

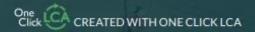
EPD HUB / EPD NUMBER: HUB-1742 **PUBLISHING DATE:** 5 July 2024 DATE LAST UPDATED: 5 July 2024 DATE VALID UNTIL: 5 July 2029

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

CMF MetPurl, MetMezz, MetForm and **Modular Sections**







GENERAL INFORMATION





MANUFACTURER

EPD AUTHOR:

MANUFACTURER: VP-001 Construction Metal Forming

ADDRESS: Unit 1, Greenfield Site, Euro Park, Llandevenny,

NP26 3WN, United Kingdom

CONTACT DETAILS: VP-003 info@cmf.uk.com

WEBSITE: www.cmf.uk.com

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 1.0, 1 Feb 2022

SECTOR: Construction product

CATEGORY OF EPD: Third party verified EPD

SCOPE OF THE EPD: Cradle to gate, with modules
C1-C4 & D

Construction Metal Forming

EPD VERIFICATION: Independent verification of this

EPD and data, according to ISO 14025:

☐ Internal certification

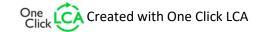
☑ External verification

EPD VERIFIER: Magaly González Vázquez, as an authorized

verifier acting for EPD Hub Limited

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.







GENERAL INFORMATION





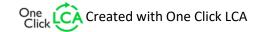
PRODUCT

PRODUCT NAME: MetPurl / MetForm / MetMezz **ADDITIONAL LABELS: Cold Rolled Sections PRODUCT REFERENCE:** MetPurl / MetForm / MetMezz Unit 1, Greenfield Site, Euro Park, PLACE OF PRODUCTION: Llandevenny, NP26 3WN, United Kingdom January – December 2022 **PERIOD FOR DATA:** Not applicable **AVERAGING IN EPD: VARIATION IN GWP-FOSSIL FOR A1-A3:**

ENVIRONMENTAL DATA SUMMARY

DECLARED UNIT:	1 kg
DECLARED UNIT MASS:	1 kg
GWP-FOSSIL, A1-A3 (kgco2e):	2,94E+00
GWP-TOTAL, A1-A3 (kgco2e):	2,89E+00
SECONDARY MATERIAL, INPUTS (%):	0
SECONDARY MATERIAL OUTPUTS (%):	96
TOTAL ENERGY USE, A1-A3 (kWh):	8.97
TOTAL WATER USE, A1-A3 (m3e);	0.02







MANUFACTURER AND PRODUCT





ABOUT THE MANUFACTURER

With two state of the art production facilities producing a wide range of cold formed steel products including Purlins,
Mezzanine, Light Gauge Steel Framing & Bespoke Modular
Sections, CMF is actively engaged in efforts to minimize its carbon footprint and adopt sustainable practices.



Among its various new initiatives, the company has taken a major stride by converting its fleet of diesel trucks to electric, and by adopting a 100% zero carbon electricity supply by British Gas, enabling greener operations and fostering a more environmentally friendly approach for a sustainable future.



PRODUCT DESCRIPTION

MetPurl provides a complete purlin and side-rail system, available as plain Zeds and Cees, asymmetric flange widths and Sigma profiles, as well as all associated accessories. All of which are provided with CMF's high quality service and client support.

MetMezz provides the full secondary steelwork solution for industrial mezzanines and storage, handling & distribution. Available as plain Cees and asymmetric flange widths, and supplied with all associated cold-formed accessories.

MetForm is CMF's proprietary light gauge steel component range. Suitable for a variety of structural loadbearing applications, including options for offsite panel assembly to aid in programme efficiency.

Fully tested by the British Research Establishment (BRE) and ratified by the Steel Construction Institute (SCI), the MetPurl, MetForm and MetMezz profiles are formed from S450GD+Z275 grade steel for both high strength and durability.

PRODUCT RAW MATERIAL MAIN COMPOSITION

RAW MATERIAL CATEGORY	AMOUNT, MASS- %	MATERIAL ORIGIN
Metals	100	Asia and Europe
Minerals	0	-
Fossil materials	0	-
Bio-based materials	0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

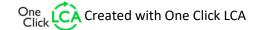
Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.012633

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	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).







MANUFACTURER AND PRODUCT 1 TO THE PARTY OF T



SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed below.

PRODUCT STAGE A2 X Transport A3 X Manufacturing A4 MND Transport A5 MND Assembly B1 MND Use B2 MND Maintenance B3 MND Repair B4 MND Replacement B5 MND Refurbishment B6 MND Operational energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal X Reuse X Recovery X Recovery X Recovery X Recovery				
A3 X Manufacturing A4 MND Transport A5 MND Assembly B1 MND Use B2 MND Maintenance B3 MND Repair B4 MND Replacement B5 MND Refurbishment B6 MND Operational energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES A3 X Manufacturing A4 MND Transport A5 MND Assembly MND Waintenance B6 MND Repair A6 MND Operational water use C1 X Deconstruction/demolish X Reuse X Recovery		A1	×	Raw materials
ASSEMBLY STAGE A4 MND Transport A5 MND Assembly B1 MND Use B2 MND Maintenance B3 MND Repair B4 MND Replacement B5 MND Refurbishment B6 MND Operational energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES A4 MND Transport A5 MND Use B7 MND Repair A6 MND Operational water use C1 X Deconstruction/demolish X Reuse X Recovery		A2	×	Transport
ASSEMBLY STAGE A5 MND Assembly B1 MND Use B2 MND Maintenance B3 MND Repair B4 MND Replacement B5 MND Refurbishment B6 MND Operational energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES A5 MND Assembly MND Use B7 MND Repair A6 MND Replacement C9 Transport C1 X Deconstruction/demolish X Reuse X Recovery		A3	×	Manufacturing
B1 MND Use B2 MND Maintenance B3 MND Repair B4 MND Replacement B5 MND Refurbishment B6 MND Operational energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES B1 MND Waintenance B2 MND Repair A3 MND Repair A4 MND Repair A5 MND Repair A6 MND Operational water use C1 X Deconstruction/demolish X Reuse X Reuse X Recovery	ASSEMBLY	A4	MND	Transport
B2 MND Maintenance B3 MND Repair B4 MND Replacement B5 MND Refurbishment B6 MND Operational energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES B3 MND Maintenance Replacement A Deconstruction/demolish C2 X Transport C3 X Reuse X Recovery	STAGE	A5	MND	Assembly
B3 MND Repair B4 MND Replacement B5 MND Refurbishment B6 MND Operational energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES B4 MND Repair Replacement AND Operational water use C2 X Transport C3 X Waste processing C4 X Disposal X Reuse X Recovery		B1	MND	Use
USE STAGE B4 MND Replacement B5 MND Refurbishment B6 MND Operational energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES B MND Operational water use C1 X Reuse X Recovery		B2	MND	Maintenance
B5 MND Refurbishment B6 MND Operational energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES B5 MND Refurbishment Operational water use X Reuse X Recovery		В3	MND	Repair
B5 MND Refurbishment B6 MND Operational energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES B6 MND Refurbishment Operational water use X Reuse X Reuse X Recovery	LISE STAGE	B4	MND	Replacement
BO MIND energy use B7 MND Operational water use C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES D X Recovery	USE STAGE	B5	MND	Refurbishment
C1 X Deconstruction/demolish C2 X Transport C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES MND water use Water use Value of the processing of the pro		В6	MND	
END-OF-LIFE STAGE C2 X Transport C3 X Waste processing C4 X Disposal X Reuse BEYOND THE SYSTEM BOUNDARIES X Recovery		B7	MND	
END-OF-LIFE STAGE C3 X Waste processing C4 X Disposal BEYOND THE SYSTEM BOUNDARIES D X Recovery		C1	×	
C3 X Waste processing C4 X Disposal X Reuse BEYOND THE SYSTEM D X Recovery		C2	×	Transport
BEYOND THE SYSTEM BOUNDARIES X Reuse X Recovery	STAGE	C 3	×	
BEYOND THE SYSTEM BOUNDARIES Recovery		C4	×	Disposal
THE SYSTEM D X Recovery BOUNDARIES	DEVOND		×	Reuse
	THE SYSTEM	D	×	Recovery
	BOONDAKIES		×	Recycling

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 included in this stage are fuels used by machines and handling of waste formed in the production processes at the manufacturing facilities. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The transportation distance is defined according to the PCR. In reality, it may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. Empty returns are not taken into account as it is assumed that return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as products are packaged properly.

The stock management at CMF is managed through our ERP system with clear identification on material for use. Each lower carbon coil on delivery is identified with a specific coil number and that coil can be issued to specific jobs. Material control and traceability is managed through our ISO 9001 management systems.

In this study allocation could not be avoided for raw materials, ancillary material, energy consumption and waste production as the information was only measured on factory or production process level. The inputs were allocated to the studied product based on annual production volume (mass). Sorting of scrap metal was used in A3 to account for the waste material through the manufacturing process.

The packaging material of metal banding and timber when transporting products to site was included. Production occurs in the UK, thus the Ecoinvent market for electricity medium voltage datapoint was selected.

The steel suppliers use the Blast Furnace (BF)/Basic Oxygen Furnace (BOF) route in their manufacture process. Iron ore (typical mix based on Ferro-oxides) pellets and other additives are mixed and sintered before being fed into the blast furnace together with the coking coke, which is used as the reducing agent.

The hot iron produced in the blast furnace is transferred into the basic oxygen furnace. In this vessel the iron is converted into steel by lowering the carbon content of the iron by blowing oxygen into the melt. For temperature controls, scrap (up to 14.55%) is added to the melt. Refining and alloying with microalloying elements is applied according to steel grade to give requested characteristics for the steel. At the end of the steelmaking process, the liquid steel is transformed into a semi-finished product in a continuously casted steel slab. The semi-finished slab is then hot rolled, then cold rolled to final dimensions then annealed and galvanised.

Finished product is shipped to the UK via ships, to ports in the UK, then transported to service centres in the UK via road for slitting and then by road to CMF. The material arrives at CMF as the finished product and only requires cold forming through our cold forming machines, no other processing is required.

PRODUCT LIFE-CYCLE





TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. MetPurl, MetForm and MetMezz are produced through offsite construction, so little transport is done once on site.

It was decided not to include the A4-A5 module within the life cycle assessment and it is therefore left out of scope.

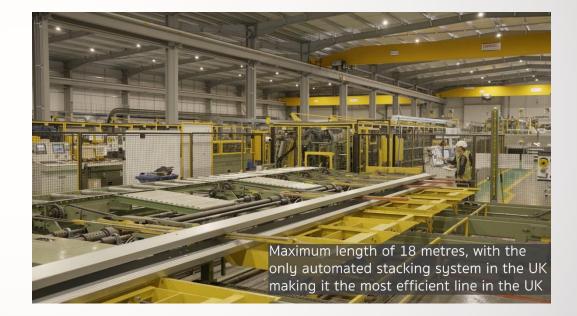
PRODUCT USE AND MAINTENANCE (B1-B7)

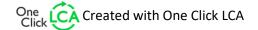
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Demolition is assumed to consume 0,01 kWh/kg of product. The source of energy is diesel fuel used by construction machines (C1). It is assumed that 100% of the waste is collected and transported to the waste treatment centre. Transportation distance to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2).

Approximately 95% of steel is assumed to be recycled based on World Steel Association, 2020 (C3). It is assumed that the remaining 5 % of steel is taken to landfill for final disposal (C4). Due to the recycling process, the end-of-life product is converted into recycled steel (D).



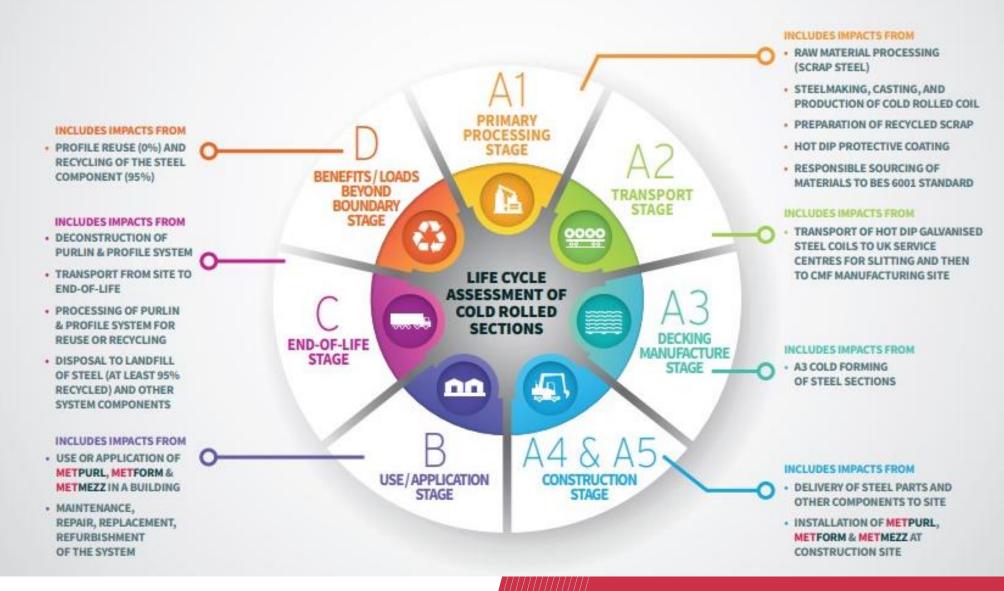


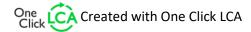


MANUFACTURING PROCESS











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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	Allocated by mass or volume
Packaging materials	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

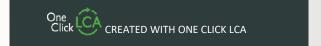
AVERAGES AND VARIABILITY

This EPD is product and factory specific and does not contain average calculations.

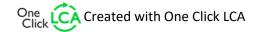
Type of average	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	Not applicable

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. Ecoinvent 3.8 and One Click LCA databases were used as sources of environmental data.







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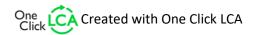




CORE ENVIRONMENTAL IMPACT INDICATORS - EN 15804+A2, PEF

IMPACT CATEGORY	UNIT	A1	A2	А3	A1-A3	A4	A5	B1	B2	В3	В4	В5	В6	В7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO2e	2,81E+00	9,59E-02	-1,01E-02	2,89E+00	MND	9,20E-04	4,57E-03	1,01E-01	3,22E-04	-9,17E-01								
GWP – fossil	kg CO2e	2,81E+00	9,59E-02	3,61E-02	2,94E+00	MND	9,19E-04	4,56E-03	5,48E-02	3,21E-04	-9,16E-01								
GWP – biogenic	kg CO2e	0,00E+00	0,00E+00	-4,63E-02	-4,63E-02	MND	1,68E-07	1,82E-06	4,63E-02	1,72E-07	-4,22E-05								
GWP – LULUC	kg CO2e	4,58E-04	5,85E-05	3,18E-05	5,48E-04	MND	9,15E-08	1,77E-06	5,57E-06	3,09E-07	-8,34E-04								
Ozone depletion pot.	kg CFC-11e	2,60E-14	2,07E-08	5,62E-09	2,63E-08	MND	1,97E-10	1,07E-09	1,17E-08	1,24E-10	-1,33E-03								
Acidification potential	mol H+e	6,55E-03	2,17E-03	2,83E-04	9,01E-03	MND	9,55E-06	1,49E-05	5,69E-04	2,97E-06	-4,98E-03								
EPfreshwater ²⁾	kg Pe	1,17E-06	4,57E-07	4,90E-07	2,11E-06	MND	3,05E-09	3,86E-08	1,87E-07	3,87E-09	-1,33E-03								
EP-marine	kg Ne	1,39E-03	5,31E-04	1,14E-04	2,03E-03	MND	4,23E-06	3,27E-06	2,52E-04	1,18E-06	-1,44E-03								
EP-terrestrial	mol Ne	1,44E-02	5,90E-03	1,25E-03	2,16E-02	MND	4,64E-05	3,62E-05	2,76E-03	1,13E-05	-1,08E-02								
POCP ("smog") ³⁾	kg NMVOCe	4,85E-03	1,56E-03	3,45E-04	6,75E-03	MND	1,28E-05	1,40E-05	7,59E-04	3,39E-06	-6,47E-03								
ADP- minerals & metals ⁴⁾	kg Sbe	1,49E-05	1,67E-07	9,77E-08	1,52E-05	MND	4,66E-10	1,11E-08	2,88E-08	8,00E-10	-1,36E-03								

MND = module not declared







| ADP-fossil resources | MJ | 2,92E+01 | 1,31E+00 | 5,44E-01 | 3,11E+01 | MND | 1,24E-02 | 7,15E-02 | 7,37E-01 | 8,55E-03 | -7,15E+00 |
|-------------------------|-----------|----------|----------|----------|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|----------|----------|----------|-----------|
| Water use ⁵⁾ | m3e depr. | 9,35E-01 | 4,74E-03 | 5,99E-03 | 9,46E-01 | MND | 3,32E-05 | 3,19E-04 | 2,29E-03 | 3,08E-05 | 3,18E-01 |

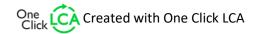
1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation and Water use and optional indicators except Particulate matter and lonizing radiation, human method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone health. The results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

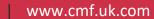
ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS - EN 15804+A2, PEF

IMPACT CATEGORY	UNIT	A1	A2	А3	A1-A3	A4	A5	B1	В2	В3	В4	В5	В6	В7	C1	C2	C3	C4	D
Particulate matter	Incidence	8,70E-08	5,72E-09	6,56E-09	9,93E-08	MND	2,56E-10	5,19E-10	1,52E-08	5,97E-11	-1,33E-03								
Ionizing radiation6)	kBq U235e	2,11E-02	6,32E-03	8,09E-03	3,56E-02	MND	5,68E-05	3,43E-04	3,40E-03	3,91E-05	2,85E-02								
Ecotoxicity (freshwater)	CTUe	4,83E+00	9,34E-01	4,97E-01	6,26E+00	MND	7,43E-03	6,35E-02	4,47E-01	6,05E-03	-2,33E+01								
Human toxicity, cancer	CTUh	1,55E-09	4,93E-11	1,69E-11	1,62E-09	MND	2,85E-13	1,56E-12	1,72E-11	1,61E-13	-1,33E-03								
Human tox. non-cancer	CTUh	3,92E-08	7,59E-10	3,40E-10	4,03E-08	MND	5,38E-12	6,12E-11	3,30E-10	4,44E-12	-1,33E-03								
SQP7)	-	1,15E+00	7,09E-01	1,63E-01	2,02E+00	MND	1,61E-03	8,23E-02	9,68E-02	1,86E-02	-4,10E+00								



6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel soil, from radon and from some construction materials is also not measured by this indicator; 7) cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor SQP = Land use related impacts/soil quality.





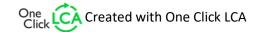




USE OF NATURAL RESOURCES

IMPACT CATEGORY	UNIT	A1	A2	А3	A1-A3	A4	A5	B1	В2	В3	В4	В5	В6	В7	C1	C2	С3	C4	D
Renew. PER as energy ⁸⁾	MJ	1,03E+00	1,21E-02	1,96E-01	1,24E+00	MND	7,07E-05	8,06E-04	4,38E-03	8,71E-05	-1,07E+00								
Renew. PER as material	MJ	0,00E+00	0,00E+00	4,26E-01	4,26E-01	MND	0,00E+00	0,00E+00	-4,26E-01	0,00E+00	-1,33E-03								
Total use of renew. PER	MJ	1,03E+00	1,21E-02	6,22E-01	1,67E+00	MND	7,07E-05	8,06E-04	-4,21E-01	8,71E-05	-1,07E+00								
Non-re. PER as energy	MJ	2,92E+01	1,31E+00	5,32E-01	3,10E+01	MND	1,24E-02	7,15E-02	7,37E-01	8,55E-03	-7,15E+00								
Non-re. PER as material	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,33E-03								
Total use of non-re. PER	MJ	2,92E+01	1,31E+00	5,32E-01	3,10E+01	MND	1,24E-02	7,15E-02	7,37E-01	8,55E-03	-7,15E+00								
Secondary materials	kg	0,00E+00	5,10E-04	1,44E-04	6,54E-04	MND	4,84E-06	1,98E-05	2,90E-04	1,99E-06	5,91E-01								
Renew. secondary fuels	MJ	0,00E+00	2,26E-06	1,65E-06	3,91E-06	MND	1,58E-08	2,00E-07	9,71E-07	5,77E-08	-1,47E-03								
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,33E-03								
Use of net fresh water	m3	2,24E-02	1,19E-04	7,69E-05	2,26E-02	MND	7,51E-07	9,23E-06	4,45E-05	9,33E-06	-2,54E-02								

8) PER = Primary energy resources.







END OF LIFE – WASTE

IMPACT CATEGORY	UNIT	A1	A2	А3	A1-A3	A4	A5	B1	В2	В3	B4	В5	В6	В7	C1	C2	C3	C4	D
Hazardous waste	kg	3,28E-09	1,64E-03	1,15E-03	2,79E-03	MND	1,66E-05	9,39E-05	9,90E-04	0,00E+00	-5,29E-01								
Non- hazardous waste	kg	1,11E-01	1,85E-02	1,81E-02	1,48E-01	MND	1,16E-04	1,54E-03	1,15E-02	5,55E-02	-1,51E+00								
Radioactive waste	kg	6,98E-07	9,20E-06	3,92E-06	1,38E-05	MND	8,71E-08	4,82E-07	5,18E-06	0,00E+00	-1,32E-03								

END OF LIFE – OUTPUT FLOWS

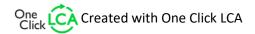
IMPACT CATEGORY	UNIT	A1	A2	А3	A1-A3	A4	A5	B1	B2	В3	В4	B5	В6	В7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,33E-03								
Materials for recycling	kg	0,00E+00	0,00E+00	5,00E-02	5,00E-02	MND	0,00E+00	0,00E+00	9,55E-01	0,00E+00	-1,33E-03								
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	4,30E-03	0,00E+00	-1,33E-03								
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,33E-03								





ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

IMPACT CATEGORY	UNIT	A1	A2	А3	A1-A3	A4	A5	B1	В2	В3	В4	В5	В6	В7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO2e	2,72E+00	9,51E-02	3,37E-02	2,85E+00	MND	9,09E-04	4,52E-03	5,42E-02	6,58E-04	-8,47E-01								
Ozone depletion Pot.	kg CFC-11e	2,60E-14	1,64E-08	4,54E-09	2,09E-08	MND	1,56E-10	8,51E-10	9,26E-09	9,81E-11	-1,33E-03								
Acidification	kg SO2e	5,46E-03	1,74E-03	2,01E-04	7,40E-03	MND	6,81E-06	1,21E-05	4,06E-04	2,24E-06	-4,25E-03								
Eutrophication	kg PO43e	4,76E-04	2,02E-04	5,64E-05	7,34E-04	MND	1,58E-06	2,63E-06	9,48E-05	1,57E-05	-2,64E-03								
POCP ("smog")	kg C2H4e	9,35E-04	4,64E-05	6,01E-06	9,87E-04	MND	1,49E-07	5,55E-07	8,89E-06	1,67E-07	-2,00E-03								
ADPelements	kg Sbe	1,49E-05	1,63E-07	3,00E-07	1,54E-05	MND	4,59E-10	1,08E-08	2,83E-08	7,85E-10	-1,36E-03								
ADP-fossil	MJ	2,92E+01	1,31E+00	5,59E-01	3,11E+01	MND	1,24E-02	7,15E-02	7,37E-01	8,55E-03	-7,14E+00								



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.

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

05.07.2024

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