

ENVIRONMENTAL PRODUCT DECLARATION

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

EDF Kronoplan KronoArt

Kronospan HPL



EPD HUB, HUB-2469

Publishing date 30 April 2025, last updated on 30 April 2025, valid until 29 April 2030.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Kronospan HPL Sp. z o.o.
Address	Wojska Polskiego 3, 39-300 Mielec, Poland
Contact details	sustainability@kronospan.co.uk
Website	https://kronospan.com/

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 options, A4-A5, and modules C1-C4, D
EPD author	Sam Beverley and Daniel Grantham
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
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	EDF Kronoplan KronoArt
Additional labels	-
Product reference	61691, 61671
Place of production	Pustków Osiedle 59E, 39-206 Pustków, Poland
Period for data	October 2022 - September 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m ²
Declared unit mass	10.71 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	28.2
GWP-total, A1-A3 (kgCO ₂ e)	16.6
Secondary material, inputs (%)	0.39
Secondary material, outputs (%)	50
Total energy use, A1-A3 (kWh)	175
Net freshwater use, A1-A3 (m ³)	0.42

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Established in 1897 as an Austrian family company, Kronospan is a leading wood-based panel manufacturer. Kronospan uses advanced technologies in its production processes and leads the industry globally. Kronospan produces speciality and decorative paper as well as other associated value added products, such as melamine-faced panels, worktops, wall panels, window sills, lacquered HDF, compact boards, high pressure laminates (HPL), plywood and others. Kronospan manufactures wood-based panels at 40 sites and is local in many countries.

Kronospan HPL which is one of the entities of the Kronospan in Poland started operations in the 1996, in Pustków. The plant was designed to produce high quality decorative laminates, Slim Line worktops, compact boards, and façade panels within a 10 hectares area.

PRODUCT DESCRIPTION

EDF Kronoplan KronoArt boards are designed for outdoor use in moderate and heavy conditions, exposed to direct sunlight, impact, thermal shock, weather and corrosion. Aesthetics aside, the technical purpose of ventilated facades is to protect the structure from weather and environmental conditions while providing effective thermal insulation.

EDF Kronoplan KronoArt is a solution for architectural facade claddings. Laminated under high temperature and pressure. EDF Kronoplan KronoArt can be used for suspended ventilated facades, facings, sunshields, external partitions, fences and railings. EDF Kronoplan KronoArt has closed surface properties, topped by a layer of varnish. This structure translates into high resistance to staining, impact damage, and the effects of adverse environmental conditions. They provide fire retardancy in line with EN 13501

(up to the class B-s1,d0) DIN 4102 (up to the class B1) and NRO. They are available in 78 décors in BS and WO textures.

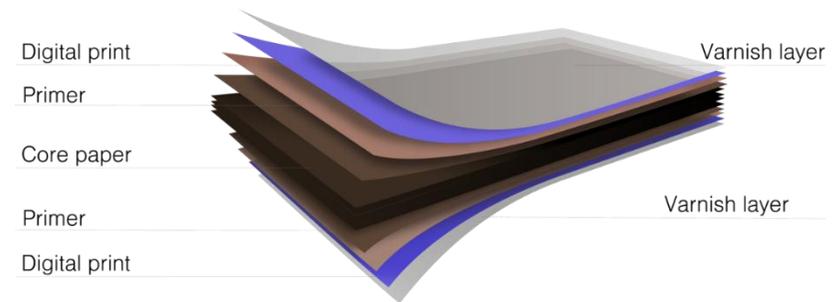


Figure 1. Construction of EDF Kronoplan KronoArt

More information can be found on the Kronospan HPL Sp. z o. o. website: <https://kronospan.com/>.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	-	-
Fossil materials	46.84	EU
Bio-based materials	53.16	PL

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	3.19
Biogenic carbon content in packaging, kg C	0.17

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m ²
Mass per declared unit	10.71 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):

This includes the extraction and processing of raw materials - in this case varying weights of raw papers, ink, and resin chemicals. Waste laminate is sent for energy recovery. This heat supplements the heat received via steam from an adjacent formalin plant. Electricity is taken from the grid with a contract with an energy provider, certifying that 100% of electrical energy used in that product coming from renewable sources.

Transportation to Manufacturing Site (A2):

This includes the transportation of raw materials to the manufacturing site. All materials are sourced from the EU, so most arrive solely by truck, but some arrive by combination of truck and ferry.

Manufacturing (A3):

This module covers the energy used in production (heat, electricity, electric forklift), ancillary water and cloth rags, and manufacturing waste, all allocated by volume. Furthermore it covers packaging materials (PE film, PET banding, cardboard, and pallets) which is not allocated

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.

Transport to Customer (A4):

This covers the average 711km transport of finished goods to the customer by 16-32t EURO5 Lorry.

Installation (A5):

EDF Kronoplan KronoArt does not require any energy or material input or loss for its use in subsequent manufacturing, so the only material leaving in A5 is the packaging material (PE film, PET banding, Cardboard, and Pallets). The pallets are rented, and so are reused; however, to be conservative they have been modelled as being disposed of in A5.

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)

Module C1:

Disassembly is done by hand at use-site, therefore creating no additional loads.

Module C2:

The material is transported to waste treatment site, which is assumed to be within 50 km, of the local waste collection centre and treated as municipal wood waste.

Module C3:

Kronospan has arrangements to take wood/laminate waste from local suppliers, which is either recycled into new wood products or burnt as fuel depending on quality. Therefore, it is modelled that 50% the product is incinerated with energy recovery and 50% recycled.

Module C4:

No loads generated in C4.

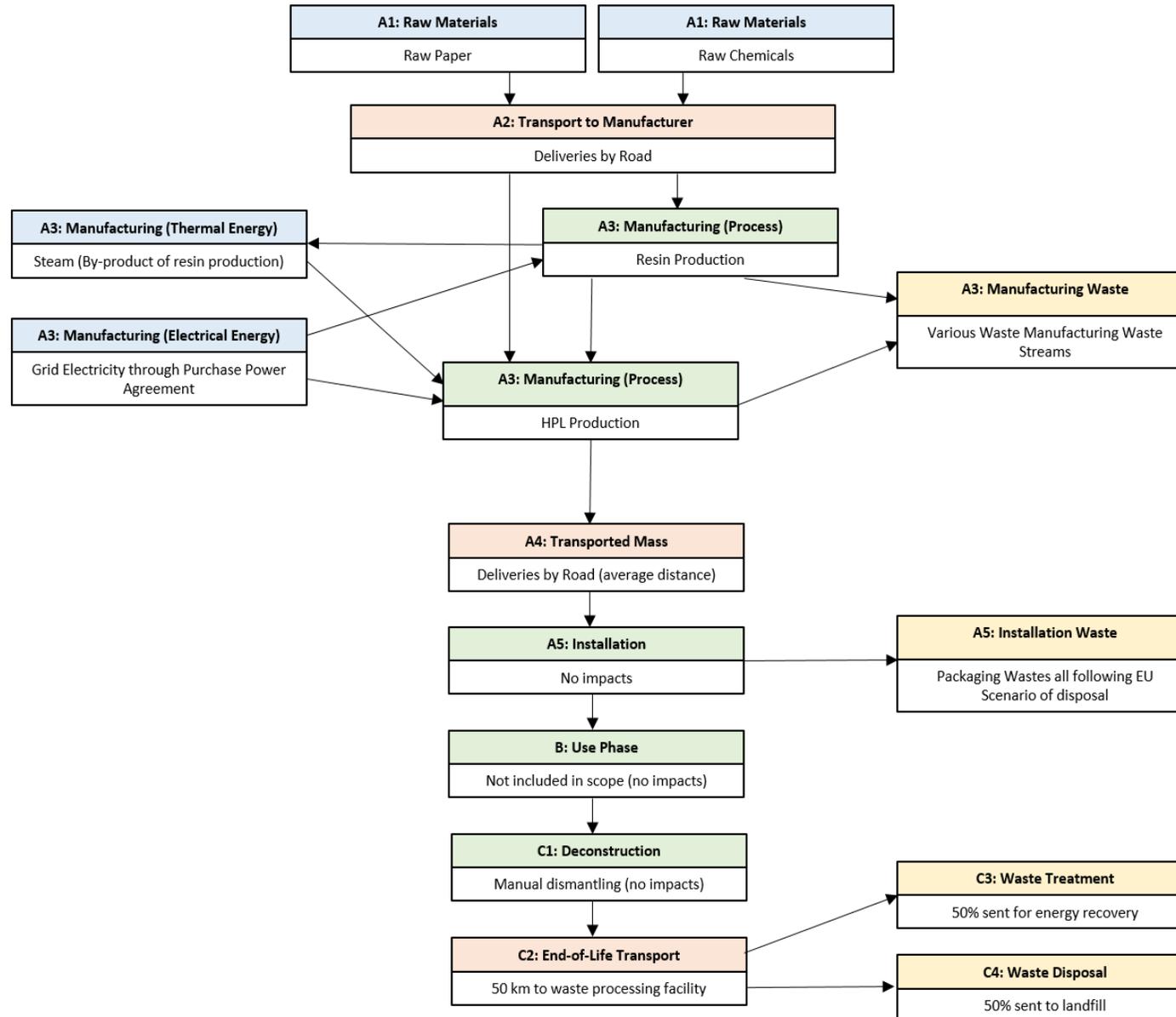
Module D:

The energy and raw material benefits associated with recycling in C3 are calculated and shown here.

Additionally, the benefits for the secondary fuel will be calculated and shown in module D. The utilization of the boards in an incineration plant and the resulting energy is assigned to module D.

It is also assumed that the energy production from biomass meets an R1 value > 0.6. Energy produced in the form of electricity and thermal energy replaces thermal energy from natural gas (DE) and electrical energy (DE).

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 material	No allocation
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	5,40E+00	1,97E+00	9,24E+00	1,66E+01	1,39E+00	8,04E-01	MND	0,00E+00	7,17E-02	5,62E+00	5,58E+00	3,50E+00						
GWP – fossil	kg CO ₂ e	1,64E+01	1,97E+00	9,84E+00	2,82E+01	1,39E+00	1,97E-01	MND	0,00E+00	7,17E-02	8,22E-02	4,35E-02	-4,13E+00						
GWP – biogenic	kg CO ₂ e	-1,11E+01	0,00E+00	-6,07E-01	-1,17E+01	0,00E+00	6,07E-01	MND	0,00E+00	0,00E+00	5,53E+00	5,53E+00	7,64E+00						
GWP – LULUC	kg CO ₂ e	4,71E-02	7,82E-04	5,46E-03	5,34E-02	5,67E-04	1,21E-05	MND	0,00E+00	2,82E-05	2,68E-05	1,13E-05	-2,67E-03						
Ozone depletion pot.	kg CFC-11e	1,59E-06	4,42E-07	1,34E-06	3,37E-06	3,07E-07	1,66E-09	MND	0,00E+00	1,60E-08	5,70E-09	1,66E-08	-2,22E-07						
Acidification potential	mol H ⁺ e	1,48E-01	1,01E-02	3,41E-02	1,92E-01	5,76E-03	9,18E-05	MND	0,00E+00	2,99E-04	8,79E-04	3,90E-04	-3,24E-02						
EP-freshwater ²⁾	kg Pe	1,01E-03	1,61E-05	1,52E-04	1,17E-03	1,17E-05	3,57E-07	MND	0,00E+00	5,98E-07	1,12E-06	5,64E-07	-2,22E-04						
EP-marine	kg Ne	2,08E-02	2,88E-03	6,11E-03	2,98E-02	1,68E-03	5,96E-05	MND	0,00E+00	8,78E-05	4,16E-04	3,03E-04	-4,08E-03						
EP-terrestrial	mol Ne	2,13E-01	3,18E-02	5,99E-02	3,05E-01	1,85E-02	3,56E-04	MND	0,00E+00	9,69E-04	4,43E-03	1,61E-03	-4,71E-02						
POCP (“smog”) ³⁾	kg NMVOCe	8,43E-02	9,63E-03	1,92E-02	1,13E-01	5,64E-03	1,03E-04	MND	0,00E+00	3,00E-04	1,09E-03	5,85E-04	-1,29E-02						
ADP-minerals & metals ⁴⁾	kg Sbe	1,26E-04	5,63E-06	1,69E-05	1,48E-04	4,84E-06	1,03E-07	MND	0,00E+00	2,21E-07	2,25E-07	1,57E-07	-3,28E-06						
ADP-fossil resources	MJ	4,11E+02	2,89E+01	1,48E+02	5,88E+02	2,01E+01	1,67E-01	MND	0,00E+00	1,05E+00	7,03E-01	1,18E+00	-4,94E+01						
Water use ⁵⁾	m ³ e depr.	1,52E+01	1,27E-01	2,28E+00	1,76E+01	8,81E-02	1,45E-02	MND	0,00E+00	4,64E-03	3,58E-01	1,09E-02	-1,05E+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	1,01E-06	1,94E-07	3,22E-07	1,53E-06	1,18E-07	1,36E-09	MND	0,00E+00	6,86E-09	9,39E-09	8,65E-09	-2,85E-07						
Ionizing radiation ⁶⁾	kBq	1,84E+00	1,36E-01	4,60E-01	2,44E+00	9,35E-02	1,37E-03	MND	0,00E+00	4,93E-03	1,53E-03	7,32E-03	-5,96E-01						
Ecotoxicity (freshwater)	CTUe	3,00E+02	2,61E+01	9,59E+01	4,22E+02	1,86E+01	3,95E-01	MND	0,00E+00	9,60E-01	1,30E+00	9,84E-01	-9,04E+01						
Human toxicity, cancer	CTUh	2,91E-08	7,11E-10	4,19E-09	3,40E-08	5,21E-10	2,96E-11	MND	0,00E+00	2,58E-11	2,33E-10	3,46E-11	-1,47E-09						
Human tox. non-cancer	CTUh	1,92E-07	2,49E-08	6,04E-08	2,77E-07	1,73E-08	7,28E-10	MND	0,00E+00	9,14E-10	1,12E-08	1,12E-09	-5,20E-08						
SQP ⁷⁾	-	1,53E+03	2,64E+01	5,99E+01	1,61E+03	1,39E+01	2,11E-01	MND	0,00E+00	9,01E-01	2,26E-01	3,12E+00	-3,00E+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	1,64E+02	3,29E-01	4,68E+01	2,11E+02	2,36E-01	9,62E-03	MND	0,00E+00	1,21E-02	1,71E-02	5,34E-02	-9,12E+00						
Renew. PER as material	MJ	1,04E+02	0,00E+00	5,30E+00	1,09E+02	0,00E+00	-5,30E+00	MND	0,00E+00	0,00E+00	-5,21E+01	-5,21E+01	0,00E+00						
Total use of renew. PER	MJ	2,68E+02	3,29E-01	5,21E+01	3,20E+02	2,36E-01	-5,29E+00	MND	0,00E+00	1,21E-02	-5,21E+01	-5,20E+01	-9,12E+00						
Non-re. PER as energy	MJ	2,58E+02	2,89E+01	1,42E+02	4,29E+02	2,01E+01	1,67E-01	MND	0,00E+00	1,05E+00	7,03E-01	1,18E+00	-4,94E+01						
Non-re. PER as material	MJ	1,53E+02	0,00E+00	6,07E+00	1,59E+02	0,00E+00	-6,07E+00	MND	0,00E+00	0,00E+00	-7,66E+01	-7,66E+01	0,00E+00						
Total use of non-re. PER	MJ	4,11E+02	2,89E+01	1,48E+02	5,88E+02	2,01E+01	-5,90E+00	MND	0,00E+00	1,05E+00	-7,59E+01	-7,54E+01	-4,94E+01						
Secondary materials	kg	4,17E-02	8,84E-03	2,41E-01	2,92E-01	6,63E-03	2,90E-04	MND	0,00E+00	3,26E-04	1,68E-03	4,48E-04	-5,45E-03						
Renew. secondary fuels	MJ	1,40E-02	9,93E-05	1,44E-01	1,58E-01	8,59E-05	2,32E-06	MND	0,00E+00	3,93E-06	3,96E-06	2,05E-05	-2,94E-05						
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
Use of net fresh water	m ³	4,19E-01	3,54E-03	5,36E-02	4,76E-01	2,38E-03	9,92E-05	MND	0,00E+00	1,28E-04	-1,13E-03	1,53E-03	-3,67E-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	1,07E+00	3,99E-02	3,47E-01	1,45E+00	2,90E-02	1,21E-03	MND	0,00E+00	1,47E-03	0,00E+00	0,00E+00	-3,22E-01						
Non-hazardous waste	kg	2,85E+01	6,38E-01	8,20E+00	3,74E+01	4,63E-01	3,27E-01	MND	0,00E+00	2,37E-02	5,36E+00	5,36E+00	-2,06E+01						
Radioactive waste	kg	6,62E-04	1,93E-04	3,59E-04	1,21E-03	1,33E-04	5,85E-07	MND	0,00E+00	6,98E-06	0,00E+00	0,00E+00	-2,18E-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	9,14E+01	9,14E+01	0,00E+00	0,00E+00	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	2,03E-01	2,03E-01	0,00E+00	2,32E-01	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	2,81E+00	2,81E+00	0,00E+00	6,79E-02	MND	0,00E+00	0,00E+00	5,36E+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	1,49E+00	MND	0,00E+00	0,00E+00	6,21E+01	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	1,56E+01	1,95E+00	9,69E+00	2,73E+01	1,38E+00	2,15E-01	MND	0,00E+00	7,09E-02	7,83E-02	3,89E-01	-4,06E+00						
Ozone depletion Pot.	kg CFC ₁₁ e	1,43E-06	3,50E-07	1,13E-06	2,91E-06	2,43E-07	1,36E-09	MND	0,00E+00	1,27E-08	4,92E-09	1,32E-08	-1,82E-07						
Acidification	kg SO ₂ e	1,24E-01	7,90E-03	2,87E-02	1,60E-01	4,49E-03	6,86E-05	MND	0,00E+00	2,33E-04	6,17E-04	2,90E-04	-2,75E-02						
Eutrophication	kg PO ₄ ³ e	7,96E-02	1,61E-03	6,94E-03	8,81E-02	1,03E-03	6,95E-04	MND	0,00E+00	5,33E-05	7,10E-04	1,54E-02	-8,50E-03						
POCP (“smog”)	kg C ₂ H ₄ e	1,21E-02	2,91E-04	1,56E-03	1,40E-02	1,82E-04	7,83E-06	MND	0,00E+00	9,32E-06	2,03E-05	8,47E-05	-1,17E-03						
ADP-elements	kg Sbe	1,18E-04	5,48E-06	1,63E-05	1,40E-04	4,72E-06	1,00E-07	MND	0,00E+00	2,15E-07	1,98E-07	1,51E-07	-3,24E-06						
ADP-fossil	MJ	3,98E+02	2,89E+01	1,48E+02	5,75E+02	2,01E+01	1,67E-01	MND	0,00E+00	1,05E+00	7,03E-01	1,18E+00	-4,94E+01						

SCALING TABLE

RESULTS FOR IMPACT CATEGORIES A1-A3

Thickness (mm)	GWP Fossil (kg CO2e)	GWP Biogenic (kg CO2e)	GWP Land Use Change (kg CO2e)	GWP Total (kg CO2e)
6	21.5	-8.78	0.0401	14.5
8	28.2	-11.7	0.0534	16.6
10	35.3	-14.6	0.0676	20.8

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

30.04.2025

