgCO ₂ e/kWh
Water use (m ³)	None
Ancillary materials: type and mass (kg)	Galvanized steel screws, GaBi, 0.08 kg
Waste materials: type and mass (kg)	Paper packaging, EU Scenario, 0.1 kg Plastic packaging, EU Scenario, 0.36 kg Wood packaging, EU Scenario, 0.56 kg Treatment of inert waste, inert material landfill, Ecoinvent, 0.16 kg
Waste materials: output routes	All final packaging waste is assumed to leave the system in Module A5 with 83% of cardboard, 40% of plastic and 32% of wooden packaging was recycled and the remaining sent for incineration.
Direct emissions (kg)	None

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	100% of end-of-life mass
Collection process: Mixed waste (kg)	None
Recovery: re-use (kg)	0
Recovery: recycling (kg)	0.07
Recovery: energy recovery (kg)	0
Disposal (kg)	0
Scenario assumptions e.g. transportation (mode, km) & other	Landfill, 50km

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

Afzal khan Peerukhan as an authorized verifier for EPD Hub Limited 13.07.2026



APPENDIX 1 - SCALING TABLE A1-A3

A scaling table in an Environmental Product Declaration (EPD) presents adjusted environmental impact results for product variants (such as different sizes or thicknesses) derived from the reference product, enabling comparison while reflecting changes in material quantities and composition.

The environmental results presented in this non-linear scaling table are indicative and have been derived from individual life cycle assessment (LCA) models developed for each product thickness. The product is not homogeneous; therefore, environmental impacts do not scale linearly. For each thickness, all A1–A3 life cycle stage inputs were adjusted within the corresponding LCA model to reflect the differing material compositions and quantities. The results should be used for comparative and informational purposes only and do not replace a product-specific Environmental Product Declaration.

Thickness of product		4mm	6mm	10mm	12.5mm	20mm	30mm	40mm	50mm	60mm	70mm	80mm
Weight per 1m2		2.892	2.964	3.108	3.198	3.468	3.828	4.188	4.548	4.908	5.268	5.628
Impact Category		A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3	A1-A3
EN 15804+A2, EF 3.1	GWP – total	1.94E+00	2.03E+00	2.32E+00	2.63E+00	3.59E+00	5.66E+00	8.53E+00	1.22E+01	1.67E+01	2.19E+01	2.80E+01
	GWP – fossil	2.19E+00	2.29E+00	2.58E+00	2.83E+00	3.87E+00	5.96E+00	8.84E+00	1.25E+01	1.70E+01	2.23E+01	2.83E+01
	GWP – biogenic	-2.56E-01	-2.59E-01	-2.66E-01	-2.04E-01	-2.83E-01	-3.00E-01	-3.18E-01	-3.35E-01	-3.53E-01	-3.70E-01	-3.87E-01
	GWP – LULUC	2.74E-03	2.79E-03	2.92E-03	3.03E-03	3.43E-03	4.19E-03	5.20E-03	6.46E-03	7.97E-03	9.73E-03	1.17E-02