ENVIRONMENTAL PRODUCT DECLARATION

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

JAZEERA FLOORING

Jazeera Factory for Paints Co

EPD HUB, HUB-2122
lishing date 27.10.2024, last updated date 27.10.2024, valid until 27.10.2029

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Jazeera Factory for Paints Co
Address	Street 2, Aseer Industrial City, , 61961, Khamis Mushait, , SA
Contact details	sbaomar@jazeerapaints.com
Website	www.jazeerapaints.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 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Saeed Baomar
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ 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	JAZEERA FLOORING
Additional labels	FLOOR COATING / FLOOR COATING 400 / FLOOR COATING ESD / FLOOR PRIMER ESD / SELF LEVEL 400
Product reference	-
Place of production	Khamis Mushait, Saudi Arabia
Period for data	01-Jan-2023 - 31-Dec-2023
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	-3.4 to -8.4 %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of paint
Declared unit mass	1 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	4,28E+00
GWP-total, A1-A3 ($kgCO_2e$)	4,20E+00
Secondary material, inputs (%)	0.94
Secondary material, outputs (%)	6.58
Total energy use, A1-A3 (kWh)	16.4
Net freshwater use, A1-A3 (m^3)	0.05

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Founded in Riyadh, Saudi Arabia in 1979, Jazeera Paints is a pioneering paint manufacturer in the Gulf Cooperation Council (GCC) and Middle East and North Africa region (MENA), with an established reputation for manufacturing and exporting high-quality and eco-friendly paints.

PRODUCT DESCRIPTION

High build two component epoxy floor coating with self-smoothing and seamless properties for protection and decoration. It is highly resistant to chemicals and abrasion and gives a smooth, high-gloss finish without any joint traces. use where high wear, abrasion and chemical resistance also high cleaning properties are required. Can be provide electrostatic discharge (ESD) properties to diversified surfaces. Ideal for variety surfaces such as concrete, cement, mortars and steel. It can be used on abroad range of interior flooring such as: aircraft hangers, factories, warehouses, car garages, parking, power stations, exhibition halls, showrooms, food industries and laboratories.
Volume Solid: 100%
Specific Gravity: 1.5±0.3 (mixed)
Viscosity: high viscous and spreading rate depends on the thickness (300-500 microns)

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	44.7	Asia
Minerals	0.6	Asia
Fossil materials	54,7	Asia
Bio-based materials	0.0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.0266

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of paint
Mass per declared unit	1 kg
Functional unit	-
Reference service life	10 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		
×	×	×	MND	MND	MND	MND	MND	MND	MND	MND	MND	×	×	×	×	×		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	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 production process involves four stages: pre-mixing, finishing, packaging, and palletizing. In the initial two stages, the paint components are added and mixed. In the final two stages, the paint is filled into cans, then palletized and secured for storage and distribution. The production line primarily uses electricity, while diesel is used for forklifts in internal transport. Ancillary materials include solvents and cleaning agents. There is an estimated material loss of 0.4% during transfers between different vessels.

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.

This EPD does not cover this phase.

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)

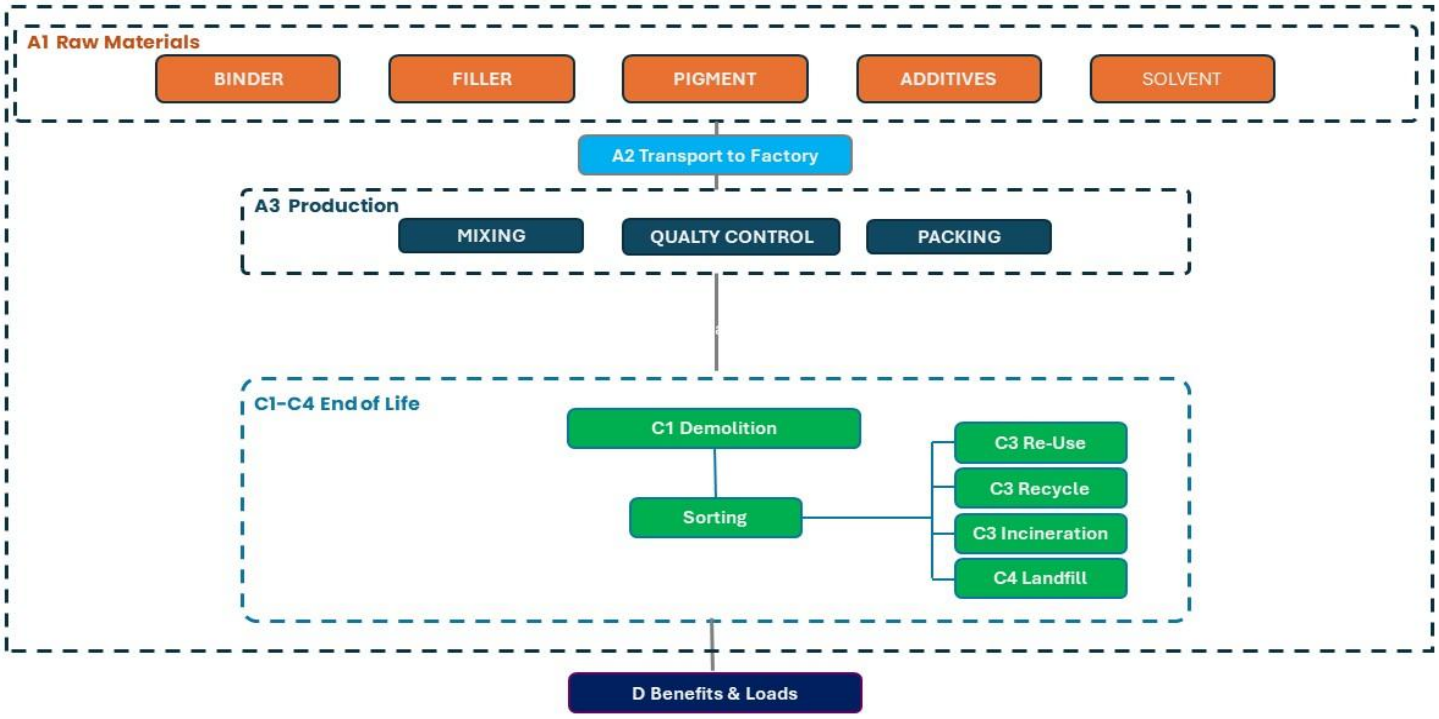
The paint adheres firmly in a thin layer onto the underlying materials, at EoL stage considered the application of the product into surfaces. A conservative approach was taken, assuming 100% landfilling, in accordance to this product's market. The impacts of demolition are, therefore, close to zero (C1). Module D considers the benefits and loads, together with energy and biogenic carbon transfer beyond the system boundary of packaging material.

C2: Transportation of the product and packaging material leaving the system were assumed to be 50km.

Since this scope does not include the A4-A5. The packaging material is leaving the system boundary on End-of-Life stage. For packaging material, the

following scenarios were considered: Pallet 80% recycling, 20% landfilled; Plastic: 70% recycling, 30% landfilled; Steel: 90% recycling, 10% landfilled; and finally Cardboard 98% recycling, 2% landfilled.
The aforementioned end-of-waste scenario for packaging and products are based on the recent statistics provided by the National Center for Waste Management, of Saudi Arabia (https://mwan.gov.sa/en/permited_companies).

MANUFACTURING PROCESS AND SYSTEM BOUNDARY



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 material	Allocated by mass or volume
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	Representative product
Variation in GWP-fossil for A1-A3	-3.4 to -8.4 %

This EPD covers multiple products, with JAZEERA FLOORING selected as the most representative and baseline product, given its status as the sales leader in this group. Life Cycle Assessments (LCAs) for 5 additional products were conducted and compared to the baseline to ensure that their impacts fall within the +/- 50% GWP A1-A3 fossil statistical range. Specifically, FLOOR COATING exhibited the highest GWP fossil A1-A3 variation at -3.4%, while FLOOR COATING ESD showed the lowest variation at -8.4%.

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. The EPD Generator uses Ecoinvent v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases 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	4,07E+00	1,12E-01	1,99E-02	4,20E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	5,07E-03	7,85E-02	1,21E-01	-1,16E-01
GWP – fossil	kg CO_2e	4,06E+00	1,12E-01	1,17E-01	4,28E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	5,07E-03	1,17E-03	1,20E-01	-1,51E-02
GWP – biogenic	kg CO_2e	6,45E-03	4,09E-05	-9,71E-02	-9,06E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	1,96E-06	7,74E-02	1,32E-03	-1,01E-01
GWP – LULUC	kg CO_2e	2,62E-03	4,23E-05	1,63E-04	2,82E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	1,87E-06	1,87E-06	1,11E-05	-1,45E-05
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	3,94E-07	2,55E-08	9,33E-09	4,28E-07	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	1,17E-09	5,72E-11	3,25E-09	-8,19E-10
Acidification potential	mol H^+e	2,11E-02	4,71E-04	7,14E-04	2,23E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	2,15E-05	7,54E-06	9,09E-05	-6,66E-05
EP-freshwater[2)]	kg Pe	2,37E-04	9,22E-07	3,71E-06	2,42E-04	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	4,15E-08	5,29E-08	1,71E-07	-1,84E-07
EP-marine	kg Ne	4,19E-03	1,39E-04	1,39E-04	4,47E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	6,38E-06	1,48E-06	3,13E-05	-9,46E-06
EP-terrestrial	mol Ne	3,83E-02	1,54E-03	1,48E-03	4,14E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	7,04E-05	1,66E-05	3,40E-04	-1,87E-04
POCP ("smog")[3)]	kg NMVOCe	1,49E-02	4,86E-04	4,64E-04	1,58E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	2,25E-05	4,57E-06	1,24E-04	-8,12E-05
ADP-minerals & metals[4)]	kg Sbe	4,49E-05	2,92E-07	2,05E-06	4,73E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	1,19E-08	3,39E-08	3,63E-08	-3,24E-07
ADP-fossil resources	MJ	7,14E+01	1,66E+00	1,48E+00	7,45E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	7,62E-02	1,38E-02	2,48E-01	-1,62E-01
Water use[5)]	m^3e depr.	2,07E+00	7,41E-03	4,03E-02	2,11E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	MNR	3,41E-04	2,59E-04	1,46E-03	2,24E-03

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	2,25E-07	1,21E-08	1,03E-08	2,47E-07	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,84E-10	1,01E-10	1,84E-09	-9,03E-10
Ionizing radiation[6]	kBq U235e	2,00E-01	7,88E-03	7,19E-03	2,15E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,63E-04	1,05E-04	1,18E-03	-1,51E-05
Ecotoxicity (freshwater)	CTUe	2,44E+02	1,51E+00	3,05E+00	2,48E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,85E-02	3,62E-02	2,26E-01	-3,66E-01
Human toxicity, cancer	CTUh	3,26E-09	3,82E-11	1,63E-09	4,93E-09	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,68E-12	1,00E-12	1,45E-11	9,56E-11
Human tox. non-cancer	CTUh	1,71E-07	1,47E-09	2,33E-09	1,75E-07	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,78E-11	2,99E-11	1,65E-10	5,40E-10
SQP[7]	-	1,96E+01	1,74E+00	1,28E+01	3,41E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,77E-02	8,81E-03	6,01E-01	-1,03E-01

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	2,36E+00	1,89E-02	1,02E+00	3,40E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,58E-04	1,63E-03	4,41E-03	-2,10E-02
Renew. PER as material	MJ	0,00E+00	0,00E+00	8,55E-01	8,55E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-6,85E-01	-1,70E-01	0,00E+00
Total use of renew. PER	MJ	2,36E+00	1,89E-02	1,88E+00	4,26E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,58E-04	-6,83E-01	-1,65E-01	-2,10E-02
Non-re. PER as energy	MJ	5,24E+01	1,66E+00	1,38E+00	5,55E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,62E-02	1,38E-02	2,48E-01	-1,44E-01
Non-re. PER as material	MJ	1,67E+01	0,00E+00	1,49E-02	1,67E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,51E+01	-1,68E+00	0,00E+00
Total use of non-re. PER	MJ	6,91E+01	1,66E+00	1,40E+00	7,22E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,62E-02	-1,50E+01	-1,44E+00	-1,44E-01
Secondary materials	kg	9,38E-03	4,82E-04	1,03E-02	2,01E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,11E-05	8,69E-06	8,89E-05	6,77E-03
Renew. secondary fuels	MJ	3,44E-04	5,22E-06	2,25E-02	2,28E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,13E-07	2,03E-07	3,42E-06	-3,38E-05
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	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	5,17E-02	2,11E-04	1,09E-03	5,30E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,87E-06	6,70E-06	2,66E-04	-3,04E-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	5,09E-01	2,25E-03	6,58E-02	5,77E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,01E-04	1,09E-04	0,00E+00	-6,26E-03
Non-hazardous waste	kg	1,48E+01	3,67E-02	1,51E-01	1,49E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,66E-03	2,37E-03	1,01E+00	-2,17E-02
Radioactive waste	kg	1,34E-04	1,11E-05	4,12E-06	1,49E-04	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,10E-07	3,95E-08	0,00E+00	-2,11E-07

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	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	6,58E-02	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	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	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+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	3,90E+00	1,11E-01	1,17E-01	4,13E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,02E-03	1,16E-03	9,84E-02	-1,42E-02
Ozone depletion Pot.	kg CFC_{-11}e	3,45E-07	2,02E-08	7,72E-09	3,73E-07	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,24E-10	4,67E-11	2,58E-09	-8,36E-10
Acidification	kg SO_2e	1,76E-02	3,66E-04	5,89E-04	1,86E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,67E-05	6,18E-06	6,89E-05	-5,25E-05
Eutrophication	kg PO_4^3e	1,46E-02	8,35E-05	1,87E-04	1,49E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,80E-06	2,78E-06	4,04E-03	-2,19E-05
POCP (“smog”)	kg C_2H_4e	2,42E-03	1,44E-05	3,30E-05	2,47E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,51E-07	2,62E-07	1,81E-05	-8,59E-06
ADP-elements	kg Sbe	4,26E-05	2,83E-07	2,05E-06	4,49E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,15E-08	3,39E-08	3,50E-08	-3,23E-07
ADP-fossil	MJ	7,14E+01	1,66E+00	1,48E+00	7,45E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,62E-02	1,38E-02	2,48E-01	-1,62E-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
25.10.2024

VERIFIED ISO 14025