ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Raw Medium Density Fibreboard (MDF)
KRONOSPAN GmbH

EPD HUB, HUB-3501
Published on 20.06.2025, last updated on 20.06.2025, valid until 19.06.2030

Created with One Click LCA

Making circularity a reality

GENERAL INFORMATION

MANUFACTURER

Manufacturer	KRONOSPAN GmbH
Address	Leopoldstaler Str. 195, 32839 Steinheim, Germany
Contact details	office.sa@kronospan.de
Website	https://kronospan.com/de_DE

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	Manufactured product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Wei-Li Hung
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Lucas Rodriguez, 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	Raw Medium Density Fibreboard (MDF)
Additional labels	-
Product reference	20026, 20028, 20034, 20045, 20049, 20236, 20238, 22129
Place of production	Sandebeck, Germany
Period for data	01.10.2021 - 30.09.2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	0 %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m3
Declared unit mass	700 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	392
GWP-total, A1-A3 ($kgCO_2e$)	-700
Secondary material, inputs (%)	14.9
Secondary material, outputs (%)	100
Total energy use, A1-A3 (kWh)	4730
Net freshwater use, A1-A3 (m^3)	4.48

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Kronospan is one of the world leading manufacturers of wood panels. We are aware of our responsibility to the environment and society. Our commitments include reducing our carbon footprint, using resources efficiently, and minimising waste. Focusing on recycling, we consistently implement the principles of the circular economy in our product manufacturing. We are committed to maximising our recycling rate and utilising accelerated wood residues from other manufacturers. We prioritise the use of recycled wood before sawmill waste and, finally, small and oversized logs. To produce green energy with low carbon emissions, we use solar, wind, hydro, and combined heat and power systems at our sites. Additionally, we continually invest in the development of new, more efficient technologies and machinery to maintain a liveable environment for society. As an innovative leader, our goal is to use resources as efficiently as possible to ensure cost-effective production with minimal environmental impact. We are continue working towards environmental protection and sustainability.

PRODUCT DESCRIPTION

MDF (Medium Density Fibreboard) is an engineered board produced from resin-bonded wood fibres under high pressure and heat. It has high stability and low thickness swelling. MDF is a non-load-bearing product designed for interior use in dry conditions.
Sanded to a very fine surface, MDF is suitable for various coatings, including veneering, laminating, painting, and varnishing. Due to its good mechanical performance, Kronospan MDF can also be used as a building material, serving as a substitute for timber in non-load-bearing walls, ceilings, and partitions. Additionally, it is ideal for furniture components, packaging, and frameworks for upholstered furniture, kitchen door designs, and cladding.

Since MDF is recyclable, it aligns with Kronospan's principles of circular economy. We use wood scraps, small and oversized logs, and recycled wood. We recycle process waste for our products or generate CO2-neutral energy from it for use on-site.
Further information can be found at https://kronospan.com/de_DE.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	-	-
Fossil materials	8-9 %	Germany
Bio-based materials	91-92 %	Germany

BIOGENIC CARBON CONTENT

Product’s biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	388.44
Biogenic carbon content in packaging, kg C	0.907

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m3
Mass per declared unit	700 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	x	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	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.

Raw material/energy supply (A1):
Extraction and processing of raw materials (e.g. logs, wood chips). The wood waste (wood leftovers, trimmings) and sanding dust are burned in an on-site biomass plant. The thermal energy generated replaces own demand in production.

Transportation to manufacturing site (A2):
• Transportation of round wood and chipped wood to the Sandebeck site.
• Transportation of chemicals and packaging from manufacturer/supplier to the Sandebeck site.
Manufacturing (A3):
The proper manufacturing of the boards and treatment of waste generated from the manufacturing process up to the end-of waste state during manufacturing is included in module A3.

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.

Module A4:
This module considers 622 km truck transport to site (diesel driven, EURO 6, 24 tonnes total load, 61% utilisation) from average delivery distance within the timeframe.
Module A5:
Installation has been excluded as a factor because, typically, this product undergoes reprocessing by our customers to make final construction products. There are boundless variations in processing methods, auxiliary materials, energy consumption, wastage, etc.

Of the packaging materials, wood and plastic packaging are assumed to follow the EU scenario based on Ecoinvent v3.10.

PRODUCT USE AND MAINTENANCE (B1-B7)

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

PRODUCT END OF LIFE (C1-C4, D)

Module C1:
Manual dismantling → no loads in C1 have been generated.

Module C2:
Transport to waste treatment site after dismantling using EURO 6 truck average (50km assumed).
Module C3:
The scenario at end of life assumes the secondary fuel option. The calorific value of the board is approximately 13.99 MJ/kg. The end-of-life system boundary between waste disposal and module D is set where outputs such as secondary material or fuel reach their end-of-waste status (EN 15804, Chapter 6.4.3).
Module C4:
Within the EoL scenario no disposal to landfill will occur, thus this module will show zero values.

Module D:
The benefits for the secondary fuel will be calculated and shown in module D. The utilisation of the boards in an incineration plant and the resulting energy is assigned to module D. Energy produced in the form of electricity and thermal energy replaces thermal energy from natural gas and electrical energy.

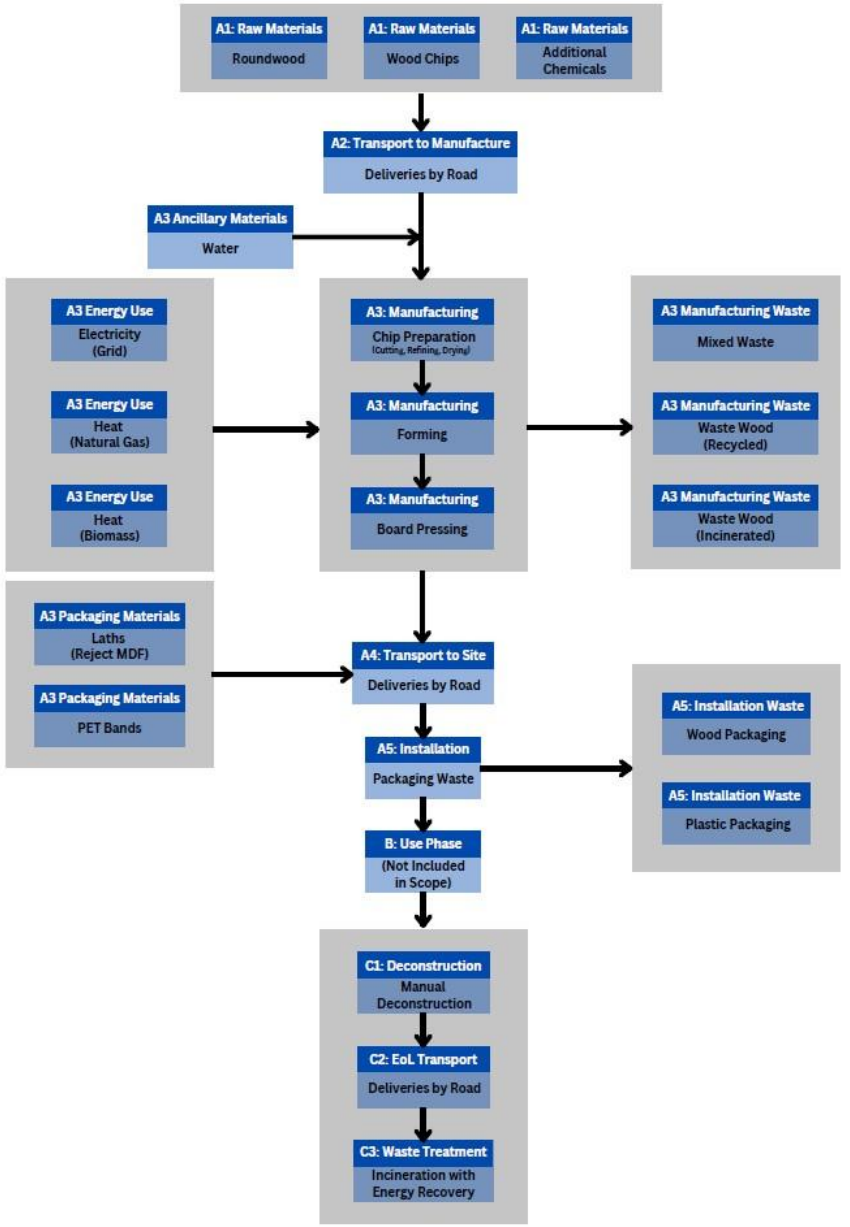
Of the packaging materials, wood and plastic packaging are assumed to follow the EU scenario based on Ecoinvent v3.10.

MANUFACTURING PROCESS

MDF is primarily made from wood chips and additional chemicals (e.g., resin). The first stage separates the wood chips by size. The fine-sized wood chips are sent to the particleboard (PB) production line, while the oversized chips are transported to be crushed to an acceptable size. The accepted-size chips are then enter into the second stage, which involves cleaning the chips and refining them into fibres.

In the third stage, the fibres are weighed and mixed with the correct amount of resin. In the fourth stage, the resin-coated fibres are transported to mat formers for pressing. In the final stage, the pressed boards are sanded and cut to size. Finished product are either transported by road to customers or transferred to another department in the factory to be made into various value added products.

Thermal energy from biomass is used in the drying process and to heat the press and electricity is generated from natural gas. Residues are either sent to the PB process or sent as biomass for energy recovery.



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 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	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	0 %

This EPD is product and factory specific and does not contain average calculations.

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 v3.10.1 and One Click LCA databases as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

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	-1.20E+03	1.74E+01	4.78E+02	-7.00E+02	3.60E+01	3.45E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.77E+00	1.10E+03	0.00E+00	-1.62E+02
GWP – fossil	kg CO_2e	2.27E+02	1.74E+01	1.47E+02	3.92E+02	3.59E+01	1.36E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.77E+00	1.09E+01	0.00E+00	-1.62E+02
GWP – biogenic	kg CO_2e	-1.42E+03	0.00E+00	3.31E+02	-1.09E+03	0.00E+00	3.31E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	1.09E+03	0.00E+00	0.00E+00
GWP – LULUC	kg CO_2e	1.46E+00	7.16E-03	1.36E-02	1.49E+00	1.32E-02	1.01E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.69E-03	3.01E-03	0.00E+00	-6.03E-01
Ozone depletion pot.	kg CFC_{-11}e	3.19E-05	2.99E-07	2.71E-06	3.49E-05	7.23E-07	1.10E-09	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.56E-08	1.22E-07	0.00E+00	-4.56E-06
Acidification potential	mol H^+e	1.56E+00	6.79E-02	2.93E-01	1.92E+00	1.62E-01	3.77E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.28E-02	1.13E-01	0.00E+00	-1.07E+00
EP-freshwater[2)]	kg Pe	3.37E-02	1.28E-03	1.36E+00	1.39E+00	2.45E-03	1.77E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.93E-04	4.71E-03	0.00E+00	-1.41E-01
EP-marine	kg Ne	2.36E-01	2.46E-02	8.84E-02	3.49E-01	6.34E-02	3.96E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	4.22E-03	5.99E-02	0.00E+00	-2.72E-01
EP-terrestrial	mol Ne	4.51E+00	2.68E-01	9.45E-01	5.72E+00	6.92E-01	1.54E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	4.59E-02	5.75E-01	0.00E+00	-2.71E+00
POCP ("smog")[3)]	kg NMVOCe	1.11E+00	1.02E-01	3.04E-01	1.52E+00	2.48E-01	5.02E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.89E-02	1.45E-01	0.00E+00	-8.07E-01
ADP-minerals & metals[4)]	kg Sbe	3.66E-03	5.16E-05	4.27E-05	3.76E-03	1.14E-04	1.92E-07	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.05E-05	2.23E-05	0.00E+00	-3.67E-04
ADP-fossil resources	MJ	4.24E+03	2.51E+02	1.95E+03	6.44E+03	5.14E+02	9.54E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.47E+01	9.63E+01	0.00E+00	-3.74E+03
Water use[5)]	m^3e depr.	4.30E+02	1.25E+00	1.27E+02	5.59E+02	2.60E+00	2.69E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.70E-01	2.28E+01	0.00E+00	-1.01E+02

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

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	2.99E-05	1.72E-06	4.13E-06	3.58E-05	3.49E-06	6.59E-09	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.77E-07	1.26E-06	0.00E+00	-2.73E-05
Ionizing radiation[6)]	kBq U235e	1.03E+01	2.69E-01	1.74E+00	1.23E+01	6.76E-01	2.52E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	4.76E-02	1.10E-01	0.00E+00	-1.02E+02
Ecotoxicity (freshwater)	CTUe	3.15E+03	3.43E+01	4.87E+01	3.24E+03	6.72E+01	3.38E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	7.73E+00	7.38E+01	0.00E+00	-4.50E+02
Human toxicity, cancer	CTUh	1.51E-07	3.58E-09	2.62E-08	1.81E-07	9.17E-09	3.54E-11	MND	MND	MND	MND	MND	MND	MND	0.00E+00	6.22E-10	2.03E-08	0.00E+00	-5.59E-08
Human tox. non-cancer	CTUh	2.67E-06	1.68E-07	3.24E-07	3.16E-06	3.60E-07	1.87E-09	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.54E-08	1.36E-06	0.00E+00	-2.08E-06
SQP[7)]	-	4.87E+04	2.24E+02	5.32E+01	4.90E+04	3.85E+02	8.96E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.51E+01	2.70E+01	0.00E+00	-4.45E+03

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	9.31E+03	3.88E+00	-1.55E+03	7.76E+03	9.06E+00	-2.79E+01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	7.49E-01	-1.19E+04	0.00E+00	-2.85E+03
Renew. PER as material	MJ	8.48E+03	0.00E+00	-1.83E+03	6.65E+03	0.00E+00	-1.98E+01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	-6.63E+03	0.00E+00	0.00E+00
Total use of renew. PER	MJ	1.78E+04	3.88E+00	-3.38E+03	1.44E+04	9.06E+00	-4.77E+01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	7.49E-01	-1.85E+04	0.00E+00	-2.85E+03
Non-re. PER as energy	MJ	3.71E+03	2.51E+02	1.95E+03	5.91E+03	5.14E+02	-1.35E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.47E+01	9.63E+01	0.00E+00	-3.74E+03
Non-re. PER as material	MJ	5.29E+02	0.00E+00	-1.37E+02	3.93E+02	0.00E+00	-2.48E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	-3.90E+02	0.00E+00	0.00E+00
Total use of non-re. PER	MJ	4.24E+03	2.51E+02	1.81E+03	6.30E+03	5.14E+02	-3.83E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.47E+01	-2.94E+02	0.00E+00	-3.74E+03
Secondary materials	kg	1.04E+02	1.10E-01	1.15E+00	1.06E+02	2.33E-01	7.05E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.33E-02	2.26E-01	0.00E+00	-4.78E-01
Renew. secondary fuels	MJ	1.85E-02	1.37E-03	3.36E+03	3.36E+03	2.86E-03	6.95E-06	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.96E-04	5.34E-04	0.00E+00	-2.05E-03
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	1.59E+00	3.65E-02	2.86E+00	4.48E+00	7.32E-02	-2.43E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	8.08E-03	1.41E-01	0.00E+00	-3.06E+00

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	8.09E+00	3.97E-01	6.33E+00	1.48E+01	7.40E-01	6.62E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	9.26E-02	4.53E+00	0.00E+00	-8.68E+00
Non-hazardous waste	kg	2.24E+02	7.76E+00	1.04E+03	1.27E+03	1.56E+01	4.31E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.71E+00	7.18E+02	0.00E+00	-6.90E+02
Radioactive waste	kg	9.06E-03	6.63E-05	1.11E-03	1.02E-02	1.68E-04	6.30E-07	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.17E-05	2.73E-05	0.00E+00	-2.63E-02

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	0.00E+00	0.00E+00	0.00E+00	6.33E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy rec	kg	0.00E+00	0.00E+00	1.72E+02	1.72E+02	0.00E+00	5.91E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	7.00E+02	0.00E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.37E+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 – Electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.89E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	1.08E+03	0.00E+00	0.00E+00
Exported energy –	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	6.07E+03	0.00E+00	0.00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

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	2.29E+02	1.73E+01	1.47E+02	3.93E+02	3.57E+01	1.77E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.75E+00	1.08E+01	0.00E+00	-1.62E+02
Ozone depletion Pot.	kg $CFC_{-11}e$	2.53E-05	2.38E-07	2.44E-06	2.79E-05	5.75E-07	8.89E-10	MND	MND	MND	MND	MND	MND	MND	0.00E+00	4.44E-08	1.01E-07	0.00E+00	-4.48E-06
Acidification	kg SO_2e	1.11E+00	5.08E-02	2.29E-01	1.39E+00	1.19E-01	2.80E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	9.81E-03	7.89E-02	0.00E+00	-8.62E-01
Eutrophication	kg PO_4^3e	3.53E-01	1.26E-02	4.65E-02	4.12E-01	3.01E-02	1.00E-04	MND	MND	MND	MND	MND	MND	MND	0.00E+00	2.39E-03	3.02E-02	0.00E+00	-1.64E-01
POCP (“smog”)	kg C_2H_4e	1.29E-01	4.46E-03	1.68E-02	1.50E-01	1.02E-02	3.17E-05	MND	MND	MND	MND	MND	MND	MND	0.00E+00	8.74E-04	6.27E-03	0.00E+00	-7.44E-02
ADP-elements	kg Sbe	3.66E-03	5.04E-05	3.85E-05	3.75E-03	1.12E-04	1.85E-07	MND	MND	MND	MND	MND	MND	MND	0.00E+00	1.02E-05	1.85E-05	0.00E+00	-3.63E-04
ADP-fossil	MJ	4.16E+03	2.47E+02	1.94E+03	6.34E+03	5.03E+02	9.12E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	5.39E+01	9.45E+01	0.00E+00	-1.93E+03

ENVIRONMENTAL IMPACTS – GWP-GHG

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_2e	2.29E+02	1.74E+01	1.47E+02	3.93E+02	3.60E+01	1.36E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	3.77E+00	1.09E+01	0.00E+00	-1.62E+02

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.

Lucas Rodriguez, as an authorized verifier acting for EPD Hub Limited.
20.06.2025