

ENVIRONMENTAL PRODUCT DECLARATION

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

Metsec Decarb Steel Framing system for Dry Lining
voestalpine Metsec plc



EPD HUB, HUB-1224

Publishing on 11.03.2024, last updated on 07.06.2024, valid until 11.09.2025.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	voestalpine Metsec plc
Address	Broadwell Road Oldbury West Midlands B69 4HF
Contact details	alan.harris@voestalpine.com
Website	https://www.metsec.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	Design phase EPD
Scope of the EPD	Cradle to gate with options, A4, and modules C1-C4, D
EPD author	Alan Harris
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> 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	Metsec Decarb Steel Framing system for Dry Lining
Additional labels	
Product reference	
Place of production	Oldbury West Midlands United Kingdom
Period for data	2020
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	- %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO2e)	9,63E-01
GWP-total, A1-A3 (kgCO2e)	9,64E-01
Secondary material, inputs (%)	95.9
Secondary material, outputs (%)	85.0
Total energy use, A1-A3 (kWh)	4.38
Total water use, A1-A3 (m3e)	6,17E-03

CAUTION/DISCLAIMER

The reduced figure for GWP- total, A1-A3 (kgCO2e) of 65.35% is for the use of Metsec Decarb steel exclusively compared to voestalpine Metsec plc Steel framing for Dry Lining EPD (EPD HUB HUB-0018). A project will likely need to use a mixture of Decarb steel and normal steel for practical completion. (Decarb will not be used in accessories for example and potentially not available in less common grades and section sizes). This EPD is to be used to compare the benefits of Metsec Decarb. Due to this Metsec can help by producing a project specific / bespoke EPD after the design by Metsec has been carried out.



PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Metsec has been manufacturing from its site on Oldbury since 1931. In 1998 the company was acquired by voestalpine becoming voestalpine Metsec plc and the company went from strength to strength following inward investment in machinery and new facilities.

Metsec's parent company voestalpine AG is a leading European manufacturer with steel making facilities and headquarters in Austria.

The group has 500 locations in 50 countries on all 5 continents. Metsec is part of voestalpine's metal forming division (tubes and sections), a leading global provider of high quality metal processing solutions, particularly special tubes and sections, special strip steel and complex components for the automotive and many other industries.

We manufacture, design, train and deliver.

Here at voestalpine Metsec plc our core values are to provide solutions to suit a wide range of construction and manufacturing applications; with high quality, value added, technical experience and excellent customer service.

Our 5 Divisions include:

Custom Roll Forming
Dry Lining
Purlins
Framing (Metframe & SFS)
Cable Management

We understand the importance of working at the forefront of the industry and how being compliant with the latest standards is key. For this we are proud to have a large number of accreditations for sustainability, BIM and quality.

As well as section rolling we also offer a host of additional processing options including:

Folding
Welding
Punching
Profile Manipulation
In-Line Piercing
In-Line High Frequency Induction Welding
Drilling
Laser Profiling

We proactively invest in new technology to ensure the evolving expectations of our customers continue to be met or exceeded.

PRODUCT DESCRIPTION

Metsec's journey to carbon neutrality has led to the introduction of a supplementary product range to our current offerings – “Metsec Decarb”. Metsec Decarb galvanized light gauge steel framing profiles and components used in the construction of metal framework for drylining systems. Metsec's Decarb metal framing profiles and components for dry lining systems are used in non-loadbearing partitions, Shaft Encasement systems, Column and Beam Encasement systems, Wall Linings & suspended Ceilings. These steel profiles and components are easy to handle and cut for quick installation on-site. Metsec dry lining components have been tested as systems with proprietary gypsum products and recommended accessories, providing reassurance that Metsec's Decarb section profiles and products meet the stringent standards for fire resistance, duty rating and acoustic requirements when used as a system. Metsec Decarb Dry Lining steel framing profiles and components are manufactured using the cold-roll process in accordance with BS EN 14195:2005/AC:2006 Metsec Decarb Dry Lining steel framing profiles and components are manufactured from continuously hot-dip coated flat galvanized steel (Grade: DX51D+Z140 NA-C) that confirms to BS EN 10346:2015 and manufactured using the cold-roll process in accordance with BS EN 14195:2005/AC:2006 Steel gauge of the products ranges from 0.4 -1.5 mm Dimensional specifications of individual product

are available on request Fire Rating Classification = A1 Tensile Strength:- 270-500 N/mm² Density 7.85 g/cm³ Minimum Elongation A80(%) = 22% For more information or for details of your nearest stockist please contact Metsec on +44 (0) 121 601 6075 or Metsec.DryLining@voestalpine.com.

Further information can be found at <https://www.metsec.com/>.

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PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	100	Africa
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	0

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 kg
Functional unit	-
Reference service life	60 Years in a dry envelope (C1 environment)

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	MN	MN	MN	MN	MN	MN	MN	MN	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.

Roll Forming is the process of shaping strip metal by passing it through a series of specially designed shaped rolls, the process has high levels of repeatability and very tight tolerances. Profiles can be made from various metallic materials including Steel, Copper, Aluminum, Brass, Stainless Steel, coated Steels including Zinc, Paint and Plastic. The roll forming process can manufacture typical shaped profiles such as Channel, Angles, Boxes and Round Tube but is also able to form more complex profiles required for demanding technical solutions. The process is highly

automated using modern control systems and can accommodate the piercing of holes and bespoke cut to length requirements of the customer. The process includes fully integrated automated and semi automated packaging reducing handling. The finished product is stored in warehouse facilities prior to shipment to the customer. The manufacturing process requires electricity and fuels for product movement and loading as well as heating. All waste produced at Metsec is sold for recycling or is shipped to Energy Recovery Facilities. The loss of all material is considered. within this EPD

Steel and plastic strapping are used for packaging and is required to ensure safe delivery of product to the customer.

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.

Average distance of transportation from production plant to building site is calculated at 214 km and the transportation method is via lorry (Urban Curtain Sided vehicle Euro 6+ compliant). Vehicle capacity utilization calculated by Metsec is 96% this is governed by the pack size and shape of product and is achieved by utilizing multiple deliveries on the same vehicle. No vehicle is dedicated to a single delivery unless the volume or quantity dictates. In reality, the vehicle utilization does vary but as role of transportation emissions in total results is small, the variety in load is assumed negligible. As the vehicles are dedicated for Metsec deliveries, the km figure calculated is based on the vehicle returning empty. Transportation does not cause losses as product are packaged to prevent damage. Module A5 is excluded in this scenario since voestalpine Metsec plc do not have knowledge of how the installation is executed. Packaging waste from the delivery of product to the construction is considered to leave the system at this stage and the impacts of waste processing until the end-of-waste stage has been accounted for.

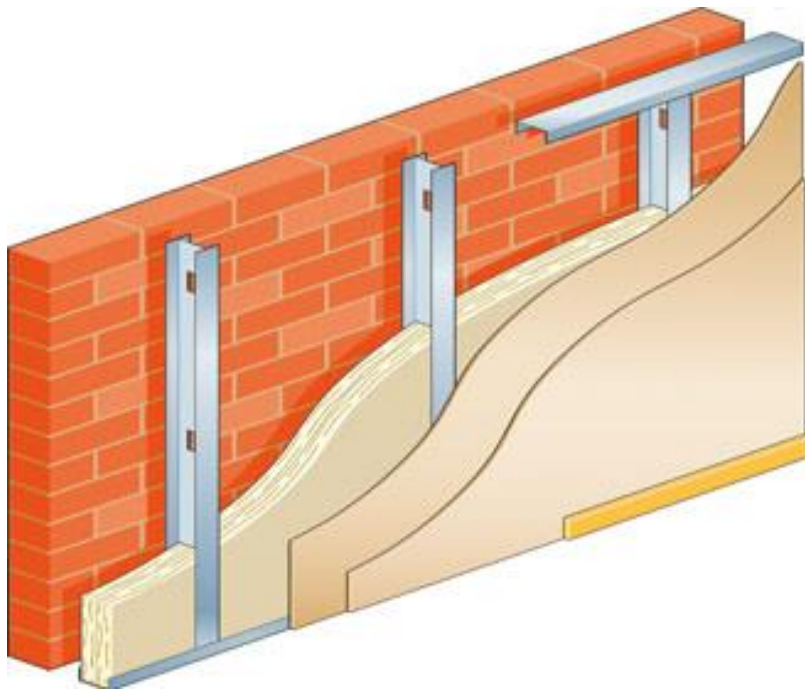
PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

Air, soil, and water impacts during the use phase have not been studied.

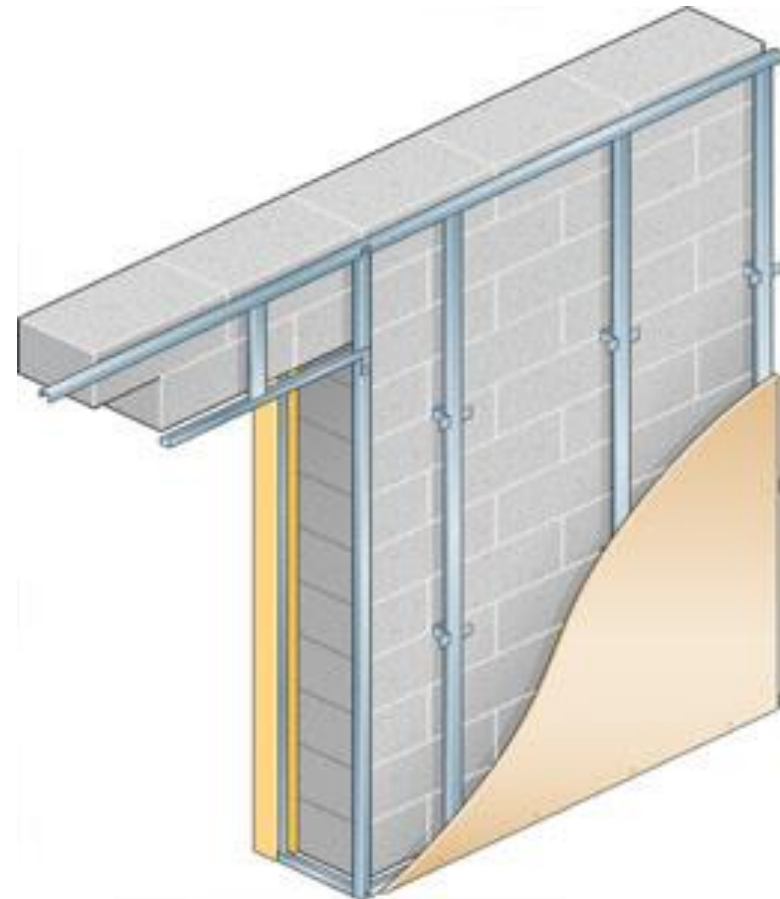
PRODUCT END OF LIFE (C1-c4, D)

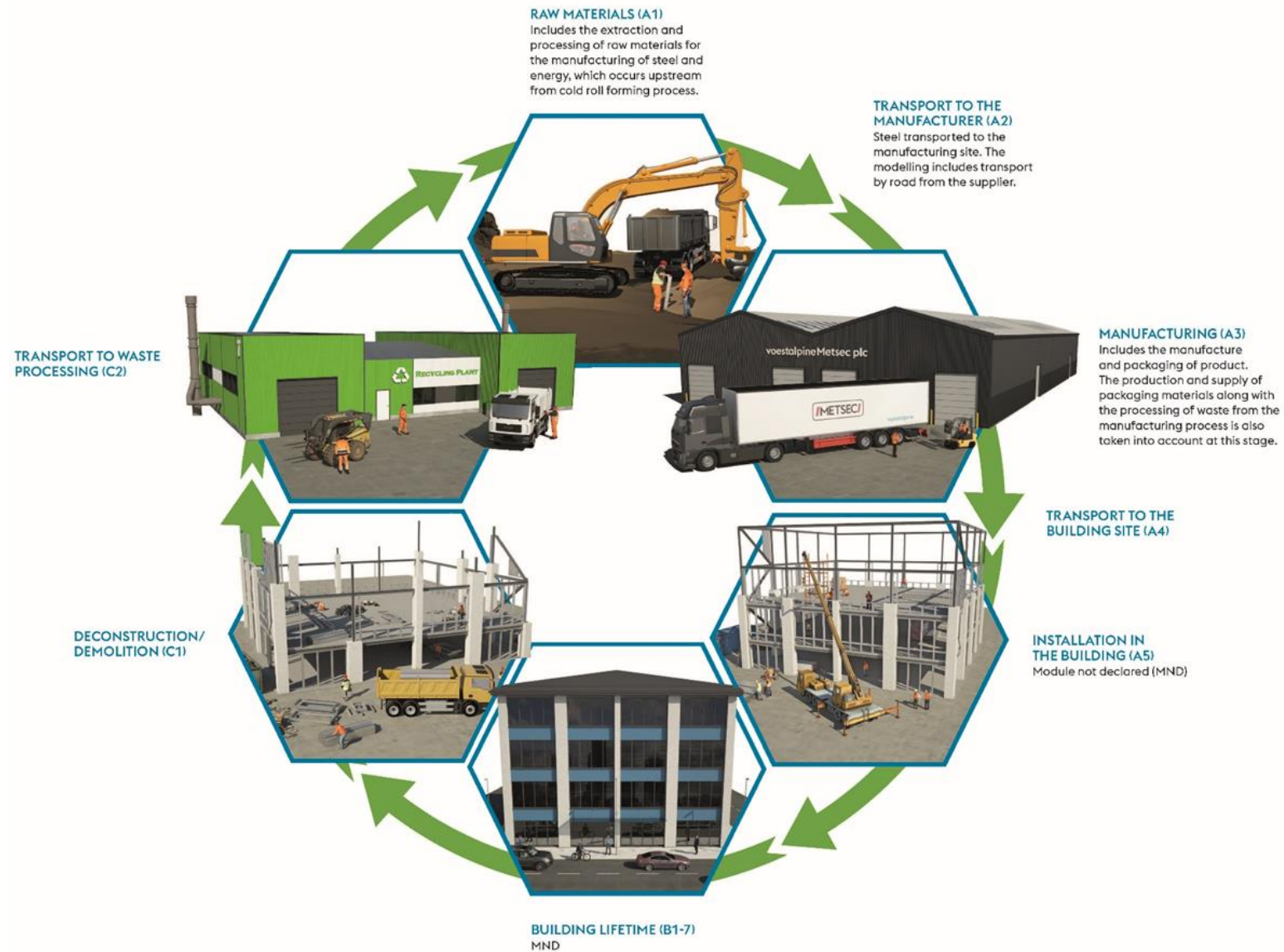
Demolition is assumed to consume 0,01 kWh/kg of product. The source of energy is diesel fuel used by construction machines (C1). It is assumed that 100% of the waste is collected and transported to the waste treatment centre. Transportation distance to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2). Approximately 85% of steel is assumed to be recycled based on World Steel Association report, 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 (D). The benefits and loads of recycling of packaging materials have been included in module D.



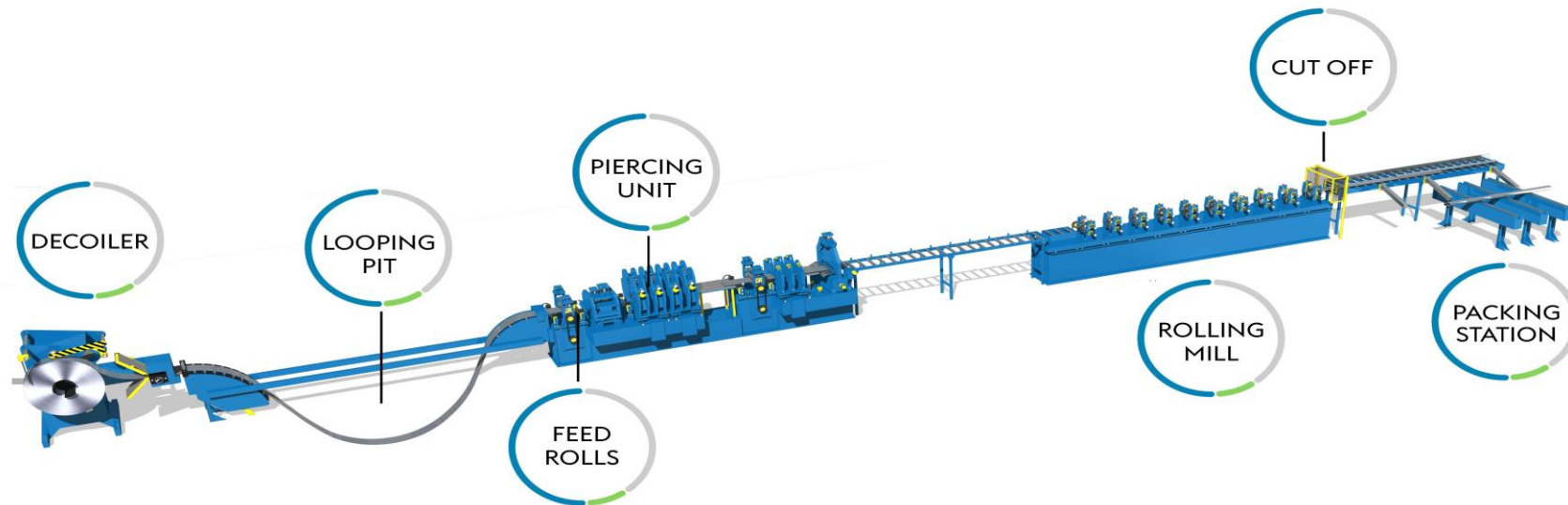
Independent wall liner

Wall Liner





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	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	- %

There is no average result considered in this study since the EPD refers to 1 Kg of Dry Lining Framing System produced in one production plant.

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 ₂ e	9,17E-01	3,48E-02	1,28E-02	9,64E-01	3,50E-02	3,74E-08	MND	MND	MND	MND	MND	MND	MND	3,31E-03	4,69E-03	1,86E-02	7,91E-04	-4,01E-02
GWP – fossil	kg CO ₂ e	9,15E-01	3,48E-02	1,28E-02	9,63E-01	3,50E-02	3,74E-08	MND	MND	MND	MND	MND	MND	MND	3,31E-03	4,69E-03	1,86E-02	7,90E-04	-4,01E-02
GWP – biogenic	kg CO ₂ e	0,00E+00	0,00E+00	7,34E-11	7,34E-11	1,88E-05	-7,34E-11	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 ₂ e	1,66E-03	2,24E-05	2,61E-06	1,68E-03	1,26E-05	2,27E-11	MND	MND	MND	MND	MND	MND	MND	3,30E-07	1,73E-06	2,44E-05	7,46E-07	3,70E-06
Ozone depletion pot.	kg CFC ₁₁ e	4,15E-08	7,47E-09	9,67E-10	4,99E-08	7,95E-09	1,20E-15	MND	MND	MND	MND	MND	MND	MND	7,07E-10	1,08E-09	2,30E-09	3,20E-10	-1,43E-09
Acidification potential	mol H ⁺ e	7,09E-03	5,41E-04	3,10E-05	7,66E-03	1,00E-04	6,83E-11	MND	MND	MND	MND	MND	MND	MND	3,44E-05	1,99E-05	2,36E-04	7,43E-06	-1,27E-04
EP-freshwater ²⁾	kg Pe	1,36E-04	1,98E-07	1,40E-07	1,37E-04	2,97E-07	4,92E-13	MND	MND	MND	MND	MND	MND	MND	1,10E-08	3,84E-08	9,98E-07	8,28E-09	-1,68E-06
EP-marine	kg Ne	1,30E-03	1,21E-04	7,74E-06	1,43E-03	1,99E-05	1,89E-11	MND	MND	MND	MND	MND	MND	MND	1,52E-05	5,90E-06	4,99E-05	2,57E-06	-3,03E-05
EP-terrestrial	mol Ne	1,34E-02	1,34E-03	8,50E-05	1,49E-02	2,22E-04	2,01E-10	MND	MND	MND	MND	MND	MND	MND	1,67E-04	6,51E-05	5,77E-04	2,83E-05	-3,56E-04
POCP (“smog”) ³⁾	kg NMVOCe	3,66E-03	3,68E-04	2,96E-05	4,05E-03	8,52E-05	6,16E-11	MND	MND	MND	MND	MND	MND	MND	4,59E-05	2,08E-05	1,59E-04	8,23E-06	-2,23E-04
ADP-minerals & metals ⁴⁾	kg Sbe	3,73E-05	9,32E-08	4,24E-08	3,74E-05	9,64E-07	2,71E-13	MND	MND	MND	MND	MND	MND	MND	1,68E-09	1,10E-08	2,51E-06	1,82E-09	-5,10E-09
ADP-fossil resources	MJ	1,07E+01	4,78E-01	1,76E-01	1,14E+01	5,29E-01	1,38E-07	MND	MND	MND	MND	MND	MND	MND	4,45E-02	7,05E-02	2,52E-01	2,17E-02	-3,16E-01
Water use ⁵⁾	m ³ e depr.	1,60E-01	1,97E-03	1,04E-03	1,63E-01	1,73E-03	4,78E-09	MND	MND	MND	MND	MND	MND	MND	1,20E-04	3,15E-04	4,89E-03	6,87E-05	-6,16E-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	3,04E-08	1,97E-09	3,16E-10	3,27E-08	2,23E-09	1,79E-15	MND	MND	MND	MND	MND	MND	MND	9,22E-10	5,41E-10	3,09E-09	1,50E-10	-2,20E-09
Ionizing radiation ⁶⁾	kBq U235e	2,46E-02	2,37E-03	1,17E-03	2,82E-02	2,31E-03	1,33E-09	MND	MND	MND	MND	MND	MND	MND	2,05E-04	3,36E-04	2,81E-03	9,80E-05	2,85E-03
Ecotoxicity (freshwater)	CTUe	2,96E+01	3,62E-01	1,03E-01	3,01E+01	4,10E-01	3,60E-07	MND	MND	MND	MND	MND	MND	MND	2,68E-02	6,34E-02	1,14E+00	1,41E-02	-1,30E+00
Human toxicity, cancer	CTUh	2,30E-09	1,86E-11	4,55E-12	2,33E-09	1,18E-11	4,89E-17	MND	MND	MND	MND	MND	MND	MND	1,03E-12	1,56E-12	3,50E-11	3,53E-13	5,59E-10
Human tox. non-cancer	CTUh	1,84E-08	3,09E-10	1,13E-10	1,88E-08	4,48E-10	4,43E-16	MND	MND	MND	MND	MND	MND	MND	1,94E-11	6,27E-11	1,56E-09	9,24E-12	-8,02E-10
SQP ⁷⁾	-	2,80E+00	2,19E-01	2,95E-02	3,05E+00	4,48E-01	2,33E-07	MND	MND	MND	MND	MND	MND	MND	5,79E-03	8,12E-02	5,08E-01	4,63E-02	-6,05E-02

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	3,69E+00	5,56E-03	1,96E-02	3,71E+00	7,57E-03	1,39E-08	MND	MND	MND	MND	MND	MND	MND	2,54E-04	7,94E-04	4,47E-02	1,88E-04	1,45E-02
Renew. PER as material	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
Total use of renew. PER	MJ	3,69E+00	5,56E-03	1,96E-02	3,71E+00	7,57E-03	1,39E-08	MND	MND	MND	MND	MND	MND	MND	2,54E-04	7,94E-04	4,47E-02	1,88E-04	1,45E-02
Non-re. PER as energy	MJ	1,14E+01	4,78E-01	1,73E-01	1,21E+01	5,29E-01	1,38E-07	MND	MND	MND	MND	MND	MND	MND	4,45E-02	7,05E-02	2,52E-01	2,17E-02	-3,16E-01
Non-re. PER as material	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	-6,60E-07
Total use of non-re. PER	MJ	1,14E+01	4,78E-01	1,73E-01	1,21E+01	5,29E-01	1,38E-07	MND	MND	MND	MND	MND	MND	MND	4,45E-02	7,05E-02	2,52E-01	2,17E-02	-3,16E-01
Secondary materials	kg	9,59E-01	2,08E-04	6,47E-05	9,60E-01	0,00E+00	7,10E-10	MND	MND	MND	MND	MND	MND	MND	1,74E-05	1,96E-05	2,81E-04	4,55E-06	3,05E-02
Renew. secondary fuels	MJ	0,00E+00	1,30E-06	4,84E-07	1,78E-06	0,00E+00	6,11E-12	MND	MND	MND	MND	MND	MND	MND	5,70E-08	1,97E-07	1,46E-05	1,19E-07	1,43E-06
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	6,09E-03	4,94E-05	3,07E-05	6,17E-03	9,13E-05	1,20E-10	MND	MND	MND	MND	MND	MND	MND	2,70E-06	9,13E-06	1,48E-04	2,37E-05	-1,26E-05

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	2,21E-04	6,42E-04	4,58E-04	1,32E-03	5,44E-04	2,34E-09	MND	MND	MND	MND	MND	MND	MND	5,96E-05	9,34E-05	1,71E-03	0,00E+00	2,22E-03
Non-hazardous waste	kg	3,69E-01	8,13E-03	5,58E-03	3,82E-01	3,75E-02	3,46E-08	MND	MND	MND	MND	MND	MND	MND	4,19E-04	1,54E-03	5,47E-02	1,50E-01	-5,90E-02
Radioactive waste	kg	2,48E-05	3,32E-06	4,65E-07	2,86E-05	3,62E-06	7,03E-13	MND	MND	MND	MND	MND	MND	MND	3,13E-07	4,71E-07	1,48E-06	0,00E+00	5,24E-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	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	3,03E-04	3,03E-04	0,00E+00	2,30E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	8,50E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	5,30E-07	5,30E-07	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 – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ⁹⁾	kg CO ₂ e	9,15E-01	4,53E-08	1,28E-02	9,28E-01	3,50E-02	3,74E-08	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	- 1,02E+00

9) 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). In addition, the characterisation factors for the flows - CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO₂ is set to zero.

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
11.03.2024

