



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Fan Coil Unit
Diffusion Group



EPD HUB, HUB-7041

Published on 23.07.2026, last updated on 23.07.2026, valid until 22.07.2031

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

Diffusion

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Diffusion Group
Address	Fleming Way, CRAWLEY, West Sussex, RH10 9YX
Contact details	EPD@diffusion-group.com
Website	https://www.diffusion-group.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-B7, and modules C1-C4, D
EPD author	Neena Chandramathy, One Click LCA
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Yazan Badour 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	Fan Coil Unit
Additional labels	See Annex 1
Product reference	H, HL, HW & LL Range of Fan Coil Units
Place(s) of raw material origin	United Kingdom
Place of production	West Moseley, United Kingdom
Place(s) of installation and use	United Kingdom
Period for data	Calendar year 2025
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 (%)	1.11

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of fan coil unit, calculated using the FCU 235 model, which represents the midpoint and most common configuration within the product range.
Declared unit mass	1 kg
Mass of packaging	20 kg
GWP-fossil, A1-A3 (kgCO₂e)	11.4
GWP-total, A1-A3 (kgCO₂e)	10.8
Secondary material, inputs (%)	21.4
Total energy use, A1-A3 (kWh)	45.2
Net freshwater use, A1-A3 (m³)	1.16

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Diffusion Group is a UK-based designer and manufacturer of heating, ventilation, and air conditioning (HVAC) solutions, specializing in high-performance fan coil units and associated thermal comfort systems. Founded in 1960, the company develops both standard and bespoke products for commercial, residential, healthcare, hospitality, education, and infrastructure applications. With over 60 years of manufacturing experience, Diffusion Group designs and produces energy-efficient heating and cooling equipment in the United Kingdom, focusing on product performance, reliability, and operational efficiency. The company is committed to continuous product development, quality assurance, and reducing environmental impacts through efficient design, responsible sourcing, and sustainable manufacturing practices.

PRODUCT DESCRIPTION

A fan coil unit (FCU) is an HVAC component designed to deliver heating and cooling within a space. It uses a fan to circulate air across a heat exchanger coil, providing efficient temperature control, enhanced indoor comfort, and energy-efficient operation in residential, commercial, and hospitality applications. FCUs manufactured by Diffusion Group are engineered for quiet performance, easy maintenance, installation flexibility, and long-term reliability.

The total mass of one complete fan coil unit is 59.54 kg. The results of this EPD are declared per 1 kg of product; therefore, the environmental impact of one complete unit can be obtained by multiplying the declared results by 59.54.

Further information can be found at:
<https://www.diffusion-group.com/>

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	91	UK
Minerals	-	-
Fossil materials	9	UK
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	0.12

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of fan coil unit, calculated using the FCU 235 model, which represents the midpoint and most common configuration within the product range.
Mass per declared unit	1 kg
Functional unit	1 kg of fan coil unit, based on one fan coil unit (representative model: FCU 235, total mass 59.54 kg), providing heating and/or cooling by delivering a nominal airflow of 200 l/s at a specific fan power (SFP) of 0.14 W/(l/s), over a reference service life of 20 years. The use stage (module B6) accounts for a total operational electricity consumption of 34.26 kWh (1.71 kWh/year).
Reference service life	20 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	ND	ND	ND	ND	ND	x	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	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 reference product is one fan coil unit manufactured from metal components, plastics, and electronic parts. Raw materials and purchased components (A1) are transported to Diffusion Group's manufacturing facility in the United Kingdom (A2), where the main production processes (A3) include cutting, forming, assembly, and final preparation of the finished unit. The energy consumption reported in Module A3 is based on measured, facility-specific data. The total annual electricity and fuel consumption of the manufacturing facility — covering production equipment, space heating, and other site operations — was obtained from metered utility records for the calendar year 2025. This annual consumption was allocated to the reference product by dividing the facility's total yearly energy use by the average yearly production output, deriving the energy consumption per unit and subsequently per 1 kg declared unit. No generic or industry-average energy data were used for Module A3.

Electricity consumption is modelled using a location-based approach, applying the average grid electricity mix of the United Kingdom, the country of manufacture, to the full electricity consumption of the facility. No green or renewable electricity is claimed in this study, and no contractual instruments of any kind are applied.

Material losses generated during production are included in the study. Manufacturing processes are modelled separately for the main product parts, and process waste treatment is accounted for based on the allocated share of factory-level waste. After manufacture, the finished fan coil unit is packaged and transported to the installation site on a wooden pallet.

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.

Transportation distances have been modelled in accordance with the applicable PCR requirements. Product distribution to customers is based on a sales-volume-weighted average transport scenario. As approximately 95% of Diffusion Group's products are delivered within the Greater London area, an average transportation distance of 36 km by lorry from the manufacturing facility to the construction site has been assumed.

Vehicle capacity utilisation is assumed to be 100% for both transport vehicles and packaged products. Empty return journeys are excluded from the assessment, as it is assumed that transport operators utilise return trips for the delivery of other goods. No product losses during transportation are assumed due to appropriate packaging and handling procedures.

Transportation impacts include direct vehicle exhaust emissions, upstream impacts associated with fuel production and supply, and impacts related to transport infrastructure.

The installation stage (A5) includes the treatment of the wooden pallet used for product delivery. The release of biogenic carbon dioxide associated with the end-of-life treatment of the wooden pallet is accounted for in this stage. No product losses during installation are assumed, and no additional materials, energy, water, or other resources are required for the installation of the fan coil unit.

PRODUCT USE AND MAINTENANCE (B1-B7)

The reference service life of the product is 20 years. Module B6 covers the operational electricity consumption of the fan coil unit over this period; no

other use-stage processes are included, and no replacement of components or spare parts is assumed during the reference service life. Electricity consumption is calculated from the unit's declared performance — a nominal airflow of 200 l/s at a specific fan power of 0.14 W/(l/s), corresponding to a fan electrical input of 28 W — combined with an assumed intermittent operating profile of 10 hours per day, 365 days per year, representative of typical operating conditions in the United Kingdom, the reference market. This results in an annual consumption of 102.2 kWh and a total of approximately 2,040 kWh over the reference service life, equivalent to 34.26 kWh per 1 kg declared unit (1.71 kWh/kg/year). Electricity is modelled using the location-based average UK grid mix, consistent with Module A3. The operating profile represents a typical usage scenario; actual consumption will vary with building type, occupancy, and control strategy. Potential impacts to air, soil, and water during the use phase have not been assessed, as no significant emissions to these environmental compartments are expected under normal operating conditions.

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

PRODUCT END OF LIFE (C1-C4, D)

The end-of-life scenario has been modelled in accordance with the requirements of EN 50693:2019 for electrical and electronic products. The scenario reflects current waste treatment practices in England and incorporates material-specific treatment routes based on available waste management statistics and default values provided in Table G.4 of EN 50693:2019 where primary data was not available.

Energy and resource consumption associated with the demolition and removal of the fan coil unit (C1) are assumed to be negligible. Following deinstallation, the product is assumed to be separately collected and transported to waste treatment facilities (C2). Transportation distances are

assumed to be 50 km to landfill, 100 km to incineration facilities, and 250 km to recycling facilities, using lorry transport.

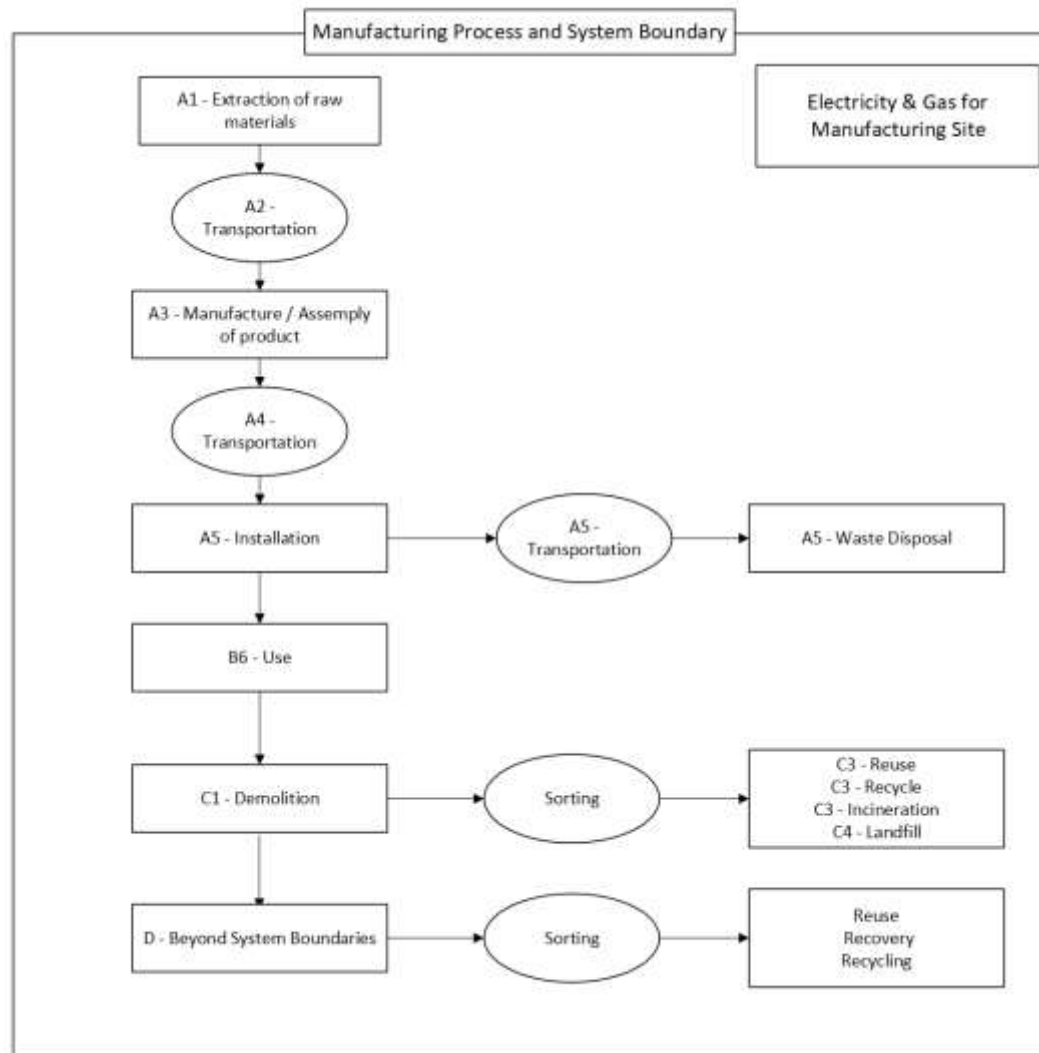
Waste processing (C3) includes depollution, dismantling, shredding, sorting, material separation, recycling preparation, energy recovery, and final disposal, as applicable to each material stream. The modelling of waste treatment processes is based on the default treatment scenarios provided in EN 50693:2019.

In line with construction and demolition waste management practices in England, metals, plastics, wood, glass, paint, and inert materials are assumed to be sorted and directed to the appropriate treatment routes. Module C3 accounts for the energy and resource inputs associated with sorting and processing materials destined for recycling or energy recovery.

Materials not recovered through recycling or energy recovery are modelled as disposed of in landfill or incineration (C4). For the representative fan coil unit, the end-of-life scenario assumes that 20% of steel, 40% of copper, 30% of aluminium, 20% of ABS plastic, and 100% of PCB support materials are landfilled.

Module D accounts for the potential benefits associated with the recovery of materials and energy beyond the system boundary. Recycled materials are credited for displacing the production of equivalent virgin materials, while energy recovered through incineration is assumed to substitute conventional electricity and heat generation. The resulting loads and benefits associated with recycling and energy recovery are reported in Module D in accordance with EN 15804+A2.

LIFE CYCLE FLOW DIAGRAM



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.

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VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging material	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	No allocation

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PRODUCT & MANUFACTURING SITES GROUPING

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

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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'.

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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	1.11E+01	2.16E-02	-3.32E-01	1.08E+01	5.34E-03	5.42E-01	ND	ND	ND	ND	ND	1.05E+01	ND	0.00E+00	3.77E-02	1.62E-01	1.59E-02	-1.80E+00
GWP – fossil	kg CO ₂ e	1.12E+01	2.16E-02	1.95E-01	1.14E+01	5.34E-03	1.14E-02	ND	ND	ND	ND	ND	9.91E+00	ND	0.00E+00	3.77E-02	1.62E-01	1.59E-02	-1.65E+00
GWP – biogenic	kg CO ₂ e	-4.61E-02	4.96E-06	-5.28E-01	-5.74E-01	1.23E-06	5.30E-01	ND	ND	ND	ND	ND	5.38E-01	ND	0.00E+00	1.09E-05	-1.18E-04	3.67E-06	-1.38E-01
GWP – LULUC	kg CO ₂ e	2.13E-02	9.61E-06	5.60E-04	2.19E-02	2.38E-06	1.75E-05	ND	ND	ND	ND	ND	1.31E-02	ND	0.00E+00	1.64E-05	2.08E-05	1.47E-06	-8.11E-03
Ozone depletion pot.	kg CFC-11e	1.83E-07	3.14E-10	6.78E-09	1.91E-07	7.76E-11	1.84E-10	ND	ND	ND	ND	ND	4.47E-07	ND	0.00E+00	5.18E-10	3.25E-10	5.59E-11	-1.24E-08
Acidification potential	mol H ⁺ e	5.78E-02	7.50E-05	7.35E-04	5.86E-02	1.86E-05	6.34E-05	ND	ND	ND	ND	ND	3.48E-02	ND	0.00E+00	1.28E-04	3.19E-04	1.66E-05	-1.22E-02
EP-freshwater ²⁾	kg Pe	9.74E-03	2.34E-06	3.93E-05	9.78E-03	5.79E-07	3.22E-06	ND	ND	ND	ND	ND	1.87E-03	ND	0.00E+00	3.95E-06	1.10E-05	2.47E-07	-4.58E-03
EP-marine	kg Ne	5.90E-02	2.48E-05	2.12E-04	5.92E-02	6.14E-06	6.66E-05	ND	ND	ND	ND	ND	7.35E-03	ND	0.00E+00	4.08E-05	2.03E-04	4.59E-04	-2.83E-03
EP-terrestrial	mol Ne	1.34E-01	2.68E-04	2.33E-03	1.37E-01	6.64E-05	2.59E-04	ND	ND	ND	ND	ND	8.15E-02	ND	0.00E+00	4.44E-04	1.21E-03	7.00E-05	-3.55E-02
POCP (“smog”) ³⁾	kg NMVOce	5.37E-02	1.10E-04	9.71E-04	5.48E-02	2.72E-05	8.51E-05	ND	ND	ND	ND	ND	2.46E-02	ND	0.00E+00	1.76E-04	3.16E-04	2.45E-05	-9.16E-03
ADP-minerals & metals ⁴⁾	kg Sbe	2.51E-04	6.17E-08	1.38E-06	2.52E-04	1.53E-08	3.10E-08	ND	ND	ND	ND	ND	1.50E-04	ND	0.00E+00	1.26E-07	1.10E-06	4.19E-09	-7.92E-05
ADP-fossil resources	MJ	1.44E+02	3.08E-01	3.74E+00	1.48E+02	7.62E-02	1.63E-01	ND	ND	ND	ND	ND	2.50E+02	ND	0.00E+00	5.23E-01	2.84E-01	4.89E-02	-1.85E+01
Water use ⁵⁾	m ³ e depr.	2.77E+00	1.80E-03	7.54E-02	2.84E+00	4.45E-04	5.74E-03	ND	ND	ND	ND	ND	2.62E+00	ND	0.00E+00	2.79E-03	1.45E-02	2.70E-03	-9.42E-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	7.67E-07	2.11E-09	1.05E-08	7.80E-07	5.23E-10	1.13E-09	ND	ND	ND	ND	ND	1.90E-07	ND	0.00E+00	2.95E-09	4.92E-09	3.31E-10	-1.58E-07
Ionizing radiation ⁶⁾	kBq 11235e	1.76E+00	2.58E-04	5.03E-02	1.81E+00	6.39E-05	4.17E-04	ND	ND	ND	ND	ND	7.96E+00	ND	0.00E+00	4.46E-04	1.85E-03	4.23E-05	-8.35E-02
Ecotoxicity (freshwater)	CTUe	1.10E+03	6.39E-02	4.11E+00	1.11E+03	1.58E-02	1.92E-01	ND	ND	ND	ND	ND	2.34E+02	ND	0.00E+00	5.73E-01	1.59E+00	1.62E+02	-3.86E+02
Human toxicity, cancer	CTUh	5.64E-09	3.39E-12	5.90E-10	6.23E-09	8.39E-13	5.48E-12	ND	ND	ND	ND	ND	2.78E-09	ND	0.00E+00	6.34E-12	4.06E-11	1.52E-12	-8.56E-10
Human tox. non-cancer	CTUh	1.07E-07	1.91E-10	1.82E-09	1.09E-07	4.74E-11	2.97E-10	ND	ND	ND	ND	ND	1.41E-07	ND	0.00E+00	3.25E-10	1.42E-09	1.23E-10	-1.98E-08
SQP ⁷⁾	-	7.29E+01	3.07E-01	4.62E+01	1.19E+02	7.60E-02	1.52E-01	ND	ND	ND	ND	ND	8.80E+01	ND	0.00E+00	3.13E-01	4.13E-01	9.72E-02	-7.86E+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	1.43E+01	4.28E-03	3.80E+00	1.81E+01	1.06E-03	-4.94E+00	ND	ND	ND	ND	ND	6.31E+01	ND	0.00E+00	7.41E-03	3.96E-02	6.82E-04	-2.90E+00
Renew. PER as material	MJ	0.00E+00	0.00E+00	5.28E+00	5.28E+00	0.00E+00	-5.28E+00	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E+00
Total use of renew. PER	MJ	1.43E+01	4.28E-03	9.08E+00	2.34E+01	1.06E-03	-1.02E+01	ND	ND	ND	ND	ND	6.31E+01	ND	0.00E+00	7.41E-03	3.96E-02	6.82E-04	-1.53E+00
Non-re. PER as energy	MJ	1.41E+02	3.08E-01	3.37E+00	1.45E+02	7.62E-02	1.63E-01	ND	ND	ND	ND	ND	2.50E+02	ND	0.00E+00	5.23E-01	-1.74E+00	-1.92E+00	-1.86E+01
Non-re. PER as material	MJ	7.25E-01	0.00E+00	3.34E-01	1.06E+00	0.00E+00	-3.48E-01	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	-4.27E-01	-2.84E-01	2.45E-01
Total use of non-re. PER	MJ	1.42E+02	3.08E-01	3.71E+00	1.46E+02	7.62E-02	-1.85E-01	ND	ND	ND	ND	ND	2.50E+02	ND	0.00E+00	5.23E-01	-2.17E+00	-2.20E+00	-1.83E+01
Secondary materials	kg	2.14E-01	1.29E-04	2.00E-02	2.34E-01	3.19E-05	1.07E-04	ND	ND	ND	ND	ND	4.22E-02	ND	0.00E+00	2.30E-04	2.95E-04	1.53E-05	6.46E-01
Renew. secondary fuels	MJ	7.92E-04	1.68E-06	1.78E-01	1.79E-01	4.16E-07	1.13E-06	ND	ND	ND	ND	ND	3.39E-04	ND	0.00E+00	2.98E-06	1.29E-05	3.25E-07	-2.05E-04
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	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m ³	1.15E+00	4.41E-05	1.61E-03	1.16E+00	1.09E-05	-4.30E-04	ND	ND	ND	ND	ND	6.00E-02	ND	0.00E+00	6.95E-05	2.96E-04	-2.24E-04	-1.95E-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	9.79E-01	1.97E-03	9.45E-03	9.91E-01	4.87E-04	1.06E-03	ND	ND	ND	ND	ND	4.10E-01	ND	0.00E+00	1.20E-03	3.97E-03	2.31E-04	-4.45E-01
Non-hazardous waste	kg	5.26E+01	3.89E-02	2.45E-01	5.29E+01	9.63E-03	4.52E-01	ND	ND	ND	ND	ND	9.83E+00	ND	0.00E+00	2.34E-02	1.22E-01	1.97E-01	-5.77E+00
Radioactive waste	kg	1.67E-03	6.17E-08	1.14E-05	1.68E-03	1.53E-08	1.04E-07	ND	ND	ND	ND	ND	1.74E-03	ND	0.00E+00	1.09E-07	4.74E-07	1.04E-08	-2.19E-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	ND	ND	ND	ND	ND	0.00E+00	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	1.07E-01	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	6.88E-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	0.00E+00	ND	ND	ND	ND	ND	0.00E+00	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	5.34E-01	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	6.43E-01	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	2.25E-01	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	2.88E-01	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	3.09E-01	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	3.55E-01	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 ₂ e	1.12E+01	2.15E-02	1.95E-01	1.14E+01	5.31E-03	1.87E-02	ND	ND	ND	ND	ND	9.92E+00	ND	0.00E+00	3.75E-02	1.62E-01	1.57E-02	-1.65E+00
Ozone depletion Pot.	kg CFC ₁₁ e	1.52E-07	2.50E-10	5.53E-09	1.58E-07	6.19E-11	1.48E-10	ND	ND	ND	ND	ND	3.66E-07	ND	0.00E+00	4.17E-10	2.78E-10	4.51E-11	-1.14E-08
Acidification	kg SO ₂ e	4.65E-02	5.72E-05	5.65E-04	4.71E-02	1.42E-05	4.71E-05	ND	ND	ND	ND	ND	2.80E-02	ND	0.00E+00	9.81E-05	2.41E-04	1.22E-05	-9.33E-03
Eutrophication	kg PO ₄ ³ e	1.21E-01	1.55E-05	4.50E-03	1.25E-01	3.84E-06	1.65E-05	ND	ND	ND	ND	ND	4.49E-03	ND	0.00E+00	2.47E-05	6.93E-05	1.64E-05	-2.63E-03
POCP (“smog”)	kg C ₂ H ₄ e	1.21E-02	4.98E-06	8.61E-05	1.22E-02	1.23E-06	5.35E-06	ND	ND	ND	ND	ND	1.99E-03	ND	0.00E+00	8.61E-06	1.55E-05	1.73E-06	-9.34E-04
ADP-elements	kg Sbe	2.47E-04	6.01E-08	1.35E-06	2.48E-04	1.49E-08	2.97E-08	ND	ND	ND	ND	ND	1.49E-04	ND	0.00E+00	1.23E-07	1.09E-06	3.89E-09	-7.88E-05

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-fossil	MJ	1.29E+04	3.04E-01	3.02E+00	1.29E+04	7.52E-02	1.56E-01	ND	ND	ND	ND	ND	1.43E+02	ND	0.00E+00	5.16E-01	2.52E-01	4.82E-02	-1.72E+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 ₂ e	1.12E+01	2.16E-02	1.96E-01	1.14E+01	5.34E-03	1.14E-02	ND	ND	ND	ND	ND	9.93E+00	ND	0.00E+00	3.77E-02	1.62E-01	1.59E-02	-1.66E+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. Market for electricity, low voltage, United Kingdom, Ecoinvent, 0.31 kgCO₂e/kWh
2. Heat production, natural gas, at boiler atm. low-NO_x condensing non-modulating <100kW, Albania, Ecoinvent, 0.0750 kgCO₂e/MJ

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry, >32 metric ton, diesel, EURO 5, 36.0 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	100
Bulk density of transported products	21
Volume capacity utilization factor	1

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	-
Water use (m ³)	-
Ancillary materials: type and mass (kg)	-
Waste materials: type and mass (kg)	0.34 kg of Wooden Pallet from packaging.
Waste materials: output routes	Wooden Pallet : 0.11 kg (32 %) Recycling, 0.1 kg (30%) Incineration with energy recovery, 0.13kg (38%) landfill.
Direct emissions (kg)	-

Use stages scenario documentation - B6-B7 Use of energy and use of water

Scenario information	Value
Type of energy, consumption (kWh)	Electricity 34.26kWh
Freshwater consumption (m3)	-
Performance characteristics, E.g. Power rating, efficiency, capacity	-

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	-
Collection process: Mixed waste (kg)	-
Recovery: re-use (kg)	0
Recovery: recycling (kg)	0.69
Recovery: energy recovery (kg)	0
Disposal (kg)	0
Scenario assumptions e.g. transportation (mode, km) & other	Landfill, 50km. Incineration, 100km. Recycling, 250km.

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

Yazan Badour as an authorized verifier for EPD Hub Limited 23.07.2026



ANNEX I: SCALING TABLE

Product Name	Mass (kg)
H26V	64.66
H170	59.8
H270	62.94
HL275	63.44
HW26	85.84
HW200	75.04
L22EC	52.49