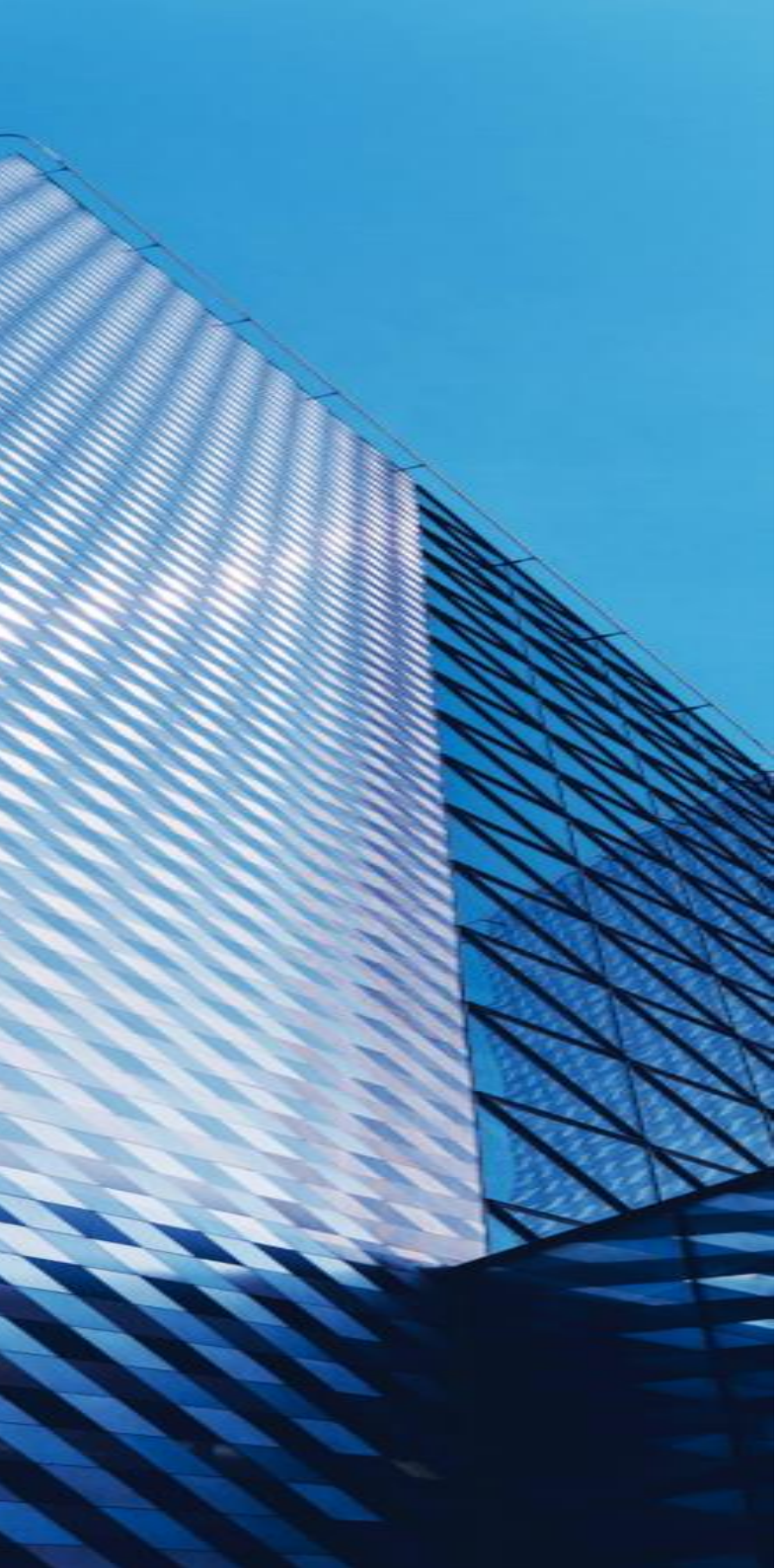


ENVIRONMENTAL PRODUCT DECLARATION

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

Integra 4000 Series Non-Fire Rated Riser Doors
Bilco Access Solutions Limited t/a Profab Access

EPD HUB, HUB-1353
Published on 26.04.2024, last updated on 26.04.2024, valid until 26.04.2029.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Bilco Access Solutions Limited t/a Profab Access
Address	Innovation Drive Wolverhampton West Midlands WV9 5GA United Kingdom
Contact details	technical@profabaccess.com
Website	https://profabaccess.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
Parent EPD number	HUB-1352
Scope of the EPD	Cradle to gate with options, A4, and modules C1-C4, D
EPD author	Lara Coutinho - Tyman UK&I
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	Integra 4000 Series Riser Doors
Additional labels	Non-Fire Rated
Product reference	-
Place of production	United Kingdom
Period for data	from December 2022 to November 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m2 of Non-Fire Rated Door
Declared unit mass	12 kg
GWP-fossil, A1-A3 (kgCO2e)	4.88E+01
GWP-total, A1-A3 (kgCO2e)	4.69E+01
Secondary material, inputs (%)	26.3
Secondary material, outputs (%)	96
Total energy use, A1-A3 (kWh)	192
Net fresh water use, A1-A3 (m3)	0.56

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Bilco UK, Profab Access and Howe Green together form Access 360, a division of Tyman UK & Ireland, providing a total manufacturing solution for roof, ceiling, wall and floor access products to the construction industry. Profab Access is a leading designer and manufacturer of concealed, fire rated and non-fire rated riser doors and access panels. With our innovative approach we continue to launch new products, provide project assistance, educate the market through RIBA accredited CPDs and are proud members of Made in Britain.

PRODUCT DESCRIPTION

Profab Access riser doors can be found in the corridors, hallways and staircases of commercial offices, prestigious developments, hotels and public buildings all over the world. INTEGRA 4000 SERIES riser doors are available as single, double or multipart door sets. They are supplied with our patented PRECISION adjustable frame for a seamless finish without compromising on architectural design or building aesthetics. INTEGRA 4000 SERIES NON-FIRE RATED riser doors are specified by architects seeking a higher performance alternative to traditional timber riser doors for commercial and residential buildings where concealed maintenance-free access is required to mechanical services within the riser shaft.

The variant used in this LCA was based on a 900 x 2400 mm single-door frame size including doorleaf+ accessories, and all materials and processes have been scaled down to 1 m2.

Further information can be found at https://profabaccess.com/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	99	UK, China
Minerals	-	-
Fossil materials	1	UK
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	0.219

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m2 of Non Fire Rated Door
Mass per declared unit	12 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	MND	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

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

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The product is made of sheet steel, and the raw materials are transported to the production facility, where the main manufacturing processes include punching, folding and welding before receiving a powder coating and during assembly components are added. The manufacturing process requires electricity and fuels for the different equipment. Certain ancillary materials are also included. Waste steel generated during production is recycled, and losses of raw materials that occurred during the manufacturing process and the disposal of waste powder coating as hazardous waste were considered. The finished product is packaged in plastic film and put on wooden pallets before being sent to the installation site by lorry.

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 from the manufacturing site to the building site is calculated to be an average of 230 km by lorry. Installation guides are available to assist the contractor with the correct installation of the product and any ancillaries.

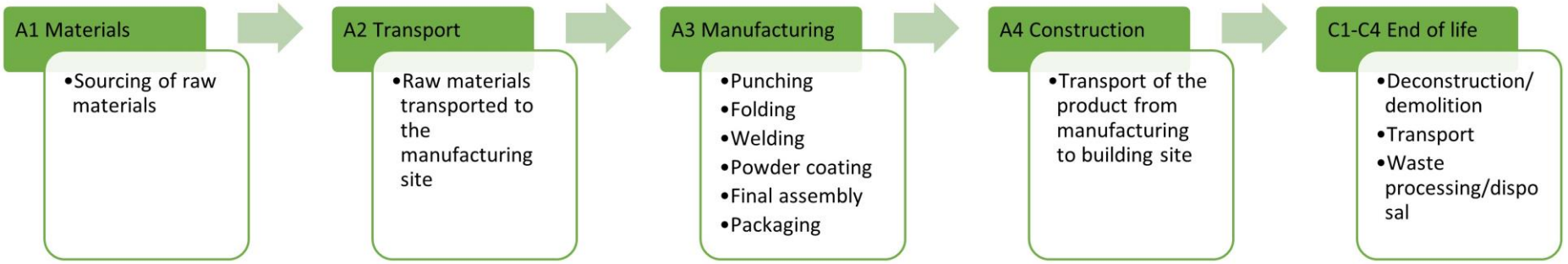
PRODUCT USE AND MAINTENANCE (B1-B7)

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)

For the removal of the structural products, a conservative estimate for energy (0.001kWh/product kg) for using cranes or wrecking balls was made. It is assumed that 100% of the waste is collected and transported to a regulated waste treatment centre. We took a conservative approach and assumed a 100km distance between the construction site and the nearest waste contractor facility, transported by lorry. At the end of the product service life, it is recommended that the steel is sent to a metal recycling centre and accessories are sent to specialist centres. Approximately 92% of steel and accessories are assumed to be recycled based on UK Government C&D (construction and demolition) 2020 waste statistics. It is assumed that the remaining 8% of steel and accessories, are sent to landfill for final disposal. The packaging materials used for this product are recommended to be reused (wooden pallets), recycled or incinerated for energy recovery wherever possible. We have modelled the most likely scenario for these materials based on the current UK market.

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

This is based on a single-manufacturing.

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	4.65E+01	2.41E-01	1.72E-01	4.69E+01	4.98E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.97E-03	1.22E-01	1.75E+00	8.00E-01	-1.79E+01
GWP – fossil	kg CO_2e	4.64E+01	2.41E-01	2.08E+00	4.88E+01	4.98E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.97E-03	1.21E-01	5.42E-01	9.26E-02	-1.79E+01
GWP – biogenic	kg CO_2e	0.00E+00	1.74E-05	-1.91E+00	-1.91E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	1.21E+00	7.07E-01	0.00E+00
GWP – LULUC	kg CO_2e	4.07E-02	1.12E-04	7.66E-03	4.85E-02	1.99E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.95E-07	4.48E-05	3.21E-04	9.01E-06	-6.98E-03
Ozone depletion pot.	kg CFC_{-11}e	3.38E-06	5.21E-08	1.92E-07	3.62E-06	1.15E-07	0.00E+00	MND	MND	MND	MND	MND	MND	MND	8.49E-10	2.79E-08	2.99E-08	3.03E-09	-8.00E-07
Acidification potential	mol H^+e	1.02E+00	2.22E-03	9.22E-03	1.04E+00	1.41E-03	0.00E+00	MND	MND	MND	MND	MND	MND	MND	4.13E-05	5.14E-04	3.06E-03	1.65E-04	-7.45E-02
EP-freshwater[2)]	kg Pe	2.35E-03	1.82E-06	9.20E-05	2.44E-03	3.55E-06	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.32E-08	9.94E-07	1.32E-05	2.02E-07	-7.52E-04
EP-marine	kg Ne	6.74E-02	5.84E-04	3.40E-03	7.14E-02	2.82E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.83E-05	1.53E-04	6.57E-04	6.87E-05	-1.63E-02
EP-terrestrial	mol Ne	4.08E+00	6.48E-03	2.60E-02	4.11E+00	3.13E-03	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.00E-04	1.68E-03	7.54E-03	7.28E-04	-1.80E-01
POCP ("smog")[3)]	kg NMVOCe	1.97E-01	1.80E-03	6.33E-03	2.05E-01	1.20E-03	0.00E+00	MND	MND	MND	MND	MND	MND	MND	5.51E-05	5.39E-04	2.07E-03	1.87E-04	-8.86E-02
ADP-minerals & metals[4)]	kg Sbe	3.12E-03	7.46E-07	2.03E-05	3.14E-03	1.80E-06	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.01E-09	2.85E-07	3.16E-05	5.52E-08	-3.34E-04
ADP-fossil resources	MJ	5.74E+02	3.40E+00	4.44E+01	6.21E+02	7.41E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	5.34E-02	1.82E+00	3.33E+00	2.30E-01	-1.65E+02
Water use[5)]	m^3e depr.	2.27E+01	1.41E-02	8.65E-01	2.36E+01	3.47E-02	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.44E-04	8.16E-03	7.38E-02	3.47E-02	-3.65E+00

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	1.07E-05	1.81E-08	1.06E-07	1.09E-05	4.01E-08	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.11E-09	1.40E-08	3.97E-08	1.92E-09	-1.21E-06
Ionizing radiation[6)]	kBq U235e	4.51E+00	1.58E-02	1.11E+00	5.63E+00	3.89E-02	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.46E-04	8.69E-03	3.77E-02	8.91E-04	5.00E-01
Ecotoxicity (freshwater)	CTUe	2.56E+03	2.97E+00	3.78E+01	2.60E+03	6.18E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.21E-02	1.64E+00	1.54E+01	7.52E-01	-6.29E+02
Human toxicity, cancer	CTUh	2.34E-07	9.98E-11	1.54E-09	2.35E-07	1.90E-10	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.23E-12	4.03E-11	4.79E-10	3.79E-11	1.44E-07
Human tox. non-cancer	CTUh	1.84E-06	2.67E-09	2.83E-08	1.87E-06	6.05E-09	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.32E-11	1.62E-09	2.01E-08	1.60E-09	-4.21E-07

SQP[7)]	-	1.72E+02	2.05E+00	9.31E+01	2.68E+02	5.26E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	6.95E-03	2.10E+00	6.44E+00	3.18E-01	-8.19E+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	5.67E+01	3.72E-02	1.67E+01	7.35E+01	1.08E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.05E-04	2.06E-02	5.79E-01	4.59E-03	-1.93E+01
Renew. PER as material	MJ	0.00E+00	0.00E+00	1.66E+01	1.66E+01	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	-1.04E+01	-6.14E+00	0.00E+00
Total use of renew. PER	MJ	5.67E+01	3.72E-02	3.33E+01	9.00E+01	1.08E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.05E-04	2.06E-02	-9.85E+00	-6.13E+00	-1.93E+01
Non-re. PER as energy	MJ	5.71E+02	3.40E+00	4.27E+01	6.17E+02	7.41E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	5.34E-02	1.82E+00	3.33E+00	2.30E-01	-1.62E+02
Non-re. PER as material	MJ	2.75E+00	0.00E+00	1.64E+00	4.39E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	-3.28E+00	-1.11E+00	0.00E+00
Total use of non-re. PER	MJ	5.73E+02	3.40E+00	4.43E+01	6.21E+02	7.41E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	5.34E-02	1.82E+00	5.49E-02	-8.83E-01	-1.62E+02
Secondary materials	kg	3.16E+00	1.19E-03	9.51E-01	4.11E+00	2.52E-03	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.09E-05	5.07E-04	3.95E-03	1.92E-04	1.01E+01
Renew. secondary fuels	MJ	9.87E-03	1.28E-05	2.19E-01	2.29E-01	2.77E-05	0.00E+00	MND	MND	MND	MND	MND	MND	MND	6.83E-08	5.11E-06	1.86E-04	2.65E-06	-4.96E-02
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	5.36E-01	3.72E-04	2.07E-02	5.57E-01	9.44E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.24E-06	2.36E-04	2.34E-03	4.96E-04	-6.40E-02

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	1.54E+01	4.85E-03	1.25E-01	1.55E+01	8.42E-03	0.00E+00	MND	MND	MND	MND	MND	MND	MND	7.15E-05	2.42E-03	2.33E-02	0.00E+00	-5.74E+00
Non-hazardous waste	kg	9.47E+01	7.17E-02	2.48E+00	9.72E+01	1.50E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	5.03E-04	3.97E-02	8.17E-01	1.41E+00	-2.92E+01
Radioactive waste	kg	1.65E-03	2.27E-05	2.97E-04	1.97E-03	5.10E-05	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.76E-07	1.22E-05	1.92E-05	0.00E+00	-1.00E-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	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	3.83E+00	3.83E+00	0.00E+00	0.00E+00	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	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

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	4.49E+01	2.38E-01	2.10E+00	4.73E+01	4.93E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.93E-03	1.20E-01	5.44E-01	9.19E-02	-1.70E+01
Ozone depletion Pot.	kg CFC_{-11}e	3.22E-06	4.13E-08	1.65E-07	3.42E-06	9.14E-08	0.00E+00	MND	MND	MND	MND	MND	MND	MND	6.72E-10	2.21E-08	2.43E-08	2.51E-09	-8.51E-07
Acidification	kg SO_2e	6.04E-01	1.76E-03	6.89E-03	6.13E-01	1.16E-03	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.94E-05	3.99E-04	2.47E-03	1.20E-04	-5.99E-02
Eutrophication	kg PO_4^3e	1.96E-01	2.71E-04	4.01E-03	2.01E-01	2.50E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	6.82E-06	9.09E-05	8.94E-04	8.28E-05	-3.12E-02
POCP (“smog”)	kg C_2H_4e	1.82E-02	5.48E-05	4.32E-04	1.87E-02	5.86E-05	0.00E+00	MND	MND	MND	MND	MND	MND	MND	6.44E-07	1.56E-05	9.77E-05	4.05E-06	-9.95E-03
ADP-elements	kg Sbe	3.11E-03	7.28E-07	1.94E-05	3.13E-03	1.76E-06	0.00E+00	MND	MND	MND	MND	MND	MND	MND	1.98E-09	2.76E-07	3.15E-05	4.57E-08	-3.33E-04
ADP-fossil	MJ	5.73E+02	3.40E+00	4.42E+01	6.21E+02	7.40E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	5.34E-02	1.82E+00	3.33E+00	2.30E-01	-1.65E+02

ENVIRONMENTAL IMPACTS – TRACI 2.1. / 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	4.49E+01	2.38E-01	2.07E+00	4.72E+01	4.93E-01	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.94E-03	1.20E-01	5.42E-01	9.24E-02	-1.71E+01
Ozone Depletion	kg CFC_{-11}e	3.21E-06	4.12E-08	1.63E-07	3.41E-06	9.13E-08	0.00E+00	MND	MND	MND	MND	MND	MND	MND	6.72E-10	2.21E-08	2.42E-08	2.51E-09	-8.51E-07
Acidification	kg SO_2e	4.31E+01	1.03E-01	4.00E-01	4.36E+01	6.32E-02	0.00E+00	MND	MND	MND	MND	MND	MND	MND	2.13E-03	2.44E-02	1.38E-01	8.38E-03	-3.33E+00
Eutrophication	kg Ne	4.06E-02	1.30E-04	1.86E-03	4.26E-02	1.72E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	3.10E-06	5.11E-05	1.31E-04	3.89E-05	-3.63E-03
POCP (“smog”)	kg O_3e	1.14E-01	1.51E-03	5.11E-03	1.20E-01	7.32E-04	0.00E+00	MND	MND	MND	MND	MND	MND	MND	4.71E-05	3.95E-04	1.67E-03	1.70E-04	-5.46E-02
ADP-fossil	MJ	4.06E+01	4.66E-01	3.88E+00	4.50E+01	1.02E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	7.61E-03	2.49E-01	3.13E-01	3.03E-02	-9.09E+00

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
26.04.2024

VERIFIED ISO 14025