



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

OVI

Integrated Doorsets

EPD HUB, HUB-7941

Published on 27.10.2026, last updated on 27.10.2026, valid until 26.10.2031

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.



GENERAL INFORMATION

MANUFACTURER

Manufacturer	Integrated Doorsets
Address	Integrated Doorset Solutions Millenium Business Park Concorde Way Mansfield NG19 7JZ
Contact details	Craig.Spademan@integrateddoorsets.com
Website	https://integrateddoorsets.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 EN 17213 Windows and doors
Sector	Manufactured 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	Gavin Jordan, BOM Systems Ltd
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Elena Antuña-Bernardo 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	OVI
Additional labels	OVI NR, OVI FD30, OVI FD60
Product reference	-
Place(s) of raw material origin	UK, Germany
Place of production	Mansfield, United Kingdom
Place(s) of installation and use	UK
Period for data	2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3 (%)	-5.89% / +4.68%
A1-A3 Specific data (%)	26.9

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m2 door and frame including glazing and hinges
Declared unit mass	43.30 kg
Mass of packaging	3.01 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	30.4
GWP-total, A1-A3 (kgCO ₂ e)	-40.8
Secondary material, inputs (%)	31.9
Total energy use, A1-A3 (kWh)	202
Net freshwater use, A1-A3 (m ³)	303

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Integrated Doorset Solutions Ltd (IDSL) is a UK manufacturer of internal timber doorsets for the construction industry. Based in Mansfield, Nottinghamshire, the company operates an ISO 9001 certified quality management system and is committed to maintaining consistent product quality, regulatory compliance and continual improvement.

PRODUCT DESCRIPTION

The declared product is the OVI internal timber doorset range, supplied as the OVI NR, FD 30 and FD60. The OVI FD 30 is representative product. The NR is a standard door with no declared fire rating, whereas the FD 30 and FD 60 has been independently tested as providing, respectively, 30 minutes and 60 minutes fire rating protection. A table is included in the grouping section of this EPD covering the 3 specific products.

The doorsets are intended for internal use within commercial, residential, and public buildings, including offices, riser cupboards, circulation spaces, and other areas requiring standard or enhanced fire resistance performance.

The doorset assembly comprises a timber door leaf with hardwood lippings to all edges, frame components, and associated hardware preparations. FD30 and FD60 variants incorporate core constructions designed to achieve 30-minute and 60-minute fire resistance classifications respectively. The product is manufactured for internal applications where durability, acoustic performance, and fire resistance may be required depending on project specification. Further information can be found at: <https://integrateddoorsets.com/products/>

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	1	EU, UK
Minerals	5-10	EU, UK
Fossil materials	<5	UK
Bio-based materials	85-90	EU, UK

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	14.81
Biogenic carbon content in packaging, kg C	0.88

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m2 door and frame including glazing and hinges
Mass per declared unit	43.30 kg
Functional unit	-
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	Recovery	Recycling
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse		

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 Ovi door manufacturing process takes place at a single production facility. The process begins with material selection and initial inspection, followed by the cross-cutting of stiles and rails to size. These components move to the core construction bench, where the internal structure of the door is assembled. The assembled core and surface laminate are pressed and glued using a press machine, and further trimmed with a beamsaw for precision. The doors then undergo calibration to ensure uniform thickness before entering an automated press for further consolidation. The next stage involves transfer to a clean room for CNC machining, where precise cut-outs and shaping are performed, and glazing and gaskets are inserted. After this, the doors are polished and finished, then sent to the bench for final detailing. Further CNC sizing and an automated edgebander are used to finalize dimensions and edge treatments. Finally, the doors are assembled, intumescent strips are added, and the finished product passes through inspection.

To fulfill the requirements of BS EN 17213, the following specific modeling assumptions are applied across stages A1–A3:

- a) Material Transport: Raw materials are transported to the manufacturing site by road via standard diesel freight vehicles, with a calculated average transport distance of 52 km.
- b) Production Losses: A 5% production cutting loss is applied and modeled for all primary timber and core manufacturing elements.
- c) Manufacturing Locations: All processing, manufacturing, and final assembly stages occur at a single localized production facility.
- d) Energy Profile: The manufacturing processes and facility operations are powered entirely by a 100% renewable energy electricity tariff.
- e) Packaging & Ancillaries: Finished doors are loaded onto a reusable

wooden pallet, secured with cardboard packaging and corner pads, and film-wrapped for distribution protection. No hazardous ancillary materials are utilized in the process.

- f) A3 Waste Assumptions: 100% of the wood waste generated during the 5% cutting loss process is diverted from landfill and recovered on-site, where it is utilized as fuel in an on-site biomass boiler for facility heating.
- g) Waste Transport: Because the biomass recovery boiler is located on-site, the transport distance for the A3 wood waste is 0 km.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

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.

The parameters and core assumptions applied during the distribution stage (Module A4) and installation stage (Module A5) are structured in compliance with EN 15804+A2 and BS EN 17213.

- a) Transport Distance and Method to Installation: Product distribution to the final construction/installation site is modeled using a calculated average road freight distance of 85 km. The transport mix consists of a combination of heavy-duty freight lorries (>32t) and smaller delivery vehicles. The capacity utilization volume factor is assumed to be 1 (full load) with empty return transits conservatively integrated into the life cycle profile through default Ecoinvent transport datasets. Data Source Justification: Distances are calculated and justified based on the manufacturer's internal weighted logistics and sales ledger data for the reference year.
- b) Material Loss During Construction: Product transport does not experience structural losses due to protective industrial packaging. No material losses or damages are considered during manual handling and on-

site positioning (0% product loss).

- c) Installation Materials Used (Cut-Off Rules): No major ancillary installation materials are declared. In accordance with the explicit c-PCR note in standard BS EN 17213, the environmental contributions from localized ancillary installation materials—such as small physical fixings, perimeter sealants, and minor joint insulation materials—are classified as negligible and are fully excluded from the system boundary under the standard 1% environmental cut-off criteria.
- d) Energy Consumption During Installation: Minor power consumption is modeled to account for the electrical tools required during doorset installation. A standard operational energy value of 0.05 kWh of electricity per doorset is assumed to cover the use of electrical hand drills and screwdrivers. Data Source Justification: Sourced from standard tool power ratings and standard installation time studies.
- e) Assumptions for A5 Packaging Waste Treatment: The environmental loads in Module A5 are driven by the processing of segregated product packaging waste. The following material-specific treatment scenarios and mass percentages are applied:
 - o Wooden Pallets (100%): Assumed to be chipped and directed for downstream energy recovery (use as secondary fuel).
 - o Cardboard Packaging (100%): Sorted at the construction source and directed to an external municipal paper recycling loop.
 - o Plastic Film & Corner Pads (100%): Disposed of via localized municipal waste incineration with municipal energy recovery.
 - o Data Source Justification: Modeled using standard European/UK national waste handling baselines and standard One Click LCA default end-of-life templates for building packaging waste.
- f) Transport Assumptions and Distances for A5 Waste: All localized packaging waste streams generated during installation are assumed to be collected and trucked to local municipal waste or recycling sorting hubs. A standard conservative transport distance of 50 km by a medium road freight lorry is applied. Data Source Justification: Modeled using standard Ecoinvent

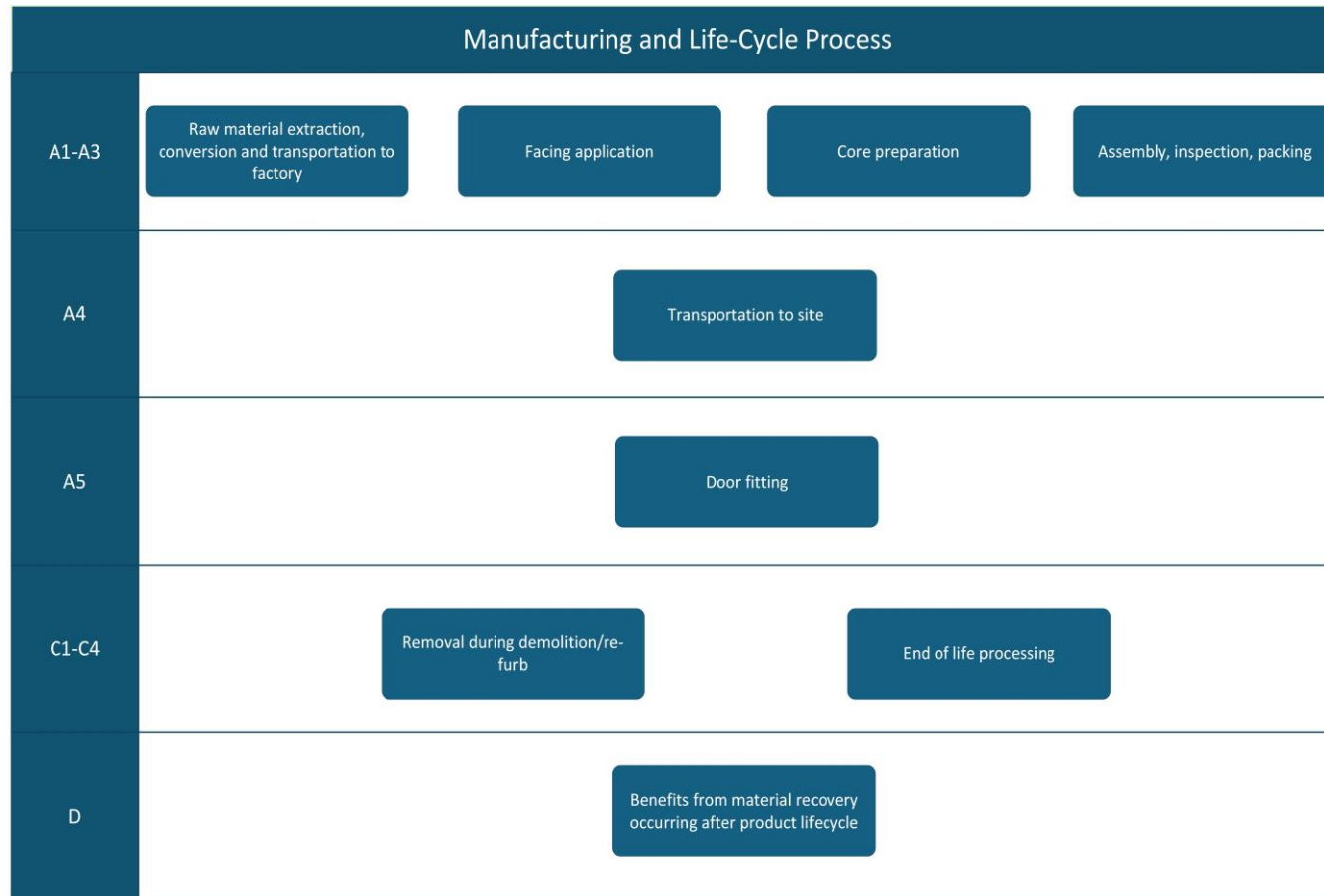
and One Click LCA software methodology baselines for regional waste logistics.

PRODUCT END OF LIFE (C1-C4, D)

At the end of its reference service life, the doorset is assumed to be removed from the building during demolition or refurbishment activities. The end-of-life assessment has been modelled using representative material-specific waste treatment datasets and recovery scenarios available within the One Click LCA database. Timber, glazing, steel hardware, plastics and coatings are modelled separately using appropriate European construction waste treatment processes. Waste processing, recycling, energy recovery and final disposal are included where applicable in accordance with EN 15804+A2. Module D reports the potential environmental benefits and loads associated with the recovery of secondary materials and energy beyond the system boundary.

End-of-life scenarios are based on representative European construction waste management practices. Material-specific datasets have been applied for timber, glazing, steel, plastics and coatings using the One Click LCA database. Transport to waste treatment facilities, waste processing, recycling, energy recovery and disposal have been modelled using the default or project-specific transport distances and treatment routes defined within the assessment.

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.

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.

Note on indicator consistency: A technical inconsistency between PENRT (Total use of non-renewable primary energy) and ADP-fossil (Abiotic depletion potential for fossil resources) results in modules A1-A3 has been identified. A contribution analysis shows that the discrepancy originates from the specific characterization factors in the background environmental profiles of the glazing. These inconsistencies are inherent to the third-party verified

EPDs and background databases used and cannot be adjusted by the practitioner.

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	Physical Properties
Ancillary materials	Not applicable
Manufacturing energy and waste	Physical Properties

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on a representative product
Variation in GWP-fossil for A1-A3, %	-5.89% / +4.68%

The OVI FD30 has been selected as the representative product for the product family comprising OVI NR, OVI FD30 and OVI FD60. The environmental performance of the product family has been assessed for Modules A1–A3. The variation in GWP-fossil between the representative product (OVI FD30) and the minimum (OVI NR) and maximum (OVI FD60) cases is -5.89% / +4.68%

respectively, demonstrating that the representative product is suitable for declaring the environmental performance of the product family. The OVI FD30 is the product that makes up most sales and is in the middle of the range in terms of weight.

Impact category	Unit	OVI FD30 (Representative Product)	OVI FD60	OVI NR
Product weight	kg/DU	43.30	48.86	42.98
GWP-total	kg CO ₂ e	-40.8	-50.71	-42.56
GWP-fossil	kg CO ₂ e	30.37	31.79	28.58
GWP-biogenic	kg CO ₂ e	-71.28	-82.6	-71.24
GWP-luluc	kg CO ₂ e	0.1	0.1	0.1

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and. 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'.

- 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 15941:2024 Sustainability of construction works - Data quality for environmental assessment of products and construction work - Selection and use of data
- EN 15942:2011 Sustainability of construction works - Environmental product declarations - Communication format business-to-business
- EN 17213:2020 Windows and doors - Environmental Product Declarations - Product category rules for windows and pedestrian doorsets
- ISO 14025:2006 Environmental statements and programmes for products - Principles and general requirements
- ISO 14040:2006 Environmental management - Life cycle assessment - Principles and framework
- ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines
- Paper and cardboard packaging waste treatment: EUROSTAT
- Wooden packaging waste treatment: EUROSTAT
- Plastic packaging waste treatment: EUROSTAT

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	-3.96E+01	5.06E-01	-1.67E+00	-4.08E+01	4.07E-01	3.20E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.80E-01	4.42E+01	1.47E+01	-1.04E+01
GWP – fossil	kg CO ₂ e	2.73E+01	5.06E-01	2.53E+00	3.04E+01	4.07E-01	3.14E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.79E-01	6.41E-01	9.22E-01	-5.14E+00
GWP – biogenic	kg CO ₂ e	-6.70E+01	8.92E-06	-4.26E+00	-7.13E+01	8.89E-05	2.89E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.44E-05	4.36E+01	1.37E+01	-5.24E+00
GWP – LULUC	kg CO ₂ e	4.56E-02	7.88E-04	5.32E-02	9.96E-02	1.59E-04	1.38E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.58E-04	2.77E-04	1.04E-03	-1.11E-02
Ozone depletion pot.	kg CFC-11e	1.21E-06	1.08E-08	8.33E-08	1.30E-06	8.49E-09	1.92E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.38E-08	4.93E-09	1.30E-08	-1.12E-07
Acidification potential	mol H ⁺ e	2.19E-01	1.21E-03	1.64E-02	2.36E-01	9.61E-04	5.91E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.26E-03	3.37E-03	2.43E-03	-3.57E-02
EP-freshwater ²⁾	kg Pe	6.24E-03	3.55E-05	1.10E-03	7.37E-03	2.84E-05	2.92E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.91E-05	2.04E-04	1.64E-04	-4.00E-03
EP-marine	kg Ne	7.73E-02	3.27E-04	5.97E-03	8.36E-02	2.52E-04	5.74E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.63E-04	1.59E-03	3.30E-03	-8.60E-03
EP-terrestrial	mol Ne	5.13E-01	3.49E-03	6.02E-02	5.77E-01	2.73E-03	2.21E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	8.30E-03	1.53E-02	7.43E-03	-9.13E-02
POCP (“smog”) ³⁾	kg NMVOCe	1.38E-01	2.09E-03	1.73E-02	1.57E-01	1.67E-03	7.53E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.53E-03	3.98E-03	3.09E-03	-2.51E-02
ADP-minerals & metals ⁴⁾	kg Sbe	1.10E-03	1.45E-06	1.63E-05	1.12E-03	1.16E-06	5.12E-07	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.94E-06	1.50E-06	2.21E-06	-3.39E-05
ADP-fossil resources	MJ	4.04E+02	7.59E+00	4.49E+01	4.57E+02	6.11E+00	1.59E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.92E+00	4.47E+00	9.43E+00	-9.92E+01
Water use ⁵⁾	m ³ e depr.	3.09E+02	3.95E-02	1.53E+00	3.11E+02	3.13E-02	4.83E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.58E-02	6.21E-01	2.16E-01	-2.88E+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	1.99E-06	4.97E-08	2.18E-07	2.26E-06	3.97E-08	1.64E-08	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.86E-08	3.79E-08	4.42E-08	-6.45E-07
Ionizing radiation ⁶⁾	kBq 11235e	1.91E+00	9.08E-03	2.76E-01	2.19E+00	7.37E-03	1.35E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.06E-02	4.47E-02	1.68E-02	-2.45E+00
Ecotoxicity (freshwater)	CTUe	9.76E+02	1.15E+00	4.44E+02	1.42E+03	7.20E-01	1.68E+01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.96E+00	2.70E+01	2.02E+01	-2.67E+01
Human toxicity, cancer	CTUh	5.75E-08	8.52E-11	3.74E-09	6.13E-08	6.78E-11	1.09E-10	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.12E-10	5.20E-10	4.76E-10	-6.81E-10
Human tox. non-cancer	CTUh	8.16E-07	4.95E-09	3.50E-08	8.56E-07	3.95E-09	4.59E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.42E-09	3.39E-08	4.54E-09	-3.34E-08
SQP ⁷⁾	-	4.83E+03	7.74E+00	4.48E+02	5.29E+03	6.15E+00	1.24E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.98E+00	2.18E+00	1.09E+01	-1.80E+02

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	1.51E+02	1.25E-01	3.68E+01	1.88E+02	9.95E-02	-4.31E+01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.49E-01	-2.78E+02	-1.33E+02	-3.20E+01
Renew. PER as material	MJ	3.50E+02	0.00E+00	-8.61E+00	3.41E+02	0.00E+00	-4.03E+01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	-2.29E+02	-7.22E+01	3.53E+01
Total use of renew. PER	MJ	5.01E+02	1.25E-01	2.82E+01	5.30E+02	9.95E-02	-8.34E+01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.49E-01	-5.07E+02	-2.05E+02	3.30E+00
Non-re. PER as energy	MJ	3.87E+02	7.60E+00	3.63E+01	4.31E+02	6.11E+00	-5.29E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.92E+00	7.34E-01	5.50E+00	-9.92E+01
Non-re. PER as material	MJ	7.55E+01	0.00E+00	1.69E+00	7.72E+01	0.00E+00	-8.95E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	-5.31E+01	-1.51E+01	5.63E+00
Total use of non-re. PER	MJ	4.63E+02	7.60E+00	3.80E+01	5.09E+02	6.11E+00	-1.42E+01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.92E+00	-5.24E+01	-9.61E+00	-9.36E+01
Secondary materials	kg	1.38E+01	3.29E-03	1.26E+00	1.51E+01	2.64E-03	1.45E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.20E-03	6.38E-03	2.08E-02	2.53E+00
Renew. secondary fuels	MJ	1.06E+02	4.15E-05	9.73E-01	1.07E+02	3.34E-05	1.16E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.49E-05	3.04E-05	1.09E-04	2.16E-02
Non-ren. secondary fuels	MJ	2.60E-04	0.00E+00	0.00E+00	2.60E-04	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m ³	3.03E+02	1.15E-03	3.23E-02	3.03E+02	9.02E-04	-2.40E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.37E-03	4.73E-04	-4.76E-02	-6.25E-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	9.98E-01	1.11E-02	2.09E-01	1.22E+00	8.85E-03	1.46E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.51E-02	1.18E-01	3.96E-01	-4.14E-01
Non-hazardous waste	kg	3.89E+01	2.21E-01	7.43E+00	4.65E+01	1.77E-01	2.91E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.00E-01	2.20E+01	3.58E+01	-1.93E+01
Radioactive waste	kg	9.08E-04	2.25E-06	7.06E-05	9.81E-04	1.82E-06	3.05E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.59E-06	1.14E-05	4.31E-06	-6.30E-04

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	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	1.05E-01	0.00E+00	0.00E+00	1.05E-01	0.00E+00	1.57E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	5.39E+00	0.00E+00	0.00E+00
Materials for energy rec	kg	1.30E-01	0.00E+00	6.12E+00	6.25E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ	6.76E-03	0.00E+00	0.00E+00	6.76E-03	0.00E+00	4.15E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	8.93E+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	1.74E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	3.76E+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	2.41E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	5.17E+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	1.28E+01	5.03E-01	2.59E+00	1.59E+01	4.04E-01	4.85E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.76E-01	6.38E-01	1.37E+00	-5.14E+00
Ozone depletion Pot.	kg CFC ₁₁ e	2.30E-06	8.62E-09	7.59E-08	2.38E-06	6.76E-09	1.56E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.10E-08	4.06E-09	1.07E-08	-1.09E-07
Acidification	kg SO ₂ e	9.30E-02	9.57E-04	1.18E-02	1.06E-01	7.62E-04	4.45E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.72E-03	2.44E-03	1.91E-03	-2.85E-02
Eutrophication	kg PO ₄ ³ e	4.78E-02	2.75E-04	3.26E-02	8.07E-02	1.90E-04	2.62E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.41E-04	8.35E-04	7.75E-04	-2.28E-03
POCP (“smog”)	kg C ₂ H ₄ e	7.53E-03	9.78E-05	1.41E-03	9.03E-03	7.77E-05	8.13E-05	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.58E-04	1.83E-04	2.75E-04	-2.23E-03
ADP-elements	kg Sbe	9.18E-05	1.42E-06	1.61E-05	1.09E-04	1.14E-06	4.98E-07	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.89E-06	1.40E-06	1.54E-06	-2.99E-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	1.82E+02	7.44E+00	4.00E+01	2.29E+02	5.99E+00	1.40E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.75E+00	3.68E+00	9.15E+00	-5.58E+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	2.74E+01	5.06E-01	2.59E+00	3.05E+01	4.07E-01	3.14E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.80E-01	6.41E-01	9.23E-01	-5.15E+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. Diesel, burned in building machine, World, Ecoinvent, 0.10 kgCO₂e/MJ
2. Electricity production, hydro, run-of-river, United Kingdom, Ecoinvent, 0.0044 kgCO₂e/kWh
3. Electricity production, wind, 1-3MW turbine, offshore, United Kingdom, Ecoinvent, 0.0165 kgCO₂e/kWh
4. Heat and power co-generation, wood chips, 6667 kW, state-of-the-art 2014, United Kingdom, Ecoinvent, 0.0555 kgCO₂e/kWh
5. Electricity production, photovoltaic, 570kWp open ground installation, multi-Si, United Kingdom, Ecoinvent, 0.0806 kgCO₂e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry >32 metric ton, EURO6, 85 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	-
Bulk density of transported products	618
Volume capacity utilization factor	-

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	N/A
Water use (m ³)	N/A
Ancillary materials: type and mass (kg)	N/A
Waste materials: type and mass (kg)	See section 3.5
Waste materials: output routes	See section 3.5
Direct emissions (kg)	none

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	N/A
Collection process: Mixed waste (kg)	N/A
Recovery: re-use (kg)	0
Recovery: recycling (kg)	5.39
Recovery: energy recovery (kg)	-
Disposal (kg)	-
Scenario assumptions e.g. transportation (mode, km) & other	See product end of life (p. 7)

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

Elena Antuña-Bernardo as an authorized verifier for EPD Hub Limited
27.10.2026

