

ENVIRONMENTAL PRODUCT DECLARATION

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



Armourcoat Ltd. | Sculptural Plaster


ARMOURCOAT®

SUSTAINABLE LUXURY FINISHES



EPD HUB, HUB-0337

Publishing date 09 March 2023, last updated date 09 March 2023, valid until 09 March 2028

One Click  Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Armourcoat Ltd / Armourcoat USA LLC
Address	Unit 2/3a Morewood Close, Sevenoaks, TN132HU
Contact details	technical@armourcoat.co.uk
Website	www.armourcoat.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	Duncan Mackellar
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	H.N, 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	Armourcoat Sculptural Plaster
Additional labels	Three-Dimensional Sculptural Panel System, Seamless Sculptural Walls
Product reference	AESIS, BARCODE, BASALT, BERGMAN, CORAILIA, CORINTH, CORRUGATED, ELM, FLOW, FLOW STRAIGHT, FLOW WAVE, FLOW XL, FLUTES, FLUTES XL, HOUR GLASS, INKANA, JETSTREAM, LEAVES, OREI, QUENCH, QUILT, SCRIPT, SMOKE, VAPOUR
Place of production	UK, USA
Period for data	2022
Averaging in EPD	Multiple products and multiple factories
Variation in GWP-fossil for A1-A3	2.7 %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m2
Declared unit mass	17.04 kg
GWP-fossil, A1-A3 (kgCO2e)	2.6E0
GWP-total, A1-A3 (kgCO2e)	2.13E0
Secondary material, inputs (%)	16.4
Secondary material, outputs (%)	0.0
Total energy use, A1-A3 (kWh)	14.5
Total water use, A1-A3 (m3e)	0.0165

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Armourcoat Ltd is a Manufacturer and supplier of luxury sustainable decorative surface finishes and performance coatings.

Armourcoat Ltd was incorporated in the UK in 1986 as a specialist manufacturer of ultra-hard plasters and renders for Squash and Rackets courts.

In 1990 Armourcoat diversified into a range of decorative plasters and paints and has become the leading company worldwide for specialist natural decorative plasters and sustainable decorative solutions.

Armourcoat has offices in the UK and USA and has agents and distributors in over 40 countries around the world. Armourcoat is fully accredited to ISO 9001, ISO 14001 and ISO 45001.

PRODUCT DESCRIPTION

Armourcoat Sculptural Plaster is a range of seamless sculptural wall surface designs which provide a unique decoration for interior walls.

Armourcoat Sculptural Plaster walls are constructed from a series of pre-cast panels that are bonded to the wall substrate. The panel joints are then filled and sanded, and a final paint decoration is applied to the surface.

Armourcoat Sculptural Plaster designs are created by combining computer-aided design with traditional hand sculpting to create designs that fit together with total accuracy yet retain the essence of being hand crafted.

Some of the designs are based on a single panel that creates a repeating pattern. Other designs are made from a sequence of different panels that can be integrated together in many ways to create totally unique sculpted walls. The multiple panel designs make it possible to create non-repetitive seamless sculptural walls where the designs flow and change across the surface just as in nature. Because of this no two walls need ever be identical.

It is possible to manufacture the panels to a specific radius for installation to curved walls.

Further information can be found at www.armourcoat.com.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Water	12	UK
Minerals	87	UK & EU
Fossil materials	1	EU

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	0.113

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m ²
Mass per declared unit	17.04 kg
Functional unit	Total quantity of panel and adhesive with a weight of 17.04kg that is required to decorate 1m ² of wall surface.
Reference service life	life of the building - 60 years

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage								End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D			
x	x	x	x	x	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.

Armourcoat Sculptural Plaster panels are cast in custom made moulds using the Armourcoat Sculptural Plaster casting system.

The ingredients are carefully weighted out and mixed with water using a plaster mixer.

The wet material is poured into the mould and the rear of the panel ruled

off flush.

The panels are left for 60 - 90 minutes to set hard and are then removed from the mould and placed in special racks to dry out.

Air is forced between the panels to dry them out, and once dry they are inspected in accordance with ISO 9001 Quality standards.

Panels that pass the QC process are packed into de-mountable packing crates ready for dispatch.

Waste materials from the production process are the scraps of set gypsum and the bucket washings together with the empty paper sacks in which the gypsum and lightweight glass aggregate were delivered.

The hard scraps for the production process and the raw material waste sacks are sent for landfill.

Panels are packaged in reusable collapsible crates. the crates are returned to the factory for reuse once the panels have been unloaded. Based on the losses we incur against the total number of crate deliveries; each crate will get used five times on average.

Armourcoat Sculptural Panels are manufactured in both the UK and USA.

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 transportation distance is defined accordance with the EN 15804 +A2 Reference norm. Average distance of transportation from production plant to building site is assumed as 100 km and the transportation method is assumed to be lorry.

The sculptural panels are cut where necessary and dry fitted to the substrate with screws ready to be bonded permanently to the substrate.

Sculptural panels are fixed to the substrate using Bondplast adhesive that is applied to the wall surface with a notched trowel. The panels are pressed into the adhesive and carefully adjusted to ensure accurate alignment at

the joints. The joints are then sanded to remove any fractional step between panels and the joints between the panels are then filled and re-sanded to achieve a continuous seamless wall surface.

PRODUCT USE AND MAINTENANCE (B1-B7)

The product has a reference service life of 60 years. The Armourcoat Sculptural panels are very hard and durable and are very resistant to impact damage. It is therefore assumed that the product will last in situ with no requirements for maintenance, repair or replacement over the lifetime of the product.

There is no requirement for energy or water during the lifetime of the product.

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

PRODUCT END OF LIFE (C1-C4, D)

Armourcoat Sculptural panels are normally bonded to a plasterboard substrate using Bondplast (gypsum adhesive)

In the UK Armourcoat Sculptural panels are approved for recycling as gypsum waste. Other outcome may occur outside the UK or in countries where gypsum recycling facilities are not available.

Module C1- Since the consumption of energy and natural resources is negligible for disassembling at the end-of-life product, the impacts of demolition are assumed zero.

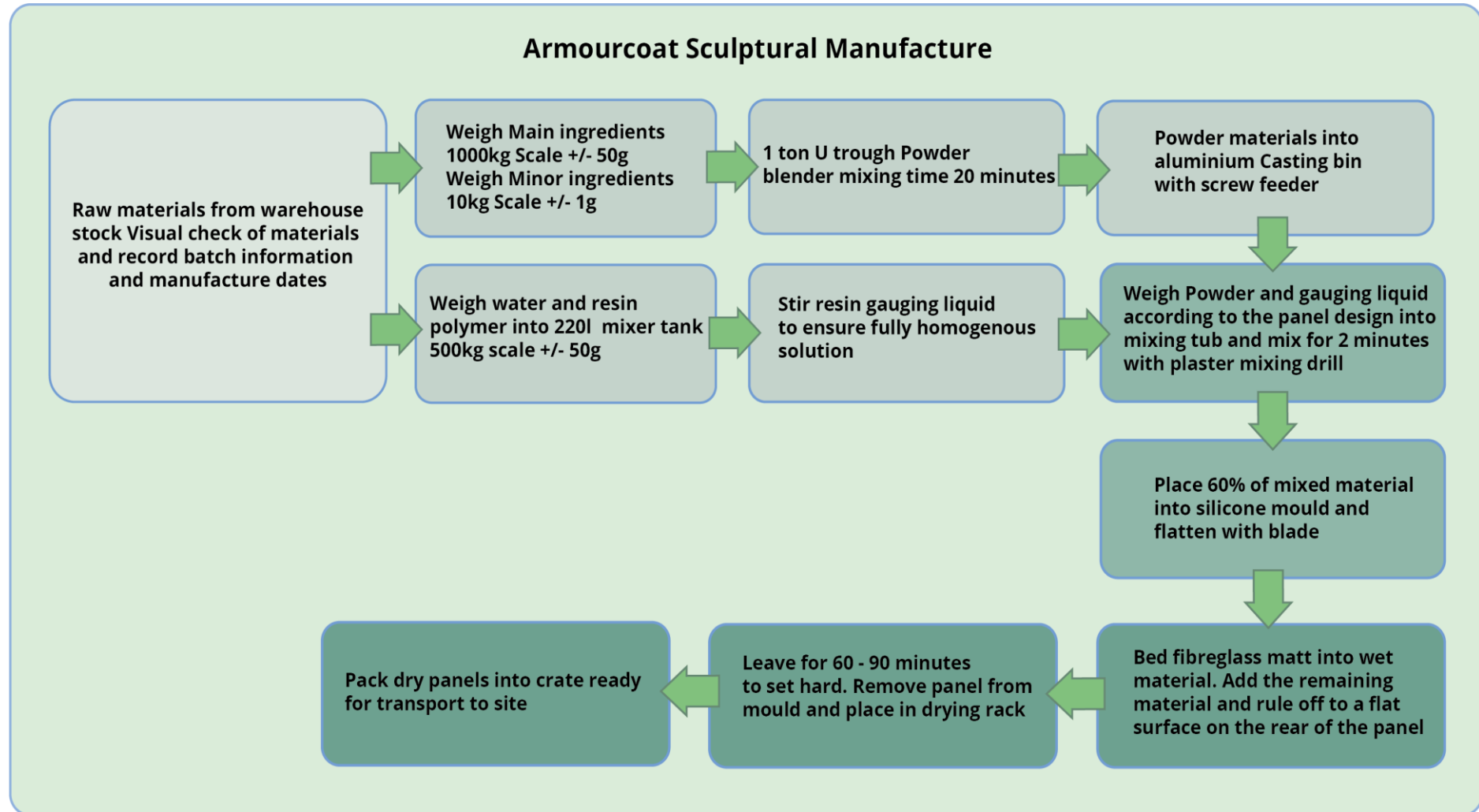
Module C2- All the end-of-life product is assumed to be sent to the closest recycling facilities. Transportation distance to the closest disposal area is assumed to be 80 km and the transportation method is assumed as lorry which is the most common.

Module C3 -Due to the composition of the product it can generally be crushed down to a powder and recycled as gypsum waste for reuse in the manufacture of gypsum plasterboard.

Module C4 - Allocation used in Ecoinvent 3.6 environmental data sources

follows the methodology 'allocation, cut-off by classification'. This methodology is in line with the requirements of the EN 15804 - standard. Module D – It is assumed that Wooden pallets are incinerated for the benefit of generation of heat and electricity.

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	Allocated by mass or volume
Packaging materials	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	Multiple products and multiple factories
Averaging method	Averaged by shares of total mass
Variation in GWP-fossil for A1-A3	2.7 %

We make a variety of different designs which will have different mass and volume. The most used designs (Flow and Aesis have a weight of 12.8 & 14.2kg/m²)

Barcode has the lowest weight of 10.2kg/m² and Flow XL the highest at 19.1 kg/m².

The averages were determined by analysing the last two years of panel production both in the UK and the US.

Based upon the total quantity of Sculptural casting gypsum used, set against the total quantity of panel produced we calculated that the average panel consumption of Gypsum which is the primary constituent.

The quantity of Bondplast is determined by the quantity we send to site for each install and our allowance is 2kg/m².

The range of total mass including the Bondplast adhesive is from 12.2kg to 21.1kg/m².

All the calculations have been based on UK manufacture as this accounts for 68% of our total production.

The consumption of materials per m² were 1% lower for the US production and this was attributed to a slightly different mix of panel designs.

In the US our factory is located very close to the gypsum manufacturer and the transport distances for both the gypsum and lightweight glass aggregate are less than in the UK.

In the US less energy is used in the drying of the panels and a transport distance of 400km has been assumed which will cover the principal markets in California.

As we are selling the panels to separate installers the crates are seldom returned so a 1x use has been applied to the pallet/crate and it is assumed these will be incinerated with the benefit of heat and electricity.

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

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 ₂ e	1.47E0	2.87E-1	3.71E-1	2.13E0	1.67E-1	6.25E-1	MND	MND	MND	MND	MND	MND	MND	3.51E-9	1.24E-1	5.41E-2	3.17E-3	3.93E-1
GWP – fossil	kg CO ₂ e	1.46E0	2.87E-1	8.58E-1	2.6E0	1.68E-1	1.6E-1	MND	MND	MND	MND	MND	MND	MND	3.43E-9	1.24E-1	5.4E-2	3.16E-3	-4.07E-2
GWP – biogenic	kg CO ₂ e	1.06E-2	2.08E-4	-4.88E-1	-4.77E-1	1.22E-4	4.89E-1	MND	MND	MND	MND	MND	MND	MND	7E-11	9E-5	1.5E-5	6.26E-6	4.33E-1
GWP – LULUC	kg CO ₂ e	9.83E-4	8.64E-5	1.29E-3	2.35E-3	5.07E-5	1.33E-4	MND	MND	MND	MND	MND	MND	MND	5.66E-12	3.73E-5	4.57E-6	9.38E-7	-5.24E-5
Ozone depletion pot.	kg CFC ₋₁₁ e	1.34E-7	6.75E-8	8.87E-8	2.9E-7	3.96E-8	2.18E-8	MND	MND	MND	MND	MND	MND	MND	3.04E-16	2.91E-8	1.17E-8	1.3E-9	-4.87E-9
Acidification potential	mol H ⁺ e	8.05E-3	1.21E-3	3.26E-3	1.25E-2	7.07E-4	7.93E-4	MND	MND	MND	MND	MND	MND	MND	2E-11	5.2E-4	5.65E-4	3E-5	-9.93E-5
EP-freshwater ²⁾	kg Pe	4.3E-5	2.34E-6	2.77E-5	7.3E-5	1.37E-6	4.23E-6	MND	MND	MND	MND	MND	MND	MND	2.81E-13	1.01E-6	2.19E-7	3.82E-8	-1.11E-6
EP-marine	kg Ne	1.54E-3	3.63E-4	6.62E-4	2.57E-3	2.13E-4	1.79E-4	MND	MND	MND	MND	MND	MND	MND	3.19E-12	1.57E-4	2.5E-4	1.03E-5	-6.24E-6
EP-terrestrial	mol Ne	1.8E-2	4.01E-3	7.76E-3	2.98E-2	2.35E-3	2.05E-3	MND	MND	MND	MND	MND	MND	MND	3.7E-11	1.73E-3	2.74E-3	1.14E-4	-1.06E-4
POCP (“smog”) ³⁾	kg NMVOCe	5.17E-3	1.29E-3	2.16E-3	8.61E-3	7.57E-4	6.01E-4	MND	MND	MND	MND	MND	MND	MND	1.16E-11	5.57E-4	7.53E-4	3.3E-5	-2.61E-5
ADP-minerals & metals ⁴⁾	kg Sbe	5.36E-4	4.9E-6	3.18E-6	5.44E-4	2.87E-6	2.76E-5	MND	MND	MND	MND	MND	MND	MND	1.01E-13	2.11E-6	8.25E-8	2.89E-8	-5.9E-4
ADP-fossil resources	MJ	2.17E1	4.46E0	2.05E1	4.67E1	2.62E0	2.88E0	MND	MND	MND	MND	MND	MND	MND	5.86E-8	1.93E0	7.44E-1	8.83E-2	-1.18E0
Water use ⁵⁾	m ³ e depr.	4.25E-1	1.66E-2	4.92E-2	4.91E-1	9.74E-3	3.57E-2	MND	MND	MND	MND	MND	MND	MND	2.06E-7	7.17E-3	1.39E-3	4.08E-3	-3.01E-3

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	8.26E-8	2.6E-8	1.85E-8	1.27E-7	1.52E-8	9.51E-9	MND	MND	MND	MND	MND	MND	MND	1.68E-16	1.12E-8	8.02E-8	5.83E-10	3.18E-10
Ionizing radiation ⁶⁾	kBq U235e	5.14E-2	1.95E-2	3.24E-1	3.95E-1	1.14E-2	2.23E-2	MND	MND	MND	MND	MND	MND	MND	4.05E-10	8.42E-3	3.19E-3	3.62E-4	-2.18E-2
Ecotoxicity (freshwater)	CTUe	5.4E1	3.41E0	1.15E1	6.89E1	2E0	3.84E0	MND	MND	MND	MND	MND	MND	MND	6.25E-8	1.47E0	4.36E-1	5.58E-2	-4.26E-1
Human toxicity, cancer	CTUh	5.78E-10	8.73E-11	3.71E-10	1.04E-9	5.12E-11	6.41E-11	MND	MND	MND	MND	MND	MND	MND	9.37E-18	3.77E-11	1.56E-11	1.32E-12	4.74E-12
Human tox. non-cancer	CTUh	2.24E-8	4.04E-9	7.68E-9	3.41E-8	2.37E-9	2.11E-9	MND	MND	MND	MND	MND	MND	MND	2.09E-16	1.75E-9	3.85E-10	4.07E-11	3.55E-10
SQP ⁷⁾	-	9.51E0	6.74E0	1.01E0	1.73E1	3.95E0	2.05E0	MND	MND	MND	MND	MND	MND	MND	5.17E-9	2.91E0	1.91E-2	1.5E-1	-1.35E-2

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	1.14E0	5.62E-2	4.37E0	5.56E0	3.3E-2	2.94E-1	MND	MND	MND	MND	MND	MND	MND	7.95E-9	2.43E-2	4.02E-3	7.14E-4	-2.07E-1
Renew. PER as material	MJ	0E0	0E0	4.7E0	4.7E0	0E0	-5.07E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	-5.06E0
Total use of renew. PER	MJ	1.14E0	5.62E-2	9.07E0	1.03E1	3.3E-2	-4.78E0	MND	MND	MND	MND	MND	MND	MND	7.95E-9	2.43E-2	4.02E-3	7.14E-4	-5.26E0
Non-re. PER as energy	MJ	2.17E1	4.46E0	2.05E1	4.67E1	2.62E0	2.88E0	MND	MND	MND	MND	MND	MND	MND	5.86E-8	1.93E0	7.44E-1	8.83E-2	-1.18E0
Non-re. 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 non-re. PER	MJ	2.17E1	4.46E0	2.05E1	4.67E1	2.62E0	2.88E0	MND	MND	MND	MND	MND	MND	MND	5.86E-8	1.93E0	7.44E-1	8.83E-2	-1.18E0
Secondary materials	kg	2.79E0	0E0	0E0	2.79E0	0E0	1.4E-1	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
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	1.05E-2	9.3E-4	5.06E-3	0.0165	5.45E-4	1.14E-3	MND	MND	MND	MND	MND	MND	MND	1.17E-8	4.01E-4	6.57E-5	9.66E-5	-2.07E-4

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	6.02E-2	4.34E-3	6.04E-2	1.25E-1	2.54E-3	7.09E-3	MND	MND	MND	MND	MND	MND	MND	3.44E-10	1.87E-3	0E0	8.24E-5	-1.41E-3
Non-hazardous waste	kg	1.84E0	4.8E-1	1.16E0	3.48E0	2.81E-1	1.07E0	MND	MND	MND	MND	MND	MND	MND	1.25E-8	2.07E-1	0E0	6E-1	2.59E-1
Radioactive waste	kg	4.7E-5	3.07E-5	1.54E-4	2.31E-4	1.8E-5	1.51E-5	MND	MND	MND	MND	MND	MND	MND	3.16E-13	1.32E-5	0E0	5.84E-7	-1E-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	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for energy rec	kg	0E0	0E0	2.4E-1	2.4E-1	0E0	1.2E-2	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 ₂ e	1.41E0	2.85E-1	8.43E-1	2.53E0	1.67E-1	1.56E-1	MND	MND	MND	MND	MND	MND	MND	3.35E-9	1.23E-1	5.36E-2	3.1E-3	-4.02E-2
Ozone depletion Pot.	kg CFC ₁₁ e	1.1E-7	5.36E-8	9.88E-8	2.62E-7	3.15E-8	1.9E-8	MND	MND	MND	MND	MND	MND	MND	3.43E-16	2.32E-8	9.24E-9	1.03E-9	-5.74E-9
Acidification	kg SO ₂ e	6.4E-3	5.84E-4	2.83E-3	9.81E-3	3.42E-4	1.15E-3	MND	MND	MND	MND	MND	MND	MND	1.62E-11	2.52E-4	7.98E-5	1.25E-5	-8.93E-5
Eutrophication	kg PO ₄ ³ e	1.72E-3	1.18E-4	8.49E-4	2.69E-3	6.92E-5	1.63E-4	MND	MND	MND	MND	MND	MND	MND	9.18E-12	5.09E-5	1.41E-5	2.42E-6	3.01E-6
POCP ("smog")	kg C ₂ H ₄ e	3.74E-4	3.7E-5	1.31E-4	5.42E-4	2.17E-5	3.23E-5	MND	MND	MND	MND	MND	MND	MND	1.08E-12	1.6E-5	8.21E-6	9.17E-7	-4.5E-6
ADP-elements	kg Sbe	5.36E-4	4.9E-6	3.18E-6	5.44E-4	2.87E-6	2.76E-5	MND	MND	MND	MND	MND	MND	MND	1.01E-13	2.11E-6	8.25E-8	2.89E-8	-5.9E-4
ADP-fossil	MJ	2.17E1	4.46E0	2.05E1	4.67E1	2.62E0	2.88E0	MND	MND	MND	MND	MND	MND	MND	5.86E-8	1.93E0	7.44E-1	8.83E-2	-1.18E0

Created
with One
Click LCA

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.

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited
09.03.2023

