ENVIRONMENTAL PRODUCT DECLARATION

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

Preformed Cavity Trays from 100% Recycled Polypropylene

Cavity Trays Ltd.

EPD HUB, HUB-0847

Publishing date 16 November 2023, last updated on 16 November 2023, valid until 16 November 2028.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Cavity Trays Ltd.
Address	Administration Centre, Yeovil, Somerset, BA22 8HU
Contact details	enquiries@cavitytrays.co.uk
Website	https://www.cavitytrays.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 options, A4-A5, and modules C1-C4, D
EPD author	Sam McGarrick (Blue Marble Environmental Partnerships Ltd.)
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.

PRODUCT

Product name	Preformed Cavity Trays from Recycled Polypropylene
Additional labels	Type C Cavitray Type Q Arresting Barriers Type U Cavitray Cavicloak and Cavilengths
Product reference	
Place of production	Somerset, UK
Period for data	May 2022 - May 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	- %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1kg of Preformed Cavity Trays
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO2e)	9.32E-1
GWP-total, A1-A3 (kgCO2e)	8.91E-1
Secondary material, inputs (%)	115.0
Secondary material, outputs (%)	50.0
Total energy use, A1-A3 (kWh)	6.74
Total water use, A1-A3 (m3e)	1.56E-2

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

In the 1920s a West Country family of builders started fabricating dampcourses and other devices to allay the fears of the unpredictable and volatile English climate. Today the fourth generation of the same family continue the tradition. The Company is now called Cavity Trays Limited and can claim more experience, more case histories and more know-how than any other company in this specialised field. Cavity Trays Limited is the first and only tray manufacturer awarded European Technical Approval - there is no higher standard. Cavitrays with high performance categorisation are accompanied with product performance liability, for the benefit of Architect, Builder and Client.

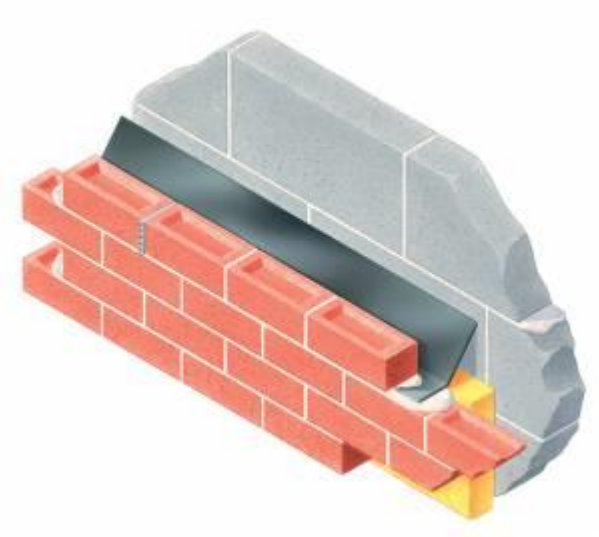
PRODUCT DESCRIPTION

Type C Cavitray

Type C cavitrays provide a harmonising yet independent DPC tray for all lintel openings. Manufactured from solid DPC, Type C cavitrays are pre-shaped to suit customer's specific construction needs. Being pre-shaped means the installer establishes exactly what is being built into the cavity wall, whilst eliminating the dangers of distortion and misplacement. Wastage is also eliminated as Type C lengths can be scheduled to suit the build programme. All shapes, sizes and profiles available. Type C cavitrays are compatible with our stopends and perp weep/vents. Profiles available to suit Catnic, Keystone, I.G., Hill Smith, Birtley, Bat and other popular lintels including all concrete lintels. Because Type C cavitrays are profiled from rigid solid DPC, they support themselves. They do not required building into the inside skin. Self-supporting Type C cavitrays can thus be used with either traditional or timber frame construction. Alternatively, if a return into the inside skin is desired, it can be provided upon request. Trays can be supplied for any designated cavity width and are biased-formed to take-up the actual cavity encountered.

Type Q Arresting Barriers

The function of Type Q barriers is to invisibly arrest and reduce water-wash from an area of cavity wall above a given feature or construction detail. Masonry below the barrier level however still remains damp and receptive to rain penetration. The purpose of the barriers is to influence control of water volumes within a wall and minimise damp transmission risk. Arresting barriers differ from conventional cavitrays and DPCs. The base dimension does not usually travel the full width of the external skin. Arresting barriers can be supplied in almost any special size with dimensions to suit client's particular needs. Adjoining lengths glove-lap and Siliconbond to make up runs.

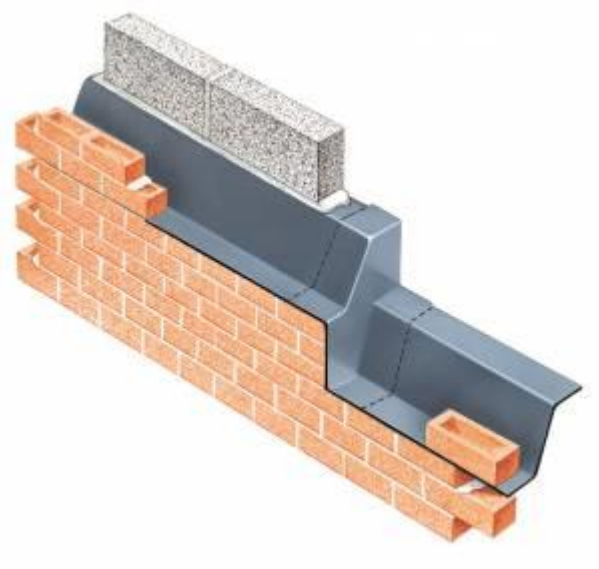


Type U Cavitray

The formation of a brick or tile sill is easily accomplished with the use of a Type U undersill tray. Trays are supplied in a variety of profiles to suit the shape of sill required. Once bedded in position, the bricklayer has automatically established an undersill DPC. The sill bricks or tiles can then be laid using the profiled tray as integral guide shuttering. The entire front section of the Type U which projects forward of the masonry line, can be detached later if so desired. A factory positioned groove permits this front portion of the tray to be removed, once the mortar has cured. Type U undersill trays are now available with an optional 25mm polystyrene insulation barrier, bonded to the vertical upstand. (subject to sill design or space permitting.)

Cavicloak and Cavilengths

The use of preformed Cavicloaks and Cavilengths eliminates the need to fabricate on site. The ready-moulded units provide correctly fitting, harmonising components which ensure DPC integrity to features such as corners, columns, steps and angles. Moulded from solid DPC, the preformed cloaks offer flexibility without sagging or distorting. Options include the self-supporting upstand terminating within the cavity or alternatively returning into the inside skin, depending on application.



Further information can be found at https://www.cavitytrays.com/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	-	
Minerals	-	
Fossil materials	100	EU
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

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1kg of Preformed Cavity Trays
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).

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	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

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 comprises 100% post-consumer recycled polypropylene regrind. No other raw materials are used in the product (A1).

The raw materials are shipped to the manufacturer via 40 tonne lorry (740km) (A2).

The product is formed on-site when the polypropylene sheets are cut to the required width, the tray profiles are then formed on a hit wire strip heater. Medium voltage electricity drawn from the UK grid is used in the manufacturing process. Manufacturing losses of 15% when the polypropylene sheet is cut to size have been accounted for, these are recycled by a local recycler (A3). Packaging includes a LDPE sleeve (A3).

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.

A weighted average of transportation distances was calculated for the period May 2022 to May 2023 for transport to installation site (A4).

No installation losses are anticipated. The product is introduced into the building as the outer skin is constructed. No specialist tools or energy consumption is necessary to build in the product (A5). LDPE packaging waste is assumed to be sent to landfill with no benefits. (A5).

PRODUCT USE AND MAINTENANCE (B1-B7)

The product is designed to remain in-situ for the lifetime of the building and no maintenance, repair or replacement is anticipated.

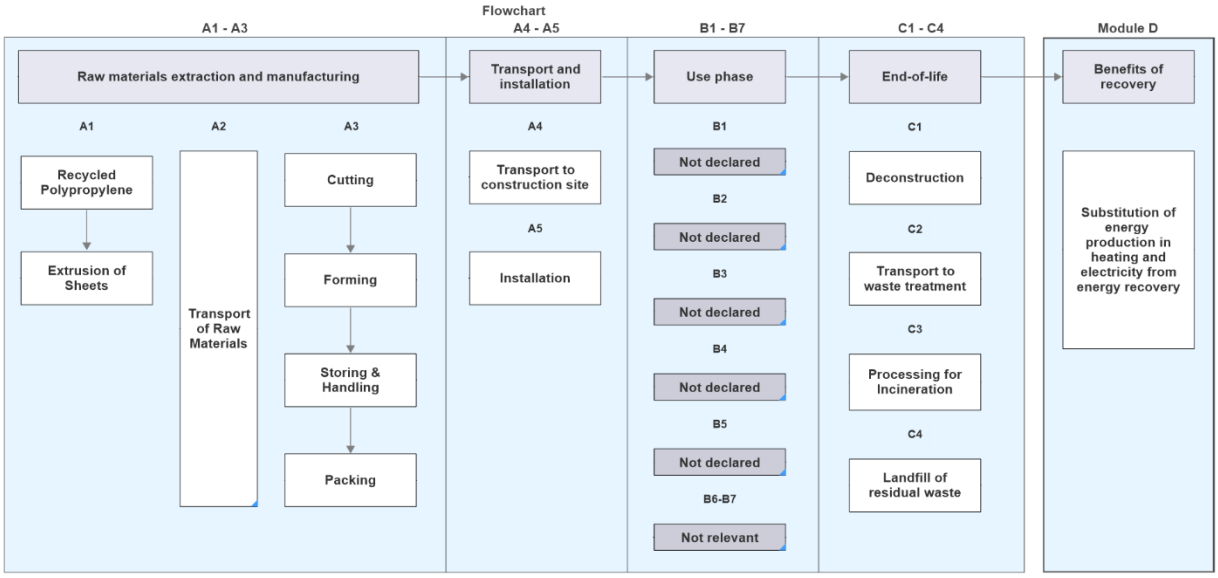
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-c4, D)

The product reaches the end of life stage at the point the building / outer skin of building is demolished. No specialist tools are necessary to remove the product. Transportation to waste treatment is conservatively assumed to be 100km. End of life waste treatment has been modelled on the basis of 50% going to landfill, 50% incinerated (C3,C4).

Benefits in the form of energy recovery from incineration of the final product have been accounted for (D).

MANUFACTURING PROCESS



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 materials	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	No allocation

AVERAGES AND VARIABILITY

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

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

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 v3.8 and One Click LCA databases were used as sources of environmental data.

Created with One Click LCA

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

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	2.39E-1	6.66E-2	5.85E-1	8.91E-1	3.31E-2	3.01E-3	MND	MND	MND	MND	MND	MND	MND	0E0	9E-3	1.27E0	6.33E-2	-6.83E-1
GWP – fossil	kg CO_2e	2.81E-1	6.66E-2	5.84E-1	9.32E-1	3.3E-2	3.15E-3	MND	MND	MND	MND	MND	MND	MND	0E0	8.99E-3	1.27E0	6.33E-2	-6.83E-1
GWP – biogenic	kg CO_2e	-4.33E-2	2.69E-5	7.89E-4	-4.25E-2	1.33E-5	-1.48E-4	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	2.17E-2	2.17E-2	-2.89E-4
GWP – LULUC	kg CO_2e	5.25E-4	2.59E-5	7.55E-4	1.31E-3	1.28E-5	2.93E-7	MND	MND	MND	MND	MND	MND	MND	0E0	3.49E-6	2.9E-6	5.56E-6	-2.34E-4
Ozone depletion pot.	kg $CFC_{-11}e$	1.86E-8	1.57E-8	3.62E-8	7.04E-8	7.77E-9	1.07E-10	MND	MND	MND	MND	MND	MND	MND	0E0	2.12E-9	9.74E-10	1.6E-9	-9.16E-8
Acidification potential	mol H^+e	1.63E-3	2.17E-4	1.87E-3	3.72E-3	1.08E-4	2.62E-6	MND	MND	MND	MND	MND	MND	MND	0E0	2.93E-5	1.63E-4	4.55E-5	-9.82E-4
EP-freshwater[2)]	kg Pe	2.4E-5	5.64E-7	1.18E-5	3.64E-5	2.8E-7	5.06E-9	MND	MND	MND	MND	MND	MND	MND	0E0	7.62E-8	1.22E-7	8.7E-8	-3.68E-6
EP-marine	kg Ne	2.25E-4	4.76E-5	4.02E-4	6.75E-4	2.36E-5	1.36E-6	MND	MND	MND	MND	MND	MND	MND	0E0	6.44E-6	7.47E-5	2.61E-5	-2.48E-4
EP-terrestrial	mol Ne	2.66E-3	5.29E-4	4.76E-3	7.95E-3	2.62E-4	9.36E-6	MND	MND	MND	MND	MND	MND	MND	0E0	7.15E-5	8.54E-4	1.69E-4	-2.83E-3
POCP ("smog")[3)]	kg NMVOCe	7.35E-4	2.05E-4	1.29E-3	2.23E-3	1.02E-4	3.43E-6	MND	MND	MND	MND	MND	MND	MND	0E0	2.77E-5	2.28E-4	6.22E-5	-8.4E-4
ADP-minerals & metals[4)]	kg Sbe	9.29E-7	1.62E-7	1.88E-6	2.97E-6	8.04E-8	1.17E-9	MND	MND	MND	MND	MND	MND	MND	0E0	2.19E-8	3.94E-8	1.82E-8	-6.18E-7
ADP-fossil resources	MJ	5.21E0	1.04E0	1.49E1	2.12E1	5.17E-1	7.75E-3	MND	MND	MND	MND	MND	MND	MND	0E0	1.41E-1	6.2E-2	1.23E-1	-1.3E1
Water use[5)]	m^3e depr.	4.57E-1	4.65E-3	1.5E-1	6.11E-1	2.31E-3	4.22E-5	MND	MND	MND	MND	MND	MND	MND	0E0	6.29E-4	1.1E-2	7.35E-4	-4.59E-2

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, PEF

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	9.51E-9	7.57E-9	1.15E-8	2.86E-8	3.76E-9	5.8E-11	MND	MND	MND	MND	MND	MND	MND	0E0	1.02E-9	1.31E-9	9.09E-10	-3.91E-9
Ionizing radiation[6)]	kBq U235e	1.18E-1	4.99E-3	4.68E-1	5.91E-1	2.48E-3	3.72E-5	MND	MND	MND	MND	MND	MND	MND	0E0	6.75E-4	3.01E-4	5.92E-4	-1.51E-1
Ecotoxicity (freshwater)	CTUe	4.14E0	9.27E-1	7.34E0	1.24E1	4.6E-1	7.81E-3	MND	MND	MND	MND	MND	MND	MND	0E0	1.25E-1	3.08E-1	1.27E-1	-2.56E0
Human toxicity, cancer	CTUh	2.47E-10	2.27E-11	1.87E-10	4.57E-10	1.13E-11	2.24E-13	MND	MND	MND	MND	MND	MND	MND	0E0	3.07E-12	1.74E-10	4.02E-12	-8.31E-11
Human tox. non-cancer	CTUh	3.33E-9	8.93E-10	4.75E-9	8.98E-9	4.43E-10	5.63E-12	MND	MND	MND	MND	MND	MND	MND	0E0	1.21E-10	1.19E-9	7.53E-11	-1.74E-9
SQP[7)]	-	4.57E0	1.2E0	5.32E0	1.11E1	5.95E-1	1.51E-2	MND	MND	MND	MND	MND	MND	MND	0E0	1.62E-1	2.24E-2	2.97E-1	-1.69E0

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	1.45E0	1.17E-2	2.47E0	3.93E0	5.82E-3	1.24E-4	MND	MND	MND	MND	MND	MND	MND	0E0	1.59E-3	3.45E-3	2.27E-3	-7.79E-1
Renew. PER as material	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	1.45E0	1.17E-2	2.47E0	3.93E0	5.82E-3	1.24E-4	MND	MND	MND	MND	MND	MND	MND	0E0	1.59E-3	3.45E-3	2.27E-3	-7.79E-1
Non-re. PER as energy	MJ	5.2E0	1.04E0	1.41E1	2.03E1	5.17E-1	7.75E-3	MND	MND	MND	MND	MND	MND	MND	0E0	1.41E-1	6.2E-2	1.23E-1	-1.3E1
Non-re. PER as material	MJ	0E0	0E0	8.49E-1	8.49E-1	0E0	-8.49E-1	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of non-re. PER	MJ	5.2E0	1.04E0	1.49E1	2.12E1	5.17E-1	-8.42E-1	MND	MND	MND	MND	MND	MND	MND	0E0	1.41E-1	6.2E-2	1.23E-1	-1.3E1
Secondary materials	kg	1.15E0	2.89E-4	1.7E-3	1.15E0	1.43E-4	2.54E-6	MND	MND	MND	MND	MND	MND	MND	0E0	3.91E-5	1.67E-4	4.39E-5	-7.28E-4
Renew. secondary fuels	MJ	1.32E-2	2.92E-6	6.49E-4	1.38E-2	1.45E-6	7.55E-8	MND	MND	MND	MND	MND	MND	MND	0E0	3.94E-7	4.15E-7	1.69E-6	-1.69E-6
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	1.18E-2	1.35E-4	3.58E-3	1.56E-2	6.68E-5	5.64E-6	MND	MND	MND	MND	MND	MND	MND	0E0	1.82E-5	2.66E-4	1.32E-4	-1.1E-3

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	2.43E-2	1.37E-3	3.22E-2	5.79E-2	6.81E-4	3.74E-6	MND	MND	MND	MND	MND	MND	MND	0E0	1.86E-4	0E0	0E0	-1.04E-2
Non-hazardous waste	kg	1.16E0	2.25E-2	4.78E-1	1.66E0	1.12E-2	2.01E-2	MND	MND	MND	MND	MND	MND	MND	0E0	3.05E-3	5E-1	5E-1	-1.46E-1
Radioactive waste	kg	3.32E-5	7.02E-6	1.18E-4	1.58E-4	3.49E-6	1.89E-8	MND	MND	MND	MND	MND	MND	MND	0E0	9.49E-7	0E0	0E0	-4.16E-5

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	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	1.5E-1	1.5E-1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for energy rec	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0

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

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_2e	2.78E-1	6.59E-2	5.76E-1	9.19E-1	3.27E-2	2.59E-3	MND	MND	MND	MND	MND	MND	MND	0E0	8.91E-3	1.27E0	5.15E-2	-6.71E-1
Ozone depletion Pot.	kg $CFC_{-11}e$	1.53E-8	1.24E-8	3.17E-8	5.93E-8	6.15E-9	8.51E-11	MND	MND	MND	MND	MND	MND	MND	0E0	1.68E-9	9.13E-10	1.27E-9	-8.05E-8
Acidification	kg SO_2e	1.37E-3	1.76E-4	1.49E-3	3.04E-3	8.73E-5	2E-6	MND	MND	MND	MND	MND	MND	MND	0E0	2.38E-5	1.11E-4	3.45E-5	-7.74E-4
Eutrophication	kg PO_4^3e	8.67E-4	3.84E-5	5.73E-4	1.48E-3	1.91E-5	1.12E-4	MND	MND	MND	MND	MND	MND	MND	0E0	5.2E-6	2.23E-4	2.36E-3	-2E-4
POCP (“smog”)	kg C_2H_4e	6.29E-5	8.1E-6	9.33E-5	1.64E-4	4.02E-6	4.61E-7	MND	MND	MND	MND	MND	MND	MND	0E0	1.09E-6	4.49E-6	9.41E-6	-5.23E-5
ADP-elements	kg Sbe	9.24E-7	1.57E-7	1.88E-6	2.97E-6	7.81E-8	1.13E-9	MND	MND	MND	MND	MND	MND	MND	0E0	2.13E-8	2.76E-8	1.75E-8	-6.18E-7
ADP-fossil	MJ	5.2E0	1.04E0	1.49E1	2.12E1	5.17E-1	7.75E-3	MND	MND	MND	MND	MND	MND	MND	0E0	1.41E-1	6.2E-2	1.23E-1	-1.3E1

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

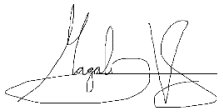
I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried 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
16.11.2023



VERIFIED ISO 14025