

ENVIRONMENTAL PRODUCT DECLARATION

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

Melamine-faced Particleboard (MF PB)

Kronospan Mielec Sp. z o.o.



EPD HUB, HUB-2891

Publishing date 15 February 2025, last updated on 15 February 2025, valid until 14 February 2030.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Kronospan Mielec Sp. z o.o.
Address	Wojska Polskiego 3, 39-300 Mielec, Poland
Contact details	kronosfera@kronospan.pl
Website	https://kronospan.com/en_PL

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 und 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	-
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Luiza Matusik-Karska, Viverno Sp. z o.o.
EPD verification	Unabhängige Verifizierung dieser EPD und der Daten gemäß ISO 14025: <input type="checkbox"/> Interne Prüfung <input checked="" type="checkbox"/> Externe Verifizierung
EPD verifier	Magaly González Vázquez, 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	Melamine-faced Particleboard (MF PB)
Additional labels	-
Product reference	-
Place of production	Mielec, Poland
Period for data	January 2022 - December 2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m ²
Declared unit mass	11.37 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	8,22E+00
GWP-total, A1-A3 (kgCO ₂ e)	-9,17E+00
Secondary material, inputs (%)	26
Secondary material, outputs (%)	100
Total energy use, A1-A3 (kWh)	55.4
Net freshwater use, A1-A3 (m ³)	0.3

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

The plant in Mielec is a manufacturer of wood-based boards; raw MDF and particleboard, melamine-faced MDF and particleboard, worktops, impregnated decorative papers.

PRODUCT DESCRIPTION

Melamine-faced panels are created by high pressure heat bonding decorative paper impregnated with melamine resin to particleboard to provide a highly wear and water resistant product surface finish and appropriate structure. Melamine-faced particleboards, as they are made from particleboard, provide ease of processing while maintaining basic physical-mechanical parameters

MF PB is a standard board and an essential material in the furniture and interior design industries. The product is used for a wide range of applications, including kitchen, bathroom, bedroom and office furniture. MF PB is available in various fashionable designs and finishes, including gloss, matt, lightly textured and wood grain.

For special applications, additional MF PB boards with improved moisture resistance and fire retardant properties are available.

MF PB comes in three collections – Color, Standard and Contempo. They feature a wide range of designs and a variety of thicknesses and surface textures.

Melamine-faced particleboard produced by Kronospan Mielec is surface-finished particleboard type P2 - melamine-coated: thickness range 6-38 mm, maximum width of the board 2620 mm, maximum length of the board 5600 mm. The core of the laminated board is particleboard type P2 compliant with EN 312.

Further information can be found at https://kronospan.com/en_PL.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	0	-
Fossil materials	12	Global
Bio-based materials	88	Europe

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	4.73
Biogenic carbon content in packaging, kg C	0.103

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m ²
Mass per declared unit	11.37 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	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	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 extraction and supply (A1):

This stage includes extraction and processing of all raw materials (e.g. logs, wood chips, sawdust, scrap wood, recycled wood, chemicals such as resins, urea, formalin, melamine and additives, raw paper) used to manufacture the product.

Transport of raw materials and inputs to the manufacturer (A2):

This module covers the delivery of all materials for the production process, including those in the product itself, ancillary materials, and the products packaging materials.

- Transportation of the logs, woodchips, sawdust and post-consumer recycled timber to the Mielec site.
- Transportation of chemicals and packaging materials from manufacturer/supplier to the Mielec site.

Manufacturing of the products, and packaging (A3):

Manufacturing stage includes:

- Electricity, heat, and fuel (for boilers, dryer burners, work machinery, e.g. forklifts) consumption in the production process
- Ancillary materials that are used in the production process but do not form part of the product (e.g. water, chemicals) and packaging materials that are used to package the final product (e.g. PET straps, laths, cardboard)
- Treatment of waste generated from the production process.

The wood waste (wood leftovers, trimmings) and sanding dust are burned in an on-site biomass plant. The thermal energy generated is recycled for consumption in production.

TRANSPORT AND INSTALLATION (A4-A5)

This EPD does not cover the assembly stage. Air, soil, and water impacts during the transport and installation have not been studied.

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)

De-construction, demolition (C1):

Mechanical dismantling - 0.01 kWh diesel use per kg of material was assumed for deconstruction.

Transport to waste processing (C2):

Transport to waste treatment by EURO 6 truck over a distance of 50 km is used as a representative scenario.

Waste processing for reuse, recycling, and energy recovery (C3):

The scenario at end of life assumes the product and packaging board are considered to be incinerated with energy recovery (100%). Incineration does not require any additional process. This module includes environmental loads due to waste incineration. The resulting effects and potential credits are declared in module D.

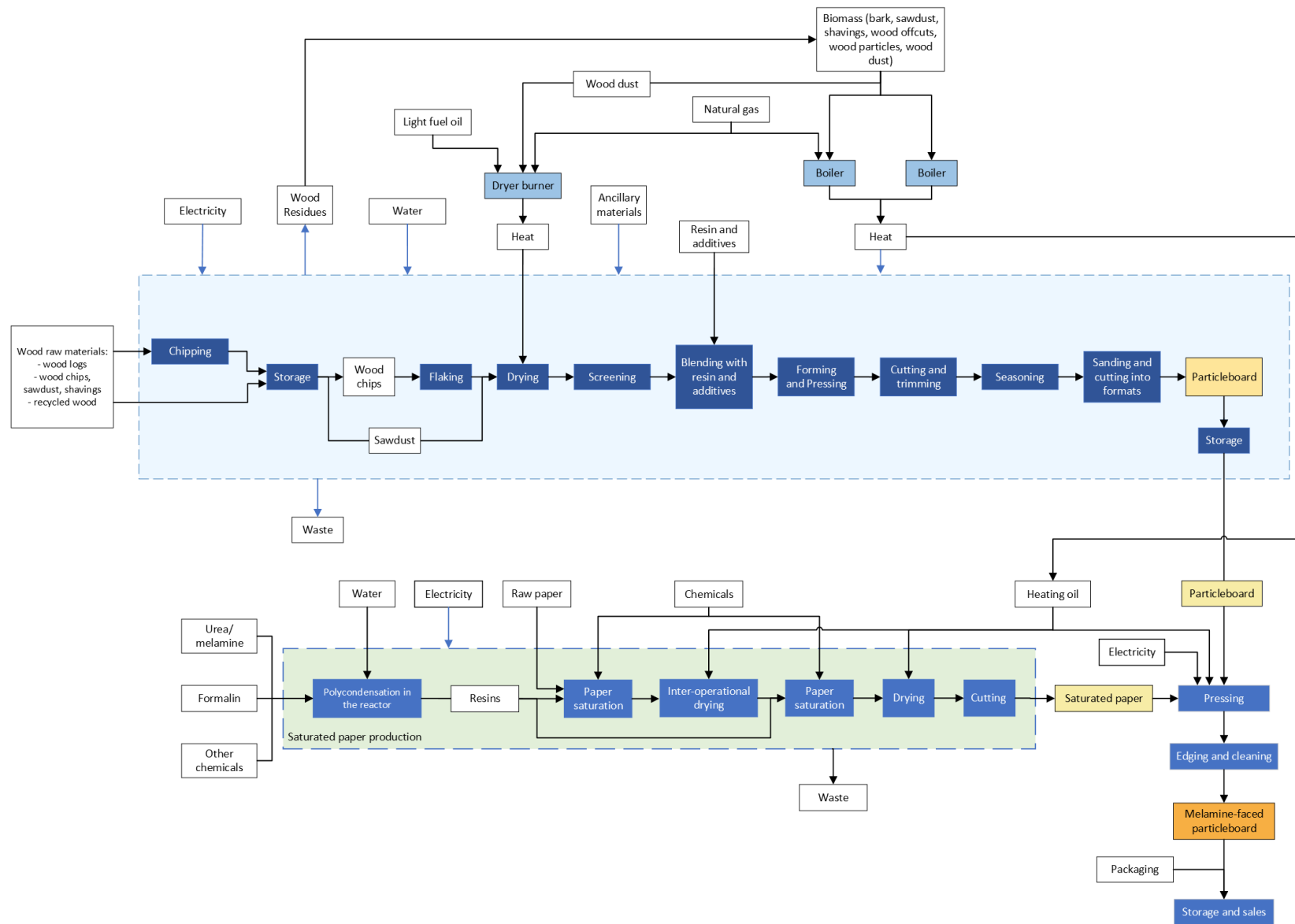
Disposal and the associated processes (C4):

This module includes environmental impact of waste packaging landfilling only. It is assumed that 100% of cardboard and PET straps are treated by landfilling.

Environmental benefits and loads (D):

Energy from utilization of the boards in an incineration plant is assigned to module D. It is also assumed that the thermal energy of the incineration process is higher than 60%. Energy produced in the form of electricity and thermal energy replaces thermal energy and electrical energy in accordance with the European mix.

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 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	-

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 v3.8, 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 ₂ e	-1,25E+01	2,91E-01	3,00E+00	-9,17E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,77E-02	5,23E-02	1,75E+01	1,67E-02	-1,11E+01
GWP – fossil	kg CO ₂ e	5,49E+00	2,91E-01	2,44E+00	8,22E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,77E-02	5,23E-02	1,07E-01	3,88E-04	-1,11E+01
GWP – biogenic	kg CO ₂ e	-1,80E+01	0,00E+00	5,64E-01	-1,74E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,74E+01	1,63E-02	0,00E+00
GWP – LULUC	kg CO ₂ e	5,57E-03	2,53E-04	6,47E-04	6,47E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,76E-06	2,03E-05	3,75E-05	3,84E-08	-7,21E-03
Ozone depletion pot.	kg CFC-11e	7,94E-07	5,83E-08	7,60E-08	9,28E-07	MND	MND	MND	MND	MND	MND	MND	MND	MND	8,06E-09	1,23E-08	1,24E-08	4,32E-11	-5,93E-07
Acidification potential	mol H ⁺ e	3,01E-02	1,10E-03	1,75E-02	4,87E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,92E-04	1,70E-04	3,59E-03	2,35E-06	-8,61E-02
EP-freshwater ²⁾	kg Pe	1,65E-04	5,98E-06	3,25E-04	4,97E-04	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,25E-07	4,43E-07	1,89E-06	1,44E-09	-6,03E-04
EP-marine	kg Ne	5,96E-03	2,42E-04	1,93E-03	8,13E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,74E-04	3,74E-05	1,69E-03	1,90E-05	-1,00E-02
EP-terrestrial	mol Ne	7,12E-02	2,68E-03	2,17E-02	9,56E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,90E-03	4,15E-04	1,93E-02	5,42E-06	-1,17E-01
POCP (“smog”) ³⁾	kg NMVOCe	1,70E-02	9,53E-04	6,07E-03	2,40E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	5,23E-04	1,61E-04	5,05E-03	7,55E-06	-3,23E-02
ADP-minerals & metals ⁴⁾	kg Sbe	7,99E-05	9,55E-07	2,55E-06	8,34E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,91E-08	1,27E-07	4,74E-07	8,55E-10	-8,34E-06
ADP-fossil resources	MJ	1,36E+02	4,56E+00	2,73E+01	1,67E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	5,08E-01	8,19E-01	1,08E+00	3,49E-03	-1,33E+02
Water use ⁵⁾	m ³ e depr.	9,21E+00	4,10E-02	5,64E-01	9,82E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,36E-03	3,65E-03	2,35E-01	9,10E-05	-1,89E+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	2,77E-07	2,92E-08	2,90E-08	3,35E-07	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,05E-08	5,94E-09	2,89E-08	2,43E-11	-7,53E-07
Ionizing radiation ⁶⁾	kBq U235e	2,53E-01	3,51E-02	7,13E-02	3,59E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	2,33E-03	3,92E-03	4,17E-03	4,59E-05	-1,62E+00
Ecotoxicity (freshwater)	CTUe	1,07E+02	4,29E+00	3,40E+01	1,45E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,05E-01	7,28E-01	2,52E+00	5,04E-02	-2,44E+02
Human toxicity, cancer	CTUh	3,24E-08	1,63E-10	9,04E-10	3,35E-08	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,17E-11	1,78E-11	3,45E-09	1,99E-13	-3,38E-09
Human tox. non-cancer	CTUh	6,57E-08	4,05E-09	4,18E-08	1,12E-07	MND	MND	MND	MND	MND	MND	MND	MND	MND	2,21E-10	7,01E-10	1,01E-08	3,89E-11	-1,12E-07
SQP ⁷⁾	-	1,70E+02	4,73E+00	5,51E+00	1,80E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,60E-02	9,42E-01	3,29E-01	8,05E-03	-8,13E+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	3,69E+01	1,76E-01	2,05E+00	3,92E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	2,90E-03	9,22E-03	4,87E-02	5,62E-04	-2,49E+01
Renew. PER as material	MJ	9,28E+01	0,00E+00	-2,86E+00	8,99E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-8,98E+01	-1,40E-01	0,00E+00
Total use of renew. PER	MJ	1,30E+02	1,76E-01	-8,08E-01	1,29E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	2,90E-03	9,22E-03	-8,97E+01	-1,40E-01	-2,49E+01
Non-re. PER as energy	MJ	9,30E+01	4,56E+00	2,72E+01	1,25E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	5,08E-01	8,19E-01	1,08E+00	3,49E-03	-1,33E+02
Non-re. PER as material	MJ	2,90E+01	0,00E+00	-5,26E-01	2,84E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-2,84E+01	-6,36E-02	0,00E+00
Total use of non-re. PER	MJ	1,22E+02	4,56E+00	2,67E+01	1,53E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	5,08E-01	8,19E-01	-2,73E+01	-6,01E-02	-1,33E+02
Secondary materials	kg	2,95E+00	2,47E-03	1,30E-02	2,97E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,99E-04	2,27E-04	3,62E-03	1,43E-06	-1,10E-02
Renew. secondary fuels	MJ	2,87E-04	1,43E-05	3,56E+01	3,56E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,49E-07	2,29E-06	4,62E-06	5,31E-08	-6,95E-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	2,31E-01	1,17E-03	7,36E-02	3,05E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,08E-05	1,06E-04	5,65E-03	5,37E-06	-1,03E-01

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	3,30E-01	1,10E-02	2,81E-01	6,22E-01	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,79E-04	1,08E-03	0,00E+00	0,00E+00	-8,79E-01
Non-hazardous waste	kg	5,76E+00	2,59E-01	1,45E+01	2,05E+01	MND	MND	MND	MND	MND	MND	MND	MND	MND	4,77E-03	1,77E-02	1,16E+01	1,37E-02	-4,19E+01
Radioactive waste	kg	1,40E-04	2,99E-05	2,41E-05	1,94E-04	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,57E-06	5,52E-06	0,00E+00	0,00E+00	-5,96E-04

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	0,00E+00	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	1,16E+01	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 ₂ e	5,30E+00	2,88E-01	2,41E+00	7,99E+00	MND	MND	MND	MND	MND	MND	MND	MND	MND	3,73E-02	5,18E-02	1,05E-01	1,70E-02	-1,09E+01
Ozone depletion Pot.	kg CFC ₁₁ e	6,80E-07	4,64E-08	5,73E-08	7,84E-07	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,39E-09	9,74E-09	1,12E-08	3,43E-11	-4,84E-07
Acidification	kg SO ₂ e	2,34E-02	8,96E-04	1,51E-02	3,94E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	2,79E-04	1,38E-04	2,42E-03	1,91E-06	-7,36E-02
Eutrophication	kg PO ₄ ³ e	1,41E-02	2,89E-04	1,02E-02	2,45E-02	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,48E-05	3,02E-05	3,42E-03	4,75E-05	-2,13E-02
POCP (“smog”)	kg C ₂ H ₄ e	1,87E-03	4,21E-05	5,71E-04	2,48E-03	MND	MND	MND	MND	MND	MND	MND	MND	MND	6,11E-06	6,36E-06	9,81E-05	3,68E-06	-3,15E-03
ADP-elements	kg Sbe	7,96E-05	9,33E-07	2,52E-06	8,31E-05	MND	MND	MND	MND	MND	MND	MND	MND	MND	1,88E-08	1,24E-07	3,75E-07	8,38E-10	-8,30E-06
ADP-fossil	MJ	1,22E+02	4,56E+00	2,73E+01	1,54E+02	MND	MND	MND	MND	MND	MND	MND	MND	MND	5,08E-01	8,19E-01	1,08E+00	3,49E-03	-1,33E+02

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.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

15.02.2025



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