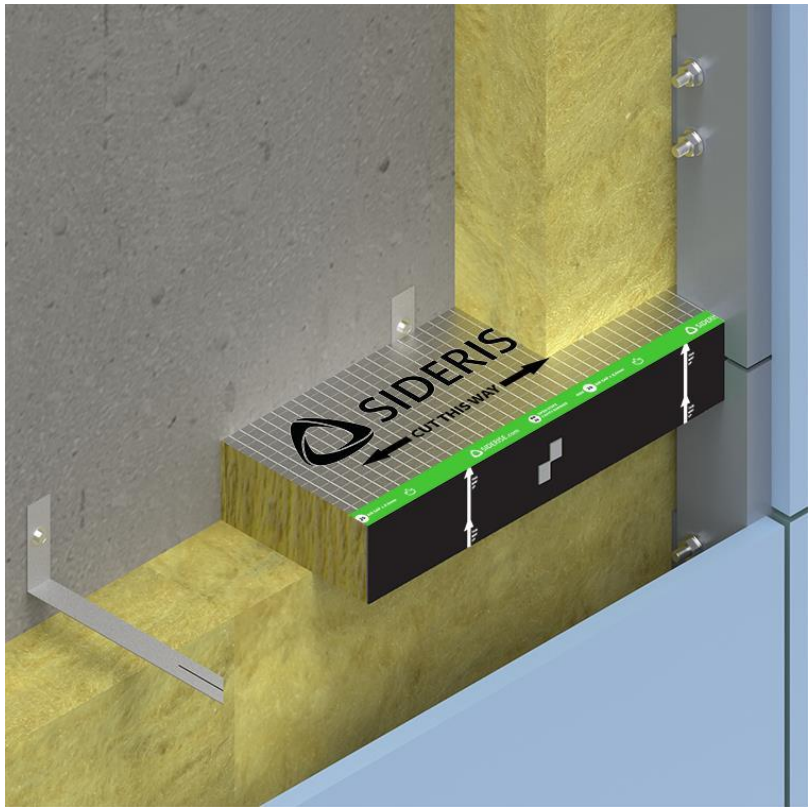
ENVIRONMENTAL PRODUCT DECLARATION

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

Siderise RH Horizontal Open State Cavity Barriers

Siderise Insulation Limited



EPD HUB, HUB-0824

Publishing date 7 November 2023, last updated on 28 January 2026, valid until 7 November 2028.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Siderise Insulation Limited
Address	Forge Industrial Estate, Maesteg, Bridgend, CF34 0AH, UK
Contact details	salesteam@siderise.com
Website	https://www.siderise.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	Sera Turkoglu, ESG Manager, Siderise Insulation Limited
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ❒ External verification
EPD verifier	Haiha Nguyen, 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	Siderise RH 'Open State' Horizontal Cavity Barriers
Additional labels	This EPD is for the entire Siderise RH range except for intumescent strip only products
Product reference	RH25G-090/30/300
Place of production	Forge Industrial Estate, Maesteg, Bridgend, CF34 0AH, UK
Period for data	2022
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	+6 %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO2e)	1.91E+00
GWP-total, A1-A3 (kgCO2e)	1.85E+00
Secondary material, inputs (%)	2.85
Secondary material, outputs (%)	18.3
Total energy use, A1-A3 (kWh)	7.3
Total water use, A1-A3 (m3e)	1.63E-02

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

For 50 years, Siderise has delivered innovative insulation solutions for fire, acoustic, and thermal applications worldwide. As a global specialist in passive fire protection, our market-leading product ranges are trusted in high-rise buildings, construction, and building services. Combining technical expertise with unique manufacturing processes, we are the preferred choice for many major companies across the globe.

PRODUCT DESCRIPTION

Siderise RH 'Open State' horizontal cavity barriers consist of a non-combustible stone wool lamella core, with reinforced aluminium foil faces. This primary seal has a reaction to fire performance to Class 'A1'. The exposed leading edge is also sealed with aluminium foil. Whilst the base material is water repellent and non-hygroscopic, this predominantly enclosed arrangement affords an added degree of weather protection to the core material.

Siderise RH 'Open State' horizontal cavity barriers incorporate a continuous reactive intumescent strip which is bonded to the leading edge. The intumescent material has a reaction to fire performance to Class 'E'. In the event of exposure to fire, the intumescent rapidly expands and fully seals the purposely designed ventilation gap formed at the time of installation, between the barrier and the rear of the cladding.

As standard, the range includes a choice of products to suit either 25mm air gaps - referred to as RH25 - or 50mm air gaps - referred to as RH50. Both options are available with either galvanised mild steel (G) or stainless steel (S) fixing brackets as part of the system.

The specific horizontal cavity barrier system is then referred to as either RH25G, RH25S, RH50G or RH50S accordingly.
The choice of brackets is usually determined by the rainscreen system designer according to project exposure and/or location.

The leading edge of the horizontal cavity barriers is encapsulated in a polymer film. As standard, the film is black to register as a 'shadow-line' behind open joints in the cladding.
For product identification purposes, the top edges of the film used on the RH25 and RH50 cavity barriers are colour-coded and labelled to show the product fire performance rating.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	12.6	United Kingdom
Minerals	87.1	United Kingdom
Fossil materials	0.3	United Kingdom
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	0.015

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).

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	Operational water	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.

Siderise RH 'Open State' horizontal cavity barriers are made of a non-combustible stone wool lamella core, with reinforced aluminium foil faces. The stone wool is manufactured in the UK, the aluminium foil faces are manufactured in mainland Europe and they are shipped to the manufacturing facility in Maesteg, Bridgend, Wales. The representative product RH25G-090/30/300 uses galvanised brackets. These brackets are manufactured in the UK and shipped to the manufacturing facility in Maesteg. RH range is manufactured using state-of-the-art production equipment to rigorous quality assurance standards complying with the ISO 9001 standard. Environmental management of the manufacturing process is certified to ISO 14001. The manufacturing process takes the stone wool core, which is cut into strips and rotated through 90 degrees so the fibres are perpendicular to the cavity barrier top and bottom surfaces. The strips are also subjected to lateral compression which eliminates any gaps and produces a more homogenous board with substantially better rigidity than a standard stone wool slab of the same density. Whilst under compression the product is faced with reinforced aluminium foil. The product is then cut into widths depending on customer order requirements. The capping foil tape, intumescent strip and logo tape are then applied to the leading edge of the product. The process requires electricity for the machinery, heating oil for heating and propane for forklifts. Water is used in the manufacturing facility for cleaning and drinking purposes and does not enter the product. Wastewater treatment is also considered. A wood pallet, cardboard box, vinyl tape and plastic pallet wrap are used as packaging materials for transporting the finished product from the plant.

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.

All distances are calculated using Google Maps and averaged based on weighted sales to various locations. The average transportation distance from the production plant to the building site is assumed to be 267 km by a lorry >32 metric ton, EURO6; 166.5 km by a lorry 16-32 metric ton, EURO6; 7 km by a lorry 3.5-7.5 metric ton, EURO6; and 2 km by sea via ferry. The vehicle capacity utilisation volume factor is assumed to be 1, indicating a full load. While this may vary in reality, the variation in load is

considered negligible as transportation emissions play a relatively small role in the overall results. Empty returns are not accounted for separately, as it is assumed that the return trip is utilised by the transportation company to serve the needs of other clients. The datasets used incorporate an average load factor for empty returns. Transportation is not considered to cause losses, as the product is assumed to be properly packaged. Environmental impacts resulting from the installation into the building include waste from packaging materials (A5) and the release of biogenic carbon dioxide from wood pallets and cardboard boxes. The assessment also includes the environmental impacts of material production, processing, and disposal as installation waste. Raw material waste scenarios are derived from interviews with installers, suppliers, and waste management companies, while packaging waste scenarios are based on Defra statistics. A 5% loss of the stone wool and foil facings is assumed during installation due to offcuts, with 3% being recycled and 97% sent to landfill. For cardboard boxes, 70.6% is recycled, and the remainder is incinerated. 44.2% of plastic pallet wrap is recycled, and the rest is incinerated, while vinyl tape is incinerated as well. For wood pallets, 44.1% is recycled, and the remainder is incinerated. Electricity consumption for the installation of brackets is included based on an average scenario for product installation. A typical installation scenario requires the use of a hammer drill driver (20 sec, 800 W) to drill a hole in concrete and an electrical screwdriver (10 sec, 800 W) to drive in the fixings.

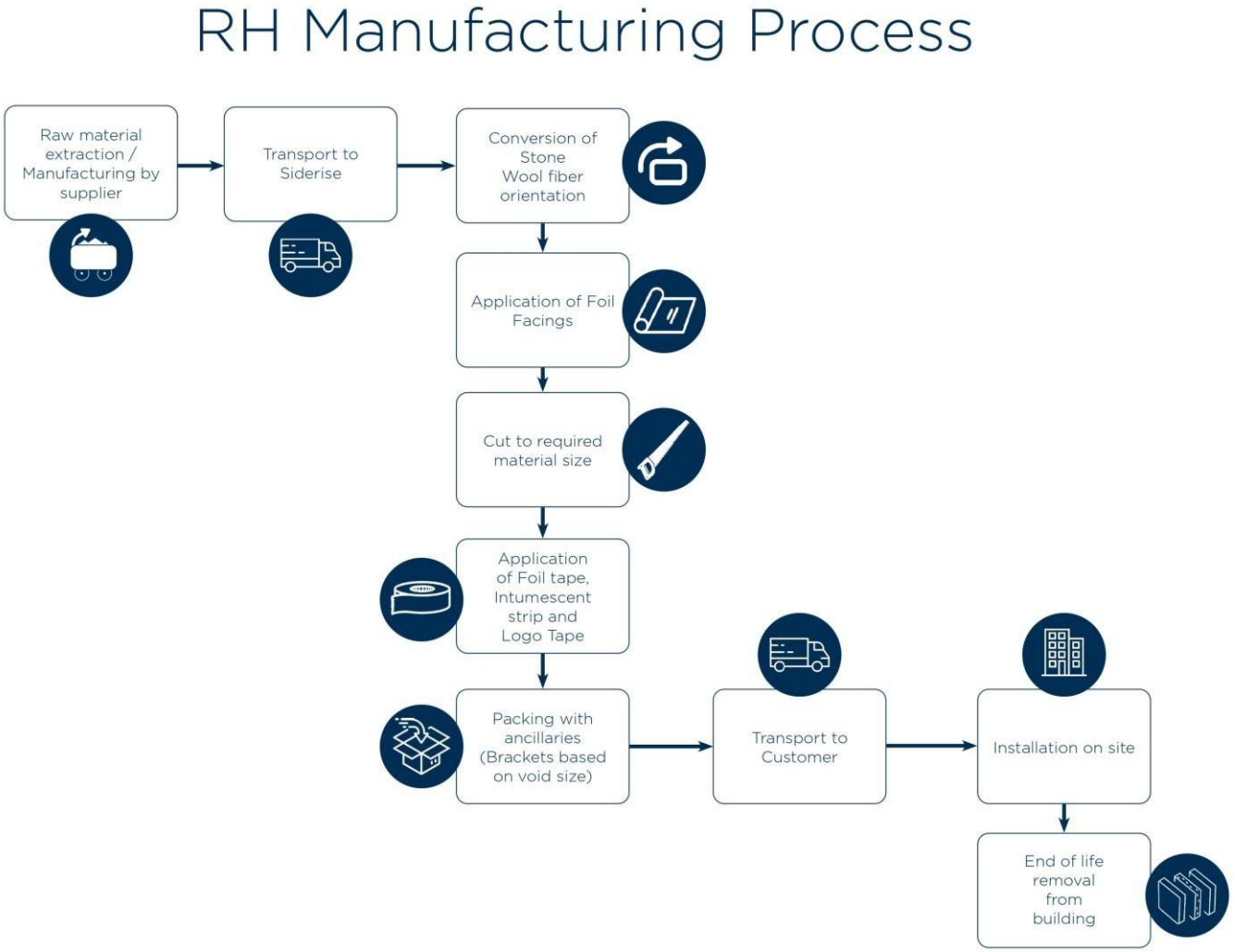
PRODUCT USE AND MAINTENANCE (B1-B7)

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)

Energy consumption during the deconstruction process (removing the bracket - 10 sec, 800 W with an electrical screwdriver) is taken into consideration. Raw material waste scenarios are derived from interviews with suppliers, waste management companies, and data gathered from trade associations. It is assumed that the waste is collected separately and transported to the waste treatment centre, with transportation distance assumed to be 50 km, using a lorry as the mode of transportation (C2). Regarding stone wool and foil facings: 3% is recycled, while 97% is sent to landfill. For galvanised brackets, 87% is recycled, 10% is reused, and 3% is sent to landfill. Foil tape is dispatched to a sorting plant for various treatments, while intumescent strip and logo tape are incinerated. Module C3 accounts for energy and resource inputs associated with sorting and treating these waste streams, including incineration with energy recovery efficiency exceeding 60%. Additionally, waste that is incinerated without energy recovery or landfilled is included in Module C4 while the flow not included in Module D for benefits. Due to the material and energy recovery potential of parts in the end-of-life product and packaging, recycled raw materials lead to avoided virgin material production, while the energy recovered from incineration displaces electricity and heat production (D). The benefits and loads of packaging materials are included.

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	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	Multiple products
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	+6 %

The representative product code RH25G-090/30/300 stands for below:
- Rainscreen Horizontal for 25mm Air Gap (RH50 for 50mm Air Gap)
- Galvanised Steel Brackets
- 90 minutes Integrity
- 30 minutes Insulation
- Designed for 300mm void

It represents the below products in every mm increment:

RH25
90/30 is 400 products
60/60 is 400 products
90/60 is 275 products
120/60 is 400 products
120/90 is 400 products

RH50
30/30 is 250 products
60/60 is 250 products

The smallest product is RH25-90/30/26 and the largest product is RH25S-120/90/425 within the RH range.
This EPD excludes intumescent strip only products.

The representative product has a 6% higher GWP than the largest and the smallest product; therefore minus (-) sign was not used. The analysis

showed that the largest product exhibited a 6% lower GWP, despite its size. This phenomenon might be attributed to variations in the distribution of raw materials per 1 kg declared unit, with potentially more environmentally impactful materials having a reduced presence in the largest product compared to the representative product. Additionally, the largest product requires stainless steel brackets instead of galvanised steel brackets, excluding the zinc coating featured in the model, potentially contributing to the GWP difference.

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.

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	1.79E+00	1.60E-02	5.16E-02	1.85E+00	5.89E-02	1.63E-01	MND	MND	MND	MND	MND	MND	MND	8.84E-04	9.81E-03	1.34E-01	4.46E-03	-1.37E-01
GWP – fossil	kg CO_2e	1.78E+00	1.60E-02	1.07E-01	1.91E+00	5.88E-02	1.08E-01	MND	MND	MND	MND	MND	MND	MND	8.82E-04	9.80E-03	1.34E-01	4.45E-03	-1.37E-01
GWP – biogenic	kg CO_2e	0.00E+00	0.00E+00	-5.51E-02	-5.51E-02	0.00E+00	5.51E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP – LULUC	kg CO_2e	2.36E-03	6.80E-06	1.98E-04	2.56E-03	2.47E-05	1.37E-04	MND	MND	MND	MND	MND	MND	MND	2.06E-06	4.11E-06	2.11E-06	4.20E-06	-9.69E-05
Ozone depletion pot.	kg CFC_{-11}e	1.00E-07	3.63E-09	9.53E-09	1.14E-07	1.31E-08	6.80E-09	MND	MND	MND	MND	MND	MND	MND	4.40E-11	2.12E-09	1.65E-09	1.80E-09	-1.05E-08
Acidification potential	mol H^+e	1.99E-02	9.13E-05	4.93E-04	2.04E-02	1.82E-04	1.06E-03	MND	MND	MND	MND	MND	MND	MND	4.77E-06	2.89E-05	8.85E-05	4.19E-05	-1.65E-03
EP-freshwater[2)]	kg Pe	7.14E-05	1.31E-07	4.08E-06	7.56E-05	5.10E-07	4.12E-06	MND	MND	MND	MND	MND	MND	MND	9.37E-08	8.32E-08	5.78E-08	4.67E-08	-7.94E-06
EP-marine	kg Ne	1.84E-03	2.29E-05	1.32E-04	2.00E-03	3.78E-05	1.08E-04	MND	MND	MND	MND	MND	MND	MND	6.51E-07	5.76E-06	3.90E-05	1.45E-05	-1.37E-04
EP-terrestrial	mol Ne	5.16E-02	2.54E-04	1.05E-03	5.29E-02	4.20E-04	2.73E-03	MND	MND	MND	MND	MND	MND	MND	7.39E-06	6.41E-05	4.19E-04	1.59E-04	-2.69E-03
POCP ("smog")[3)]	kg NMVOCe	7.76E-03	7.83E-05	2.76E-04	8.11E-03	1.60E-04	4.31E-04	MND	MND	MND	MND	MND	MND	MND	2.01E-06	2.40E-05	1.11E-04	4.64E-05	-3.79E-04
ADP-minerals & metals[4)]	kg Sbe	3.91E-05	4.54E-08	4.73E-07	3.97E-05	1.91E-07	2.01E-06	MND	MND	MND	MND	MND	MND	MND	2.08E-09	3.47E-08	1.67E-08	1.02E-08	-3.26E-06
ADP-fossil resources	MJ	2.15E+01	2.40E-01	1.99E+00	2.37E+01	8.81E-01	1.31E+00	MND	MND	MND	MND	MND	MND	MND	1.87E-02	1.42E-01	1.12E-01	1.22E-01	1.13E-01
Water use[5)]	m^3e depr.	6.30E-01	1.05E-03	4.26E-02	6.74E-01	3.98E-03	3.65E-02	MND	MND	MND	MND	MND	MND	MND	4.84E-04	6.28E-04	5.32E-03	3.87E-04	8.26E-02

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.

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	2.49E+00	2.70E-03	3.90E-01	2.88E+00	1.05E-02	1.55E-01	MND	MND	MND	MND	MND	MND	MND	3.20E-03	1.69E-03	2.53E-03	1.06E-03	-6.86E-01
Renew. PER as material	MJ	0.00E+00	0.00E+00	5.52E-01	5.52E-01	0.00E+00	-5.52E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-01
Total use of renew. PER	MJ	2.49E+00	2.70E-03	9.43E-01	3.43E+00	1.05E-02	-3.97E-01	MND	MND	MND	MND	MND	MND	MND	3.20E-03	1.69E-03	2.53E-03	1.06E-03	-5.60E-01
Non-re. PER as energy	MJ	2.12E+01	2.40E-01	1.90E+00	2.34E+01	8.81E-01	1.30E+00	MND	MND	MND	MND	MND	MND	MND	1.87E-02	1.42E-01	1.12E-01	1.22E-01	-2.64E+00
Non-re. PER as material	MJ	1.73E+00	0.00E+00	9.35E-02	1.82E+00	0.00E+00	-9.35E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	-5.18E-02	-1.67E+00	2.82E+00
Total use of non-re. PER	MJ	2.30E+01	2.40E-01	1.99E+00	2.52E+01	8.81E-01	1.20E+00	MND	MND	MND	MND	MND	MND	MND	1.87E-02	1.42E-01	6.00E-02	-1.55E+00	1.76E-01
Secondary materials	kg	2.85E-02	7.47E-05	2.86E-02	5.71E-02	2.82E-04	2.90E-03	MND	MND	MND	MND	MND	MND	MND	1.43E-06	4.75E-05	5.76E-05	2.57E-05	7.54E-02

Renew. secondary fuels	MJ	9.91E-03	8.00E-07	5.51E-03	1.54E-02	3.38E-06	7.71E-04	MND	MND	MND	MND	MND	MND	MND	7.42E-09	6.15E-07	8.14E-07	6.70E-07	3.02E-04
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m^3	1.52E-02	2.91E-05	1.06E-03	1.63E-02	1.10E-04	9.02E-04	MND	MND	MND	MND	MND	MND	MND	1.55E-05	1.69E-05	1.83E-04	1.34E-04	-7.90E-04

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	2.26E-01	3.30E-04	5.43E-03	2.32E-01	1.25E-03	1.22E-02	MND	MND	MND	MND	MND	MND	MND	6.56E-05	2.06E-04	7.90E-04	0.00E+00	-5.90E-02
Non-hazardous waste	kg	2.92E+00	5.20E-03	1.73E-01	3.10E+00	2.02E-02	2.27E-01	MND	MND	MND	MND	MND	MND	MND	4.26E-03	3.28E-03	5.85E-02	8.46E-01	-7.46E-01
Radioactive waste	kg	4.08E-05	1.61E-06	1.19E-05	5.43E-05	5.87E-06	3.51E-06	MND	MND	MND	MND	MND	MND	MND	1.36E-07	9.46E-07	6.33E-07	0.00E+00	-1.15E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	1.03E-02	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	3.59E-02	3.59E-02	0.00E+00	3.05E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	1.15E-01	0.00E+00	0.00E+00
Materials for energy rec	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	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	0.00E+00	1.30E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	1.98E+00	0.00E+00	0.00E+00

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	1.74E+00	1.59E-02	1.06E-01	1.86E+00	5.83E-02	1.06E-01	MND	MND	MND	MND	MND	MND	MND	8.74E-04	9.71E-03	1.33E-01	4.36E-03	-1.38E-01
Ozone depletion Pot.	kg CFC-$_{11}$e	9.62E-08	2.87E-09	8.09E-09	1.07E-07	1.04E-08	6.26E-09	MND	MND	MND	MND	MND	MND	MND	3.81E-11	1.68E-09	1.34E-09	1.43E-09	-9.43E-09
Acidification	kg SO_2e	1.45E-02	7.28E-05	3.99E-04	1.49E-02	1.48E-04	7.75E-04	MND	MND	MND	MND	MND	MND	MND	4.04E-06	2.37E-05	6.34E-05	3.16E-05	-1.36E-03
Eutrophication	kg PO_4^{3}e	4.29E-03	1.30E-05	1.84E-04	4.49E-03	3.28E-05	2.46E-04	MND	MND	MND	MND	MND	MND	MND	3.26E-06	5.22E-06	4.17E-05	6.82E-06	-4.68E-04
POCP (“smog”)	kg C_2H_4e	7.28E-04	2.64E-06	2.29E-05	7.54E-04	7.14E-06	3.93E-05	MND	MND	MND	MND	MND	MND	MND	1.65E-07	1.18E-06	1.54E-06	1.33E-06	1.10E-04
ADP-elements	kg Sbe	3.69E-05	4.43E-08	4.69E-07	3.75E-05	1.86E-07	1.90E-06	MND	MND	MND	MND	MND	MND	MND	2.08E-09	3.39E-08	1.42E-08	1.01E-08	-3.23E-06
ADP-fossil	MJ	2.15E+01	2.40E-01	1.98E+00	2.37E+01	8.81E-01	1.31E+00	MND	MND	MND	MND	MND	MND	MND	1.87E-02	1.42E-01	1.12E-01	1.22E-01	1.16E-01

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
07.11.2023

VERIFIED ISO 14025