Environmental Product Declaration

In compliance with ISO 14025 and EN 15804:2012+A2:2019/AC: 2021 for

Rock Wool Slabs

EPD Program	Title	Details
International Climate Intelligence System 71-75 Shelton Street Covent Garden London, WC2H 9JQ United Kingdom info@climateintell.com	Registration #	ICIS-202401-24
	Date of Publication	30.01.2024
	Validity	29.01.2029
	Date of Revision	-

The most recent data needs to be provided through an EPD, which may be updated when circumstances change. Thereby the claimed validity is contingent upon ongoing validation at climateintell.com

INTERNATIONAL CLIMATE INTELLIGENCE SYSTEM EPD

Fujairah Rockwool Factory
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EPD VERIFIED

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1.0 PROGRAM INFORMATION

Program	International Climate Intelligence System 71-75 Shelton Street Covent Garden London, WC2H 9JQ United Kingdom info@climateintell.com
Product Group Classification	UN CPC 37990
Product Category Rules (PCR)	PCR 2020:17 Construction products (EN 15804:2012+A2:2019/AC:2021) Version 1.2.5 dated 01.11.2022 Thermal Insulation products (EN 16783) (2019-12-20) EN standard EN 15804 serves as the Core Product Category Rules (PCR)
Registration Number	ICIS-202401-24
Date of Publication	30.01.2024
Validity Date	29.01.2029
Geographical Scope	Manufactured in Fujairah, UAE and are distributed GCC.

2.0 INTRODUCTION

This report contains the environmental performance of the manufacturing process of Rock Wool Slabs by Fujairah Rockwool Factory. This Environmental Product Declaration (EPD) has been developed using the Life Cycle Assessment (LCA) methodology. The environmental impact values calculated are expressed to 1 kg of Rock Wool Slabs.

The assessed life cycle includes all phases in the manufacturing process of Rock Wool Slabs in a “cradle to gate with options” scope. This LCA covers transportation of Raw materials, production, distribution of final product to the customer and end of life stages.

This EPD has been conducted according to the program operator regulations and it has been verified in accordance with the International Climate Intelligence System. The EPD regulation is a system for the international use of Type III Environmental Declarations, according to ISO 14025:2006. Not only the system, but also its applications, is described in the Programmer’s Product Category Rules (PCR). This report has been made following the specifications given in the European standard EN 15804:2012+A2:2019/AC:2021.

3.0 COMPANY INFORMATION

Fujairah Rockwool Factory is a subsidiary of Fujairah Building Industries PSC. Established in 1982, Fujairah Rockwool became the first manufacturer of Rockwool insulation in the GCC region, and the only one in the UAE. With humble beginnings from a 5000-metric-ton factory, Fujairah Rockwool has continuously grown and expanded its operations to become one of the largest manufacturers of insulation products in the Middle East. Today FRF caters to a large customer base spread all over the Middle East, Far East and other parts of the world.

We are an established entity, and are proud of our reputation as a reliable solution provider, in terms of providing quality insulation and delivering substantial energy savings to a variety of building operators and owners. Our years of expertise and experience make us the leading and largest rock mineral wool insulation producers in GCC countries, and the unanimous choice for providing rock wool insulation across the globe.

We produce Rockwool by mixing coke and limestone into a melting basalt rock mixture, and converting it into fibers. Being a purely volcanic material, millions of years old basalt rock is our raw material of choice. Rockwool exhibits exceptional resistance to high temperatures with extraordinary acoustic properties, and is classified as an inorganic material. To produce hairline fibers, our state-of-the-art factory capitalizes on cutting-edge technology to melt basalt at 1400 degree centigrade and make the flowing lava spin at high speed using multi spun disc system. These fibers are sprayed with a heat setting resin to bind them together.

Certifications

FRF has achieved the below certification:

- ISO 9001:2015 – Quality Management System (22353-Q15-001)
- ISO 14001:2015 – Environmental Management System (22353-E15-001)
- ISO 45001:2018 – Occupational Health & Safety Management System (22353-OHS-001)

4.0 PRODUCT INFORMATION

4.1 Analyzed Product

The assessed system in this Environmental Product Declaration (EPD) comprises the full life cycle of Rock Wool Slabs by Fujairah Rockwool Factory (FRF) in its factory in Fujairah.

FRF manufacture & supply Rockwool Slabs conforming to ASTM C-612 and equivalent BS 3958 Part 5 and BS EN 13162 are designed for the thermal and acoustic insulation of flat or slightly curved surfaces operating at both high and low temperatures.

These slabs are produced from long, non-combustible resin-bonded fibers. They are easy to cut, fit, and handle. Fujairah Rock Wool slabs are ideally suited to insulate all parts of existing and new buildings including offices, homes, retail, healthcare, educational and commercial premises.

4.2 Product Sizes

Size (mtr.)	Thickness (mm)	Density (KG/M^3)
1.2 - 0.60	25 - 200	30 - 200
1.2 - 0.60		
1.2 - 0.60		

4.3 Product Specifications

Standard
ASTM C-612 and equivalent BS 3958 Part 5 and BS EN 13162

4.4 Product Applications

Building Applications	They are suitable for thermal insulation for cavity walls, curtain walls, sandwich panels, and a variety of other applications. Wall Insulation, Roof Insulation and Floor & Ceiling Insulation
Industrial Applications	Designed for a wide range of applications, at both high and low service temperatures, and can be used on flat or slightly curved surfaces for thermal and acoustic insulation. Ideal for fire protection of steel structures and insulation of bulkheads and ship decks. Protect high compressive strength /mechanical loads and vibration area. Ideal for traffic areas and insulation of tank roofs.
OEM Applications	Used in acoustical panel, car muffler, HVAC, or fire-door. Sound Attenuator, Solar Panels and more.

Linear Gap Sealing & Cavity Applications	Perform as a barrier in construction movement joints and long linear installations in horizontal and vertical applications.
Marine Applications	Fire and acoustic insulation

5.0 LCA INFORMATION

5.1 Declared Unit

The Declared Unit of the Life Cycle Assessments is 1 kg of Rockwool Slab. All direct and indirect environmental impacts, as well as the use of resources, are reported referred to this unit. This EPD presents the environmental impacts associated to the LCA of the analyzed product. For conversion of the results, below table can be used.

Thickness (mm)	Density (kg/m^3)	Kg/m^2
25 - 200	30 - 200	0.75 - 21

5.2 Time representativeness

Manufacturing facility specific data from Fujairah Rockwool Factory are based on 1 year average for process data (Reference year Jan to Dec 2022). The following rules for time scope of data were applied - < 10 years for background data and < 2 years for manufacturer's data.

5.3 LCA Software and Database

Version 3.16.0.1 of software Air.e LCA™ with Ecoinvent™ 3.8.0 database has been used for LCA modeling and impacts calculations.

5.4 System Boundaries

This EPD covers all product stages from “cradle to gate with options”, i.e this LCA covers Production stage A1-A3, Transportation A4, End of life stages C1-C4 and Resource recovery stage D according to EN 15804 + A2/AC:2021.

The procedures that are not controlled by the company, but are included in this environmental study, are:

- The extraction and production of fuels.

- The production of electricity.
- The production of the machinery, buildings, and vehicles.

All related direct and indirect environmental impacts related to these elements have been calculated and were included in the LCAs in this EPD.

Upstream Processes (**A1: Raw Material Supply**): Production of the product starts with mainly raw material production and transportation from different parts of the world and some locally sourced. 'Raw material supply' includes raw material extraction before production.

Core Processes (**A2: Transportation**): Transport is relevant for delivery of raw materials to the plant and the transport of materials within the plant. Foundry Coke is transported from Italy 17.60%, Poland 2.32%, Resin from India 5.33%, Limestone/Harzburgite Stone 9.93% from Fujairah, Basalt 46.30% from Fujairah and Aggregate 18.52% from Fujairah. In our case, the modelling included each raw material's road and shipping distances (average values).

Manufacturing (module A3): The processes that are included in the manufacturing phase are the filling, melting, spinning, curing, cutting and packing of which energy consumption, auxiliary material consumption, waste and gaseous emissions have been modeled. During the manufacturing process, there is created metal waste - 100% of metal wastes are recycled.

Transport (module A4): To create a scenario of the A4 phase, all the products sold from January – December 2022 has been analyzed as representative of the international transport. The transport means 3.5-7.5t & >32t trucks, Euro 6.

Scenario Details	Description
Vehicle used for transport	3.5-7.5t & >32t trucks, Euro 6.
Vehicle capacity	3.5 -7.5 tons and 25 tons
Fuel type and consumption	Diesel, 0.38 liters per km
Capacity utilization (including empty drums)	50% as assumed in Ecoinvent
Bulk transportation	Mass of the transported product.

Dismantling/demolition (module C1)

Module C1 assumes that all the Rockwool Slabs used for various insulation purposes are to be manually removed. Hence, no environmental impacts are assigned to this module.

Transportation of demolished items (module C2)

Module C2 assumes that 97% (3% is assumed to be lost during removal) of the Rockwool slabs are obtained from manual removal. Hence, these slabs are taken to a nearby landfill which can be averaged at a distance of 50 kms in a 3.5-7.5t truck. This is a conservative approach.

Type	Capacity utilization	Type of vehicle	Average distance
Truck	50%	Euro 3.5-7.5t	50 km

Waste processing (module C3)

Since all the manually retrieved slabs are transported to a landfill, no environmental impacts are assigned to Module C3.

Disposal (module C4)

97% of the manually retrieved Rockwool Slabs are landfilled and all the corresponding impacts are assigned to Module C4.

Reuse, Recycling, and Recovering Potential (module D)

Module D represents the recycling potential of all the packaging materials used.**5.5**

Manufacturing and System Boundaries Diagram

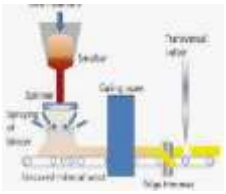
The scope of this EPD is "cradle to gate with options".

Possible scopes of the LCA defined in the European standard EN 15804:2012+A2:2019/AC:2021 are:

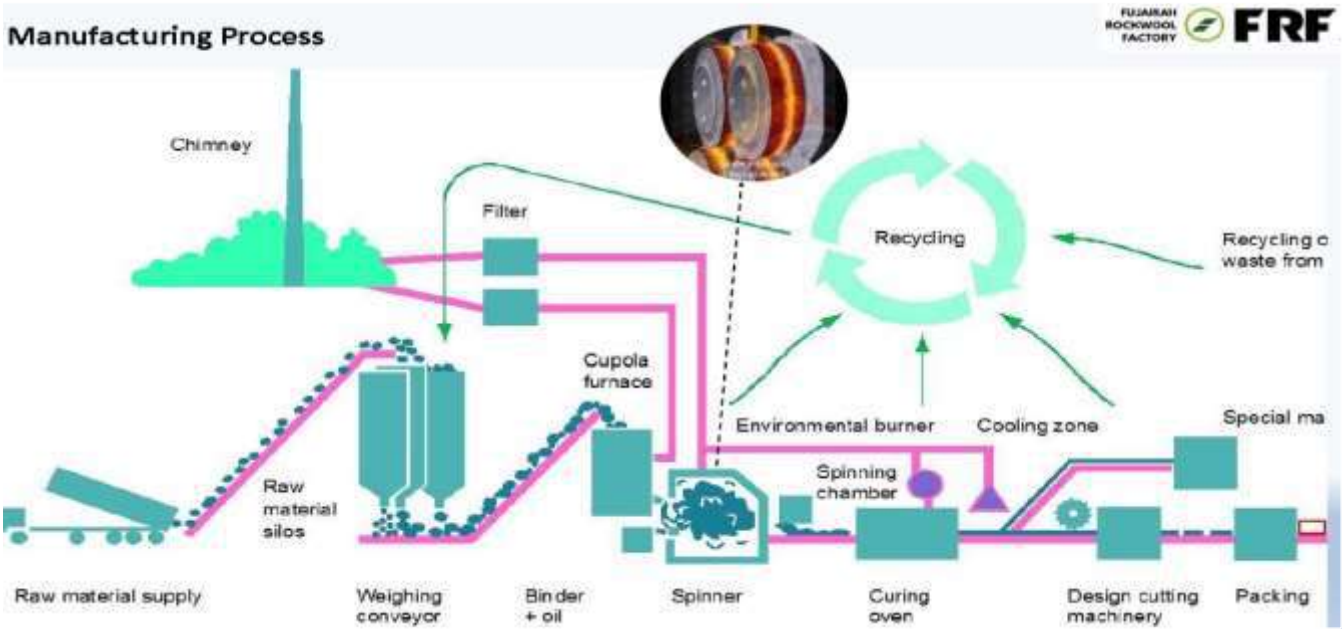
	Production Stage			Construction Process Stage		Use Stage						End of Life Stage					Resource Recovery Stage
	Raw Materials	Transport	Manufacturing	Transport	Construction Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	De-construction Demolition	Transport	Waste Processing	Disposal	Reuse Recovery Recycling Potential
Module	**A1**	**A2**	**A3**	**A4**	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	**X**	**X**	**X**	**X**	ND	ND	ND	ND	ND	ND	ND	ND	**X**	**X**	**X**	**X**	**X**
Geography	GLO	UAE/GLO	UAE	UAE/GCC	-	-	-	-	-	-	-	-	GLO	GLO	GLO	GLO	GLO
Specific data	GWP > 90%				-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	One Product				-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	One manufacturing center				-	-	-	-	-	-	-	-	-	-	-	-	-

X = Included, ND=Module not declared, NR= Module not relevant

Modules from A5 to B7 are not included (X refers to considered stage; N refers to not relevant stage and ND to not declared stage).

Scope of this Life Cycle Assessment 'Cradle to Gate with Options'					
A1 Raw Materials Production	**A2 Transport raw materials**	**A3 Manufacture**	**A4 Distribution**	**End of use Stage (C1-C4)**	**Recovering and Recycling (D)**
 	 		  		
Raw Materials and Chemicals	Transport from supplier by Road & Sea	Filling, melting, Spinning, curing, cutting & packing	Transport to customers by trucks	Demolition, transport, disposal.	Reuse, recovery and recycling potential

The following diagram is a more detailed description of the A3 module.



5.6 Content Declaration

Product Components	Weight %	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Stone Wool	80	0	0
Aggregate	17	0	0
Binder	3	0	0
Total	**100.00**	**0**	**0**

Packaging Materials			
Packaging Materials	**Weight Kg**	**Weight % (Versus the Product)**	**Weight biogenic carbon, kg C/kg**
LD Black Poly sheet	0.024	2.4	0
Green Poly sheet	0.048	4.8	0
LD U.V.Poly bag	0.008	0.8	0
Black Poly bag	0.001	0.1	0
*Biogenic carbon content is not presents since the packaging weights less than a 5% over the product's weight.			

5.7 Substances listed in the "Candidate List of SVHC"

During the life cycle of the product, no hazardous substances listed in the "Candidate List of substances of very high concern (SVHC) for authorization" has been used in a percentage higher than 0.1% of the weight of the product.

5.8 More information

Cut-off rules: more than 99% of the materials and energy consumption have been included. The Polluter Pays Principle and the Modularity Principle have been followed.

Allocations: The allocation of common inputs and outputs is based on the general allocation rule what represents the proportion of production of every specific product in overall production expressed in kg. Generic process data for production of input materials were used.

Electricity: A specific dataset with the Life Cycle Inventory (LCI) corresponding to the electricity mix in Fujairah/Abu Dhabi, UAE, has been used for this LCA.

Calculation Rules: Datasets from Ecoinvent 3.8.0 with emission factors for raw materials and generic chemicals have been characterized to adjust them to the characteristics of manufacturing of suppliers or counties where suppliers are located. Specific datasets with the emissions factors corresponding to the fuel combustion of production plant and machinery have been developed for these LCAs. Indirect

emissions due to diesel production and transportation are also included in the environmental impact. Minor components are not directly related to the product, with less than 1% impact, such as office supplies, has been excluded from the assessment.

All transports of components have been included in the LCA considering real distances travelled by materials used for production. It is estimated in a global scale according to Ecoinvent™ criteria. As exact port locations are not known in detail, transport distances have been calculated from a one of the ports in the country of origin to the factory. Operation in port has also been excluded. Road distances calculated using Google Maps. Maritime distances calculated using Marine Traffic Voyage Planner.

By Products Assignment: There are no by-products in this Environmental Product Declaration. Hence no allocation had to be applied.

6.0 ENVIRONMENTAL PERFORMACE

6.1 Potential Environment Impacts

In the following tables, the environmental performance of the declared units “One-kg of Rockwool Slab” is presented for the Fujairah Rockwool Company. During the assessment it was not evident to distinguish the differences in the consumption of electricity, water, raw material and chemicals during the manufacturing. Hence, the calculation is based on total production vs total consumption against manufacturing of the product. Environmental impacts are calculated using the EF-3.1, (ILCD).

Rockwool Slab

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding thresholds values, safety margins or risks.

Core Environmental Impact Indicators

Impact Category	Unit	A1	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Climate change (GWP) – fossil	kg CO2e	2.37E-01	3.08E-03	2.00E+00	4.66E-02	ND	ND	0.00E+00	1.71E-02	0.00E+00	5.92E-03	-1.23E-02
Climate change (GWP) – biogenic	kg CO2e	4.46E-04	6.43E-07	2.67E-03	6.58E-09	ND	ND	0.00E+00	0.00E+00	0.00E+00	2.72E-06	-1.91E-05
Climate change (GWP) – LULUC	kg CO2e	1.79E-04	1.33E-06	3.71E-04	2.68E-08	ND	ND	0.00E+00	0.00E+00	0.00E+00	2.09E-06	-7.02E-06
Climate change (GWP) – total	kg CO2e	2.38E-01	3.08E-03	2.00E+00	4.66E-02	ND	ND	0.00E+00	1.71E-02	0.00E+00	5.93E-03	-1.24E-02
Ozone depletion	kg CFC11e	2.94E-08	7.40E-10	1.66E-07	7.77E-06	ND	ND	0.00E+00	0.00E+00	0.00E+00	1.70E-10	-2.00E-10
Acidification	mol H+e	1.14E-03	4.00E-05	1.38E-02	2.00E-05	ND	ND	0.00E+00	5.12E-06	0.00E+00	4.00E-05	-5.00E-05
Eutrophication, aquatic freshwater	kg PO4e	1.99E-04	6.65E-07	1.64E-03	3.75E-09	ND	ND	0.00E+00	0.00E+00	0.00E+00	1.52E-06	-8.48E-06
Eutrophication, aquatic freshwater	Kg P eq	6.50E-05	2.17E-07	5.33E-04	1.22E-09	ND	ND	0.00E+00	0.00E+00	0.00E+00	4.94E-07	-2.76E-06
Eutrophication, aquatic marine	kg Ne	2.20E-04	9.81E-06	5.88E-03	6.88E-06	ND	ND	0.00E+00	2.41E-06	0.00E+00	1.68E-05	-1.02E-05
Eutrophication, terrestrial	mol Ne	2.36E-03	1.10E-04	3.01E-02	8.00E-05	ND	ND	0.00E+00	3.00E-05	0.00E+00	1.80E-04	-1.10E-04
Photochemical ozone formation	kg NMVOCe	8.86E-04	2.97E-05	1.15E-02	2.04E-05	ND	ND	0.00E+00	7.16E-06	0.00E+00	6.37E-05	-5.22E-05
Abiotic depletion, minerals & metals	kg Sbe	2.53E-06	7.90E-09	3.14E-06	5.00E-05	ND	ND	0.00E+00	0.00E+00	0.00E+00	8.19E-09	-6.79E-08
Abiotic depletion of fossil resources	MJ	4.85E+00	4.93E-02	3.01E+01	5.30E-04	ND	ND	0.00E+00	0.00E+00	0.00E+00	1.56E-01	-4.01E-01
Water use	m3e depr.	1.53E-01	3.90E-04	-6.13E+00	1.19E-06	ND	ND	0.00E+00	0.00E+00	0.00E+00	6.84E-03	-6.62E-03

EN 15804+ A2 disclaimers for Abiotic depletion and Water use indicators and all 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 experienced with the indicator. "Reading example: 1.57E-03 = 1.57*10-3 = 0.00157"

Additional Environmental Impact Indicators

Impact Category	Unit	A1	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1.05E-08	1.87E-10	1.79E-07	8.11E-11	ND	ND	0.00E+00	2.93E-11	0.00E+00	9.53E-10	-4.34E-10
Ionizing radiation, human health	kBq U235e	1.47E-02	2.33E-04	4.61E-02	2.27E-06	ND	ND	0.00E+00	0.00E+00	0.00E+00	8.99E-05	-4.35E-04
Eco-toxicity (freshwater)	CTUe	8.54E+00	1.36E-02	1.71E+01	3.00E-04	ND	ND	0.00E+00	6.00E-05	0.00E+00	6.06E-03	-3.37E-02
Human toxicity, cancer effects	CTUh	2.29E-10	1.17E-12	6.97E-09	1.38E-12	ND	ND	0.00E+00	4.98E-13	0.00E+00	1.69E-12	-3.46E-12
Human toxicity, non-cancer effects	CTUh	2.57E-09	2.58E-11	2.41E-08	2.79E-11	ND	ND	0.00E+00	1.02E-11	0.00E+00	2.35E-11	-8.55E-11
Land use related impacts/soil quality	Dimensionless	1.47E+00	2.59E-02	4.07E+00	7.00E-05	ND	ND	0.00E+00	0.00E+00	0.00E+00	9.92E-02	-1.59E-02

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.

Environmental impacts – GWP-GHG

Impact Category	Unit	A1	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP-GHG	kg CO2e	2.37E-01	3.08E-03	2.00E+00	4.66E-02	ND	ND	0.00E+00	1.71E-02	0.00E+00	5.92E-03	-1.24E-02

This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013) This indicator Is almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Use of Natural Resources

Impact Category	Unit	A1	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Renewable PER used as energy	MJ	1.88E-01	8.47E-05	3.57E-01	3.34E-06	ND	ND	0.00E+00	0.00E+00	0.00E+00	1.28E-03	-7.03E-03
Renewable PER used as materials	MJ	8.05E-04	2.07E-06	1.43E-03	1.48E-08	ND	ND	0.00E+00	0.00E+00	0.00E+00	5.29E-06	-2.97E-05
Total use of renewable PER	MJ	1.89E-01	8.68E-05	3.58E-01	3.35E-06	ND	ND	0.00E+00	0.00E+00	0.00E+00	1.29E-03	-7.06E-03

Non-renew. PER used as energy	MJ	4.85E+00	4.93E-02	3.01E+01	5.30E-04	ND	ND	0.00E+00	0.00E+00	0.00E+00	1.56E-01	-4.01E-01
Non-renew. PER used as materials	MJ	1.25E-06	3.08E-09	4.28E-06	8.82E-12	ND	ND	0.00E+00	0.00E+00	0.00E+00	1.10E-07	-1.68E-08
Total use of non-renewable PER	MJ	4.85E+00	4.93E-02	3.01E+01	5.30E-04	ND	ND	0.00E+00	0.00E+00	0.00E+00	1.56E-01	-4.01E-01
Use of secondary materials	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renew. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m3	0.00E+00	0.00E+00	2.98E+04	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

End of Life - Waste

Impact Category	Unit	A1	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Hazardous waste	Kg	0.00E+00	0.00E+00	5.71E+05	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-hazardous waste	Kg	0.00E+00	0.00E+00	2.42E+06	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	1.45E+07	0.00E+00
Radioactive waste	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

End of Life - Outflows

Impact Category	Unit	A1	A2	A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Components for reuse	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-9.17E+04
Materials for recycling	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	Kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy - electricity	MJ	0.00E+00	0.00E+00	1.92E+07	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy - thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Biogenic Carbon Content

Details	Unit	A1-A3
Biogenic carbon content in product	Kg C	0
Biogenic carbon content in accompanying packaging	Kg C	0

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2. "Reading example: 1.57E-03 = 1.57*10-3 = 0.00157"

Disclaimer: "According to the EN 15804:2012+A2:2019 standard, the LCIA results are relative expressions translating impacts into environmental themes such as climate change, ozone depletion, etc. (midpoint impact categories). Thus, the LCIA results do not predict impacts on category endpoints such as impact on the extinction of species or human health. In addition, the results do not provide information about the exceeding of thresholds, safety margins or risks".

6.2 Interpretation of LCA Study Results

In general terms, as it is shown in the table of core environmental impact indicators, A1-A3 modules have the higher impact, representing above 80% of the whole impact. A4 module has a less impact. C2 and C4 module has little impact too, representing at most 0.16% and 0.01% respectively of the whole impact.

7.0 MANDATORY STATEMENTS

Explanatory material can be obtained from EPD owner and/or LCA author. The verifier and The Program Operator do not make any claim or present any responsibility about the legality of the product. The EPD owner has the sole ownership, liability, and responsibility for the EPD. The LCA Author shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

EPDs within the same product category but registered in different EPD programmes may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; have equivalent content declarations; and be valid at the time of comparison.

8.0 ADDITIONAL INFORMATION

8.1 Action against Erosion, Environmental Restoration, and Landscaping of the work.

Application of measures to prevent erosion, restore the environment, and landscape the job includes restoring all elements immediately connected to it. The restoration of other related items indirectly is also suggested, including auxiliary facilities, and loan and landfill lands.

To delight the customers, the R&D Department of Fujairah Rockwool is continuously striving to develop new product applications for this remarkably versatile product.

We recycle as many waste materials as possible. We follow a Just-in-Time manufacturing strategy to increase efficiency, reduce wastage and eliminate the need for excess storage.

FRF process lines handle wider range of products and provide more flexibility in production scheduling.

8.2 Information related to Sector EPD

This is not a sector EPD.

8.3 Differences versus previous versions

This is the first version of the EPD.

9.0 VERIFICATION

Diffusion Institution	International Climate Intelligence System 71-75 Shelton Street, Covent Garden London, WC2H 9JQ United Kingdom
Registration Number	ICIS-202401-24
Date of Publication	30.01.2024
Valid until	29.01.2029
Reference year for Data	January 2022 to December 2022
Geographical Scope	Manufactured in Fujairah and Distributed GCC
Product category rules (PCR): PCR 2020:17 Construction products (EN 15804:2012+A2:2019/AC:2021) Version 1.2.5 dated 01.11.2022. Thermal Insulation products (EN 16783) (2019-12-20). EN standard EN 15804 serves as the Core Product Category Rules (PCR)	
PCR review was conducted by: International Climate Intelligence System.	
Independent verification of the declaration and data, according to ISO 14025:2006 and ISO 14040: ☐ EPD Process Certification (internal) ☒ EPD Verification (external)	
Third party verifier: Constantine Stephen.S, Glasgow Accredited by: International Climate Intelligence System	

10.0 CONTACT INFORMATION

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Verifier Details	Name: Constantine Stephen.B Location: Glasgow Accredited by: International Climate Intelligence System

11.0 REFERENCES

LCA Report: Life Cycle Inventory of Rockwool Slab by Fujairah Rockwool Factory.

Software: Air.e LCA Version 3.14.0.15 www.solidforest.com

Main database: Ecoinvent 3.9 www.ecoinvent.org

Geographical scope of the EPD: GCC

ISO 14040:2006 “Environmental management -- life cycle assessment -- principles and framework”;

ISO 14044:2006 “Environmental management -- life cycle assessment -- requirements and guidelines”;

ISO 14020:2000 “Environmental Labels and declarations - General Principles

ISO 14025:2006 “Environmental labels and declarations -- type III environmental declarations -- principles and procedures”.

EN 15804+A2:2019/AC:2021 European Committee for Standardization: Sustainability of construction works − Environmental product declarations − Core rules for the product category of construction products.

General Programme Instructions of the International Climate Intelligence System