ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

APL Tritherm™ and Tritherm™ AluE Spacer Systems

Architectural Profiles Limited

EPD HUB, EPD number HUB-5188

Published on 30.01.2026, last updated on 30.01.2026, valid until 29.01.2031

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	Architectural Profiles Limited (APL)
Address	53b, Crockhamwell Road, Woodley, Reading, Berkshire, United Kingdom, RG5 3JP, UK
Contact details	info@archprof.co.uk
Website	https://www.archprof.co.uk/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Adeleh Ghodsizadeh (Blue Marble Environmental Partnerships Ltd.)
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

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	Tritherm Spacer System®
Additional labels	AluE Tritherm™ P089, P157/A, P157, P191, P192, P367, P368, P521, P528, P536, P539, P546, P600, P600-A, P601, P618, P621, P665/A, P665, P754, P759, P760, P787, P831, P833
Product reference	-
Place of production	Flint, United Kingdom
Place(s) of raw material origin	Global
Period for data	01 April 2023 - 31 March 2024
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	-21.5% / +40%
A1-A3 Specific data (%)	42.1

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 square metre of cladding profile spacer system
Declared unit mass	3.1 kg
Mass of packaging	0.40 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	1.28E+01
GWP-total, A1-A3 ($kgCO_2e$)	1.30E+01
Secondary material, inputs (%)	30.4
Secondary material, outputs (%)	95.8
Total energy use, A1-A3 (kWh)	55.6
Net freshwater use, A1-A3 (m^3)	0.29

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Architectural Profiles Limited (APL) is a UK-based manufacturer specializing in high-quality, non-combustible multi-metal roofing and cladding systems for the entire building envelope. With over 40 years of experience, APL offers a comprehensive range of products crafted from materials such as steel, aluminium, and specialist metals like Cor-ten. APL manufacture a wide range of solid and perforated profiles, including sinusoidal, trapezoidal, louvre, standing seam, as well as a range of rainscreen panel systems. These are combined as a full through-wall system using the APL Tritherm™ and Tritherm™ AluE spacer systems.

PRODUCT DESCRIPTION

APL Tritherm™ and Tritherm™ AluE are a range of metal secondary support framing to allow for the creation of a cavity outside of the primary. This can be achieved with either a range of thermally-broken steel or aluminium sections. The steel and aluminium sections are generally produced using a combination of processes, generally being bending, profiling, extruding, punching and cold roll forming. The steel section substrate is either pre-galvanised (Z275) or a zinc-magnesium equivalent. Aluminium sections are formed from either 5xxx or 6xxx series aluminium substrate.

The Tritherm™ spacer system consists of a range of steel tophat and steel or aluminium zed-sections that are combined with thermally-broken steel or aluminium brackets to provide the required cavity depth in order to meet the thermal and acoustic performance. The Tritherm™ AluE spacer system consists of a range of thermally-broken aluminium helping hand brackets and extruded rails that provide the required cavity depth in order to meet the thermal, structural, fire and acoustic performance. All fixings used within the system are stainless steel.

Product Name	Specifics used in EPD
Tritherm ™ Steel/Aluminium	Support Spacer System made from Steel and Aluminium Components with Thermal Break
Tritherm™ AluE	Support Spacer System for Ventilated Cavity made from Aluminium Components with Thermal Break
Tritherm™ Steel	Support Spacer System made from Steel Components with Thermal Break

Further information can be found at https://www.archprof.co.uk/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	98.4	Global
Minerals	1.6	United Kingdom
Fossil materials	0	0
Bio-based materials	0	0

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	0.1387

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 square metre of cladding profile spacer system
Mass per declared unit	3.1 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		
×	×	×	ND	ND	ND	ND	ND	ND	ND	ND	ND	×	×	×	×	×		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = ND. Modules not relevant = NR

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.

The product consists of a load spreader, thermally-broken brackets and rails. The steel and aluminum used for metal parts is supplied by a supplier in the UK and transportation from the producers to supplier and onwards to Architectural Profiles has been accounted for. Fixings are supplied by a UK supplier.

The raw materials are delivered to the Architectural Profile manufacturing site where they go through a combination of processes such as bending, profiling, extruding, punching and cold roll forming stages. The manufacturing energy is electricity sourced from the UK grid.

The manufacturing process generates 5% waste from the raw materials. Aluminium waste will be transferred to the sorting centre 143 km away via a >32-tonne lorry and is assumed to be recycled at the rate of 76%.[1] Steel manufacturing waste will be transferred to a waste treatment centre 29 km away from the site and is recycled at the rate of 85%.[2] The manufacturing waste of thermal break will be transferred to landfill no more than 50 km away via a >32-tonne lorry (A3).

TRANSPORT AND INSTALLATION (A4-A5)

This EPD does not cover the transportation to site and installation phases.

[1] International Aluminium Institute, World Aluminium Façade Systems: *A Global Material Flow Factsheet* (March 2024), https://international-aluminium.org/wp-content/uploads/2024/03/wa_factsheet_final.pdf.

[2] World Steel Association, *Climate Change and the Production of Iron and Steel* (accessed June 2025), https://worldsteel.org/climate-action/climate-change-and-the-production-of-iron-and-steel.

Product packaging leaves the system at the point of installation. As this EPD does not cover the Installation Phase (Module A5), Packaging end-of-life has been modelled in Module C3/C4.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

At the end of life, a combination of diesel-powered aerial lift and hand-held power tools are assumed to be used for removal of the product. The electricity is modelled as UK average low voltage supply (C1). Transport to waste treatment has been conservatively modelled as 50 km via a >32-tonne lorry (C2). Steel parts are recycled at a rate of 85%.[2] It is assumed that 96% of aluminium is successfully recycled, while the remaining 4% of end of life waste reaches landfill (C3, C4).[3] The remaining metals along with the thermal breaks are assumed to reach landfill (C3, C4).

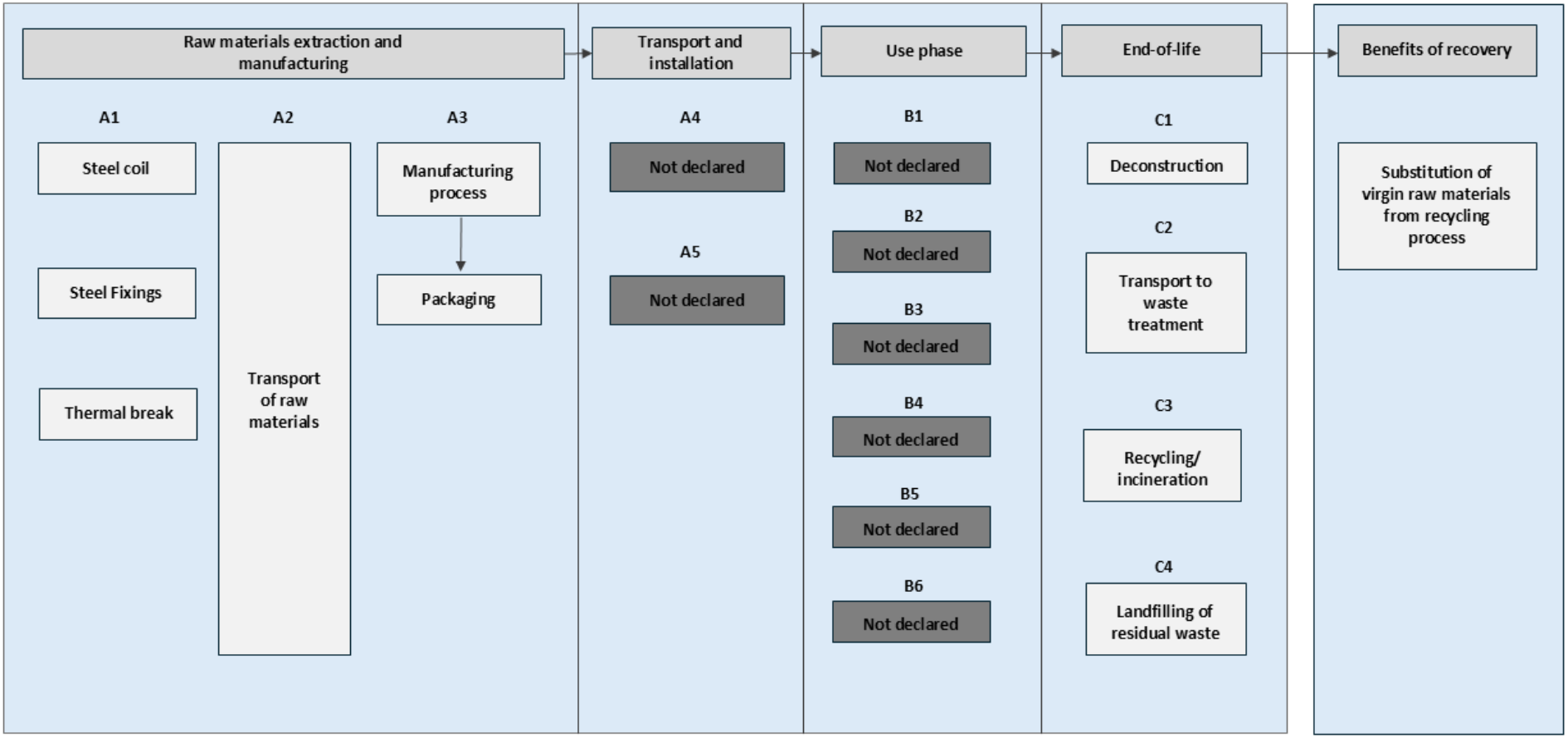
Packaging waste leaves the system at the end of life with pallets being recycled at a rate of 44.1%.[4] All plastic film used for packaging is conservatively assumed to be sent to landfill with no benefits. Cardboard is assumed to be recycled at a rate of 70.6.[3] It is also assumed that waste treatment occurs no more than 50 km from the installation site, with transport via a >32-tonne lorry (C3, C4).

Benefits and loads are accounted for in Module D for the provision of recyclates to subsequent life cycles (D). The recycling process for steel, wooden pallets and cardboard is considered as load, while the benefits include avoiding the production of materials from primary resources. In order to avoid double counting, the benefits and loads resulting from recycling secondary materials are excluded from module D.

[3] Royal Institution of Chartered Surveyors (RICS), *Whole Life Carbon Assessment for the Built Environment* (2nd ed., September 2023), https://www.rics.org/content/dam/ricsglobal/documents/standards/Whole_life_carbon_assessment_PS_Sept23.pdf.

[4] UK Government, *UK Statistics on Waste: Packaging Waste* (accessed June 2025), https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste#packaging-waste.

PRODUCT SYSTEM BOUNDARY



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.

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

AVERAGES AND VARIABILITY

Type of average	Multiple products
Averaging method	Averaged by shares of total mass
Variation in GWP-fossil for A1-A3	-21.5% / +40%

This EPD applies to the Tritherm ™ Steel, Tritherm ™ Steel/Aluminium and Tritherm™ AluE systems. The Tritherm ™ Steel/Aluminium Steel system is considered as the base case due to its production volume.

For the range, the variance in GWP fossil (A1-A3) is shown below:

Tritherm ™ Steel/Aluminium: 12.48 kg CO_2e

Tritherm™ AluE: 17.47 kg CO_2e

Tritherm™ Steel: 9.84 kg CO2e

Variance (max +/- 50%): -21.5% / +40%

Product Name	Specifics used in EPD
Tritherm ™ Steel/Aluminium	Support Spacer System made from Steel and Aluminium Components with Thermal Break
Tritherm™ AluE	Support Spacer System for Ventilated Cavity made from Aluminium Components with Thermal Break
Tritherm™ Steel	Support Spacer System made from Steel Components with Thermal Break

LCA SOFTWARE AND BIBLIOGRAPHY

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

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	1.11E+01	5.25E-01	1.36E+00	1.30E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.83E+00	1.98E-02	8.64E-02	5.52E-03	-3.69E+00
GWP – fossil	kg CO_2e	1.09E+01	5.25E-01	1.36E+00	1.28E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.83E+00	1.98E-02	8.65E-02	5.52E-03	-3.69E+00
GWP – biogenic	kg CO_2e	5.66E-02	1.03E-04	4.37E-04	5.72E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.99E-04	3.91E-06	-2.36E-04	-7.20E-06	-7.40E-03
GWP – LULUC	kg CO_2e	1.28E-01	2.52E-04	1.27E-03	1.30E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.17E-04	7.72E-06	9.41E-05	3.27E-06	3.16E-03
Ozone depletion pot.	kg CFC_{-11}e	4.87E-07	7.98E-09	5.57E-08	5.51E-07	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.89E-08	3.76E-10	8.71E-10	1.54E-10	-3.48E-08
Acidification potential	mol H^+e	1.30E-01	7.52E-03	7.13E-03	1.45E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.64E-02	6.45E-05	8.39E-04	3.96E-05	-4.10E-03
EP-freshwater[2)]	kg Pe	3.21E-03	3.00E-05	2.03E-04	3.44E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.67E-05	1.38E-06	4.27E-05	2.77E-06	1.52E-03
EP-marine	kg Ne	1.20E-02	1.96E-03	1.43E-03	1.54E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.57E-03	2.18E-05	3.74E-04	6.95E-05	-9.66E-04
EP-terrestrial	mol Ne	3.89E-01	2.17E-02	1.55E-02	4.26E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.29E-02	2.37E-04	2.11E-03	1.55E-04	-5.47E-03
POCP ("smog")[3)]	kg NMVOCe	3.62E-02	6.41E-03	8.67E-03	5.13E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.47E-02	1.03E-04	6.24E-04	5.95E-05	-4.95E-03
ADP-minerals & metals[4)]	kg Sbe	2.74E-04	1.06E-06	6.65E-06	2.82E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.09E-06	5.47E-08	4.56E-06	1.11E-08	1.21E-03
ADP-fossil resources	MJ	1.30E+02	7.12E+00	4.85E+01	1.86E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.43E+01	2.86E-01	9.54E-01	1.24E-01	-4.65E+01
Water use[5)]	m^3e depr.	2.64E+00	2.95E-02	3.58E-01	3.03E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.59E-02	1.46E-03	1.51E-02	8.07E-04	-1.10E+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

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	1.65E-06	3.70E-08	6.21E-08	1.75E-06	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.63E-07	1.97E-09	1.17E-08	8.37E-10	-6.02E-07
Ionizing radiation[6)]	kBq U235e	4.18E-01	5.35E-03	3.11E-01	7.35E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.53E-02	3.25E-04	3.84E-03	1.34E-04	-4.50E-01
Ecotoxicity (freshwater)	CTUe	9.04E+01	8.03E-01	6.12E+00	9.73E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.37E+00	3.52E-02	8.44E-01	5.35E+00	4.80E+01
Human toxicity, cancer	CTUh	9.18E-09	9.71E-11	7.95E-10	1.01E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.95E-10	3.26E-12	6.31E-11	1.76E-12	-6.08E-09
Human tox. non-cancer	CTUh	9.80E-08	3.52E-09	1.02E-08	1.12E-07	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.37E-09	1.86E-10	4.16E-09	1.87E-10	-4.02E-08
SQP[7)]	-	2.61E+01	4.65E+00	4.03E+01	7.11E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.08E+00	2.89E-01	1.78E+00	2.62E-01	-3.11E+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	3.65E+01	8.35E-02	5.41E+00	4.20E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.86E-01	4.51E-03	1.11E-01	-2.72E+00	-2.23E+01
Renew. PER as material	MJ	0.00E+00	0.00E+00	3.56E+00	3.56E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	-1.58E+00	-1.98E+00	-6.52E-01
Total use of renew. PER	MJ	3.65E+01	8.35E-02	8.97E+00	4.55E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.86E-01	4.51E-03	-1.47E+00	-4.71E+00	-2.29E+01
Non-re. PER as energy	MJ	1.30E+02	7.12E+00	2.07E+01	1.58E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.43E+01	2.86E-01	-2.32E+00	1.24E-01	-4.65E+01
Non-re. PER as material	MJ	0.00E+00	0.00E+00	3.93E+00	3.93E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	-1.04E-01	-3.82E+00	-2.34E-04
Total use of non-re. PER	MJ	1.30E+02	7.12E+00	2.46E+01	1.62E+02	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.43E+01	2.86E-01	-2.42E+00	-3.70E+00	-4.65E+01
Secondary materials	kg	9.41E-01	3.18E-03	3.43E-02	9.79E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.92E-03	1.24E-04	1.07E-03	4.04E-05	1.08E+00
Renew. secondary fuels	MJ	4.80E-04	2.67E-05	1.23E-01	1.23E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.65E-05	1.56E-06	4.81E-05	7.34E-07	-2.58E-03
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	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	2.77E-01	8.36E-04	8.79E-03	2.87E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.72E-03	4.23E-05	8.17E-05	-1.02E-03	-5.46E-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	1.65E+00	1.09E-02	1.61E-01	1.82E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.73E-02	4.29E-04	7.22E-03	2.48E-04	-8.77E+00
Non-hazardous waste	kg	1.81E+01	1.85E-01	2.74E+00	2.10E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.82E-01	8.44E-03	6.51E-01	1.43E+00	-8.43E+00
Radioactive waste	kg	3.86E-04	1.31E-06	6.92E-05	4.56E-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.96E-06	8.04E-08	9.50E-07	3.21E-08	-1.15E-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	ND	ND	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	5.66E-02	0.00E+00	1.24E-01	1.80E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	2.97E+00	0.00E+00	0.00E+00
Materials for energy rec	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	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	ND	ND	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	ND	ND	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_2e	1.10E+01	5.25E-01	1.36E+00	1.29E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.83E+00	1.98E-02	8.66E-02	5.53E-03	-3.69E+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

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Market for electricity, medium voltage (Reference product: electricity, medium voltage)
Electricity CO2e / kWh	0.25

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

Scenario information	Value
Collection process – kg collected separately	-
Collection process – kg collected with mixed waste	-
Recovery process – kg for re-use	-
Recovery process – kg for recycling	2.97
Recovery process – kg for energy recovery	-
Disposal (total) – kg for final disposition	1.53
Scenario assumptions e.g. transportation	It is assumed that waste treatment occurs no more than 50 km from the installation site, with transport via a >32-tonne lorry.

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online
This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Yazan Badour as an authorized verifier for EPD Hub Limited 30.01.2026

VERIFIED ISO 14025