ENVIRONMENTAL PRODUCT DECLARATION

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

Rimex Patterned Stainless Steel Sheet

EPD HUB, HUB-0261
Publishing date 03 February 2023, last updated date 05 April 2023, valid until 03 February 2028

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Rimex Metals (UK) Ltd
Address	17 Aden Road, Enfield, EN3 7SU
Contact details	sales@rimexmetals.com
Website	www.rimexmetals.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 modules C1-C4, D
EPD author	Piotr Lezuch
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ☑ External verification
EPD verifier	E.A 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	Rimex Patterned Stainless Steel Sheet
Additional labels	
Product reference	
Place of production	17 Aden Road, Enfield, EN3 7SU, United Kingdom
Period for data	2021-2022 Financial Year
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	Not Relevant %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1t
Declared unit mass	1000 kg
GWP-fossil, A1-A3 (kgCO2e)	3030.0
GWP-total, A1-A3 (kgCO2e)	3010.0
Secondary material, inputs (%)	73.3
Secondary material, outputs (%)	99.4
Total energy use, A1-A3 (kWh)	15900.0
Total water use, A1-A3 (m3e)	30.8

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

The Rimex Metals Group is a global manufacturer of specialised metal finishes and is internationally recognised as a leader in its field of expertise. The group was incorporated in 1959 and operates subsidiaries in Australia, Germany, the UK, and the US and is supported by its global network of distributors and representatives.

Rimex products are predominantly provided in stainless steel. Stainless steel is 100% recyclable, can be recycled indefinitely without loss in quality and with European stainless steel having in excess of 80% recycled content, it is a highly sustainable choice for both internal and external design applications.

PRODUCT DESCRIPTION

Rimex patterned material are produced by a unique cold rolling process to create 3-dimensional one-sided patterns on stainless steel, in coil format.

Our patterned finishes carry all the benefits of stainless steel, whilst enhancing the aesthetic appearance, optical flatness and resistance to physical damage which can prolong the design life of the product. This is available in both natural and coloured stainless steel finishes.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	100	EU
Minerals		
Fossil materials		
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	14.902

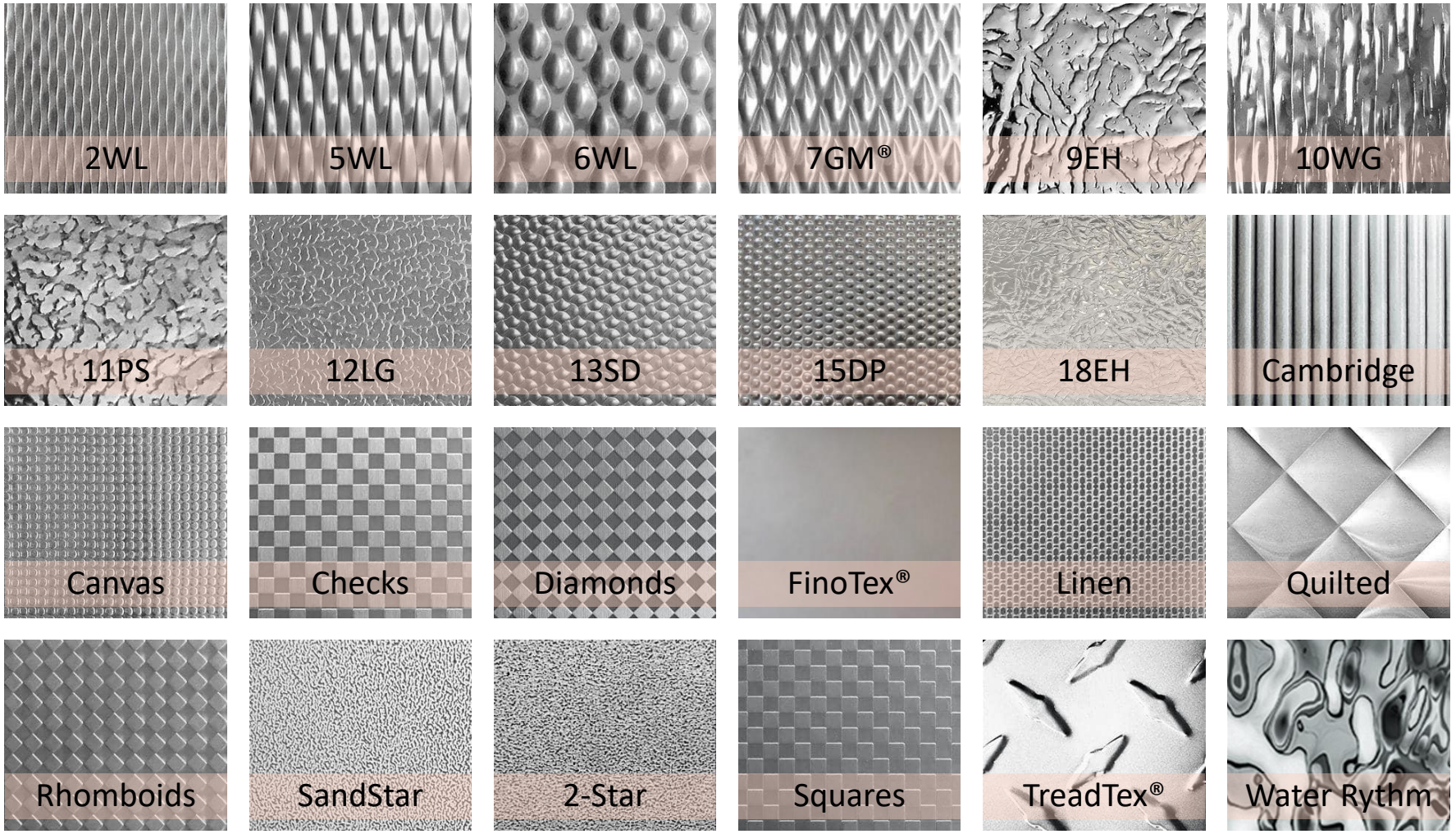
FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1t
Mass per declared unit	1000 kg

SUBSTANCES, REACH - VERY HIGH CONCERN

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

PRODUCT IMAGES



For more products, please visit our website at www.rimexmetals.com.

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	MND	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 manufacturing process requires electricity and fuels for the different equipment as well as heating, unless district heating is used. The steel waste produced at the plant is directed to recycling. The loss of material is considered.

A wooden pallet is used as a packaging material for transporting the product from the factory gate.

TRANSPORT AND INSTALLATION (A4-A5)

This EPD does not cover the installation and transportation impacts resulting from the delivery of final products to the construction site.

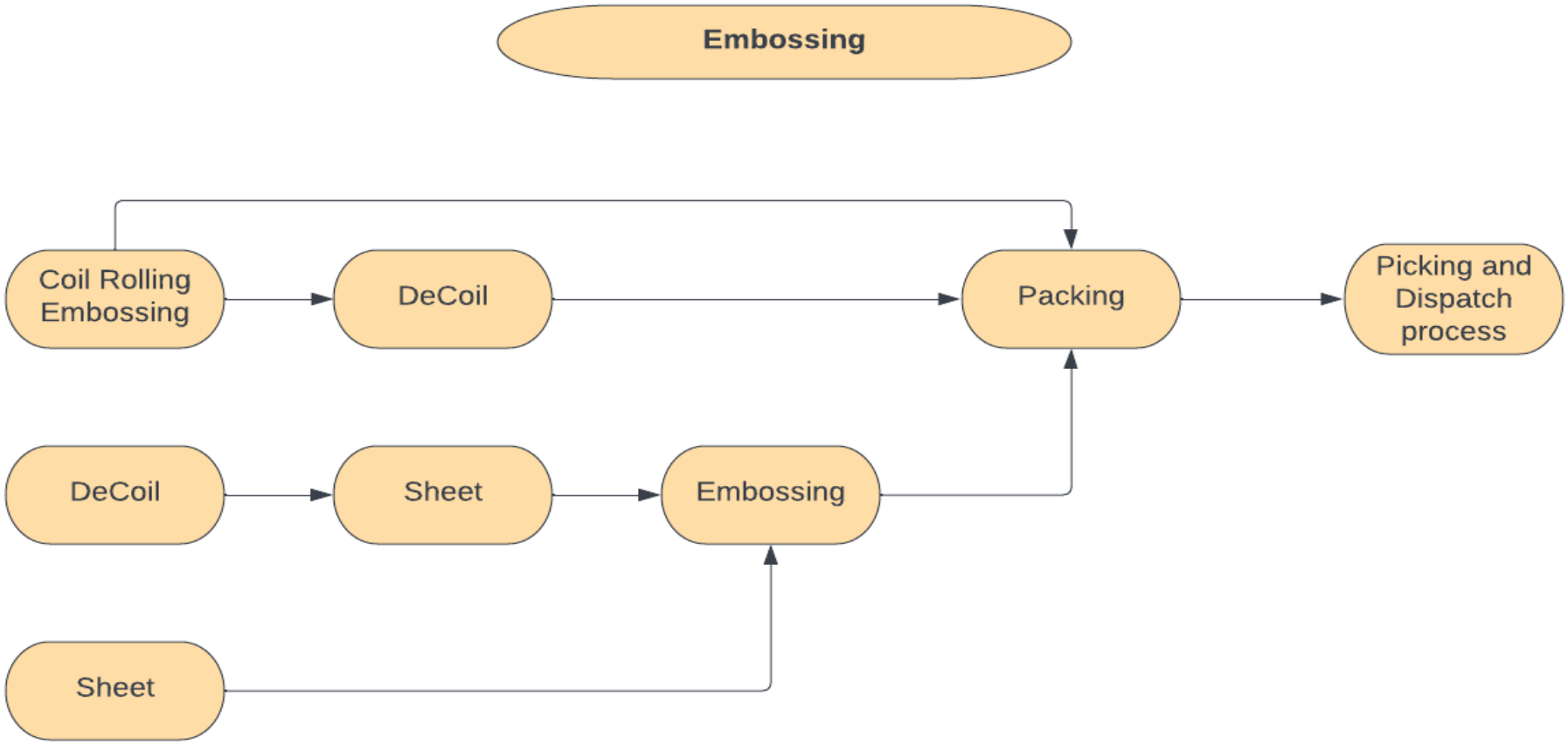
PRODUCT USE AND MAINTENANCE (B1-B7)

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)

Demolition is assumed to consume 0,01 kWh/kg of product. The source of energy is diesel fuel used by construction machines (C1). It is assumed that 100% of the waste is collected and transported to the waste treatment centre. Transportation distance to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2). Approximately 95% of steel is assumed to be recycled based on World Steel Association, 2020 (C3). It is assumed that the remaining 5% of steel is taken to landfill for final disposal (C4). Due to the recycling process, the end-of-life product is converted into recycled steel, while the wooden pallet is incinerated for energy recovery (D).

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	Not Relevant %

Primary data represents the manufacturing of products within the Patterned Product Range. The data was used to calculate average impacts for the products. The variability of the primary data or the emissions between the products did not amount to more than 10% of the relevant data (the highest compared to the lowest). The primary data was averaged by calculating a weighted average of the products consumption of raw materials, energy and production of wastes. The production amount mass shares per each product was used in the weighting.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent and One Click LCA databases were used as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	2,99E3	2,41E1	-3,7E0	3,01E3	0E0	3,01E1	MND	MND	MND	MND	MND	MND	MND	3,3E0	8,34E0	9,87E1	2,64E-1	-1,69E2
GWP – fossil	kg CO_2e	2,96E3	2,4E1	4,64E1	3,03E3	0E0	3,03E1	MND	MND	MND	MND	MND	MND	MND	3,3E0	8,33E0	4,95E1	2,63E-1	-2,14E2
GWP – biogenic	kg CO_2e	2,71E1	1,75E-2	-5,02E1	-2,31E1	0E0	-2,31E-1	MND	MND	MND	MND	MND	MND	MND	9,17E-4	4,45E-3	4,91E1	5,22E-4	4,54E1
GWP – LULUC	kg CO_2e	2,44E0	7,24E-3	1,21E-1	2,57E0	0E0	2,57E-2	MND	MND	MND	MND	MND	MND	MND	2,79E-4	2,96E-3	2,78E-2	7,82E-5	-1,41E-3
Ozone depletion pot.	kg CFC_{-11}e	1,65E-4	5,65E-6	3,11E-6	1,74E-4	0E0	1,74E-6	MND	MND	MND	MND	MND	MND	MND	7,12E-7	1,89E-6	3,53E-6	1,08E-7	-5,58E-6
Acidification potential	mol H^+e	1,95E1	1,01E-1	2,32E-1	1,98E1	0E0	1,98E-1	MND	MND	MND	MND	MND	MND	MND	3,45E-2	3,4E-2	2,94E-1	2,5E-3	-9,81E-1
EP-freshwater[2)]	kg Pe	1,27E-1	1,96E-4	2,31E-3	1,29E-1	0E0	1,29E-3	MND	MND	MND	MND	MND	MND	MND	1,33E-5	6,97E-5	1,67E-3	3,18E-6	-8,92E-3
EP-marine	kg Ne	3,23E0	3,04E-2	5,39E-2	3,31E0	0E0	3,31E-2	MND	MND	MND	MND	MND	MND	MND	1,52E-2	1,01E-2	6,61E-2	8,61E-4	-1,73E-1
EP-terrestrial	mol Ne	3,7E1	3,36E-1	5,67E-1	3,79E1	0E0	3,79E-1	MND	MND	MND	MND	MND	MND	MND	1,67E-1	1,12E-1	7,64E-1	9,48E-3	-1,83E0
POCP ("smog")[3)]	kg NMVOCe	1,13E1	1,08E-1	2,08E-1	1,16E1	0E0	1,16E-1	MND	MND	MND	MND	MND	MND	MND	4,59E-2	3,42E-2	2,09E-1	2,75E-3	-1,16E0
ADP-minerals & metals[4)]	kg Sbe	1,44E-1	4,1E-4	9,13E-4	1,46E-1	0E0	1,46E-3	MND	MND	MND	MND	MND	MND	MND	5,03E-6	2,25E-4	1,33E-3	2,41E-6	3,03E-4
ADP-fossil resources	MJ	4,14E4	3,74E2	1,03E3	4,28E4	0E0	4,28E2	MND	MND	MND	MND	MND	MND	MND	4,54E1	1,26E2	3,44E2	7,36E0	-1,51E3
Water use[5)]	m^3e depr.	3,49E3	1,39E0	3,26E1	3,53E3	0E0	3,53E1	MND	MND	MND	MND	MND	MND	MND	8,46E-2	4,05E-1	4,86E0	3,4E-1	-6,25E0

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	7,16E3	4,71E0	7,83E2	7,95E3	0E0	7,95E1	MND	MND	MND	MND	MND	MND	MND	2,45E-1	1,77E0	5,24E1	5,95E-2	-1,97E2
Renew. PER as material	MJ	1,9E1	0E0	5,21E2	5,4E2	0E0	5,4E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-5,4E2	-9,5E-1	5,76E1
Total use of renew. PER	MJ	7,18E3	4,71E0	1,3E3	8,49E3	0E0	8,49E1	MND	MND	MND	MND	MND	MND	MND	2,45E-1	1,77E0	-4,88E2	-8,9E-1	-1,39E2
Non-re. PER as energy	MJ	4,83E4	3,74E2	6,39E2	4,93E4	0E0	4,93E2	MND	MND	MND	MND	MND	MND	MND	4,54E1	1,26E2	3,44E2	7,36E0	-1,51E3
Non-re. PER as material	MJ	1,97E-1	0E0	3,94E2	3,94E2	0E0	3,94E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	-3,94E2	-1E-2	0E0
Total use of non-re. PER	MJ	4,83E4	3,74E2	1,03E3	4,97E4	0E0	4,97E2	MND	MND	MND	MND	MND	MND	MND	4,54E1	1,26E2	-5,07E1	7,35E0	-1,51E3
Secondary materials	kg	7,25E2	0E0	7,5E0	7,33E2	0E0	7,33E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	1,35E2
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	4,45E0	0E0	0E0	4,45E0	0E0	4,45E-2	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	3E1	7,79E-2	7,62E-1	30.8	0E0	3,08E-1	MND	MND	MND	MND	MND	MND	MND	4,01E-3	2,15E-2	1,43E-1	8,05E-3	-1,07E0

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	4,08E2	3,63E-1	2,94E0	4,11E2	0E0	4,11E0	MND	MND	MND	MND	MND	MND	MND	4,88E-2	1,28E-1	0E0	6,87E-3	-1,57E1
Non-hazardous waste	kg	7,07E2	4,02E1	7,84E1	8,25E2	0E0	8,25E0	MND	MND	MND	MND	MND	MND	MND	5,22E-1	8,76E0	0E0	5E1	-2,12E2
Radioactive waste	kg	1,57E0	2,57E-3	1,76E-3	1,58E0	0E0	1,58E-2	MND	MND	MND	MND	MND	MND	MND	3,18E-4	8,61E-4	0E0	4,87E-5	5,57E-4

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	1,33E2	0E0	3,72E0	1,37E2	0E0	1,37E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	9,62E2	0E0	0E0
Materials for energy rec	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	3,2E1	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	2,88E2	0E0	0E0

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	2,96E3	2,38E1	4,46E1	3,02E3	0E0	3,02E1	MND	MND	MND	MND	MND	MND	MND	3,27E0	8,26E0	4,93E1	2,58E-1	-2,04E2
Ozone depletion Pot.	kg CFC_{-11}e	7E-5	4,49E-6	2,88E-6	7,74E-5	0E0	7,74E-7	MND	MND	MND	MND	MND	MND	MND	5,63E-7	1,51E-6	3E-6	8,59E-8	-4,91E-6
Acidification	kg SO_2e	1,84E1	4,89E-2	1,85E-1	1,86E1	0E0	1,86E-1	MND	MND	MND	MND	MND	MND	MND	4,87E-3	1,67E-2	1,84E-1	1,04E-3	-8,1E-1
Eutrophication	kg PO_4^3e	1,24E0	9,88E-3	8,06E-2	1,33E0	0E0	1,33E-2	MND	MND	MND	MND	MND	MND	MND	8,57E-4	3,43E-3	7,97E-2	2,02E-4	-4,12E-1
POCP ("smog")	kg C_2H_4e	1,25E0	3,1E-3	1,91E-2	1,27E0	0E0	1,27E-2	MND	MND	MND	MND	MND	MND	MND	5,01E-4	1,1E-3	8,71E-3	7,64E-5	-1,8E-1
ADP-elements	kg Sbe	1,44E-1	4,1E-4	9,13E-4	1,46E-1	0E0	1,46E-3	MND	MND	MND	MND	MND	MND	MND	5,03E-6	2,25E-4	1,33E-3	2,41E-6	3,03E-4
ADP-fossil	MJ	4,14E4	3,74E2	1,03E3	4,28E4	0E0	4,28E2	MND	MND	MND	MND	MND	MND	MND	4,54E1	1,26E2	3,44E2	7,36E0	-1,51E3

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.

Elma Avdyli, as an authorized verifier acting for EPD Hub Limited
03.02.2023

VERIFIED ISO 14025