

ENVIRONMENTAL PRODUCT DECLARATION

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

Particleboard P2
Kronospan SL



EPD HUB, HUB-2990

Published on 21.02.2025, last updated on 21.02.2025, valid until 21.02.2030

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Kronospan SL
Address	Barrio de Castañares s/n, 09199 , Burgos (Spain)
Contact details	sales@kronospan.es
Website	https://kronospan.com/es_ES

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	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	HUB-2522
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Celia Sanchez San Cristobal
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	Imane Uald Lamkaddam as an authorized verifier for EPD Hub

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	Particleboard P2
Additional labels	
Product reference	PB P2
Place of production	Burgos, Spain
Period for data	2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m ² of board 16 mm thick
Declared unit mass	10.624 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	3,76E+00
GWP-total, A1-A3 (kgCO ₂ e)	-8,24E+00
Secondary material, inputs (%)	100
Secondary material, outputs (%)	76
Total energy use, A1-A3 (kWh)	21.8
Net freshwater use, A1-A3 (m ³)	0.02

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

The installation of KRONOSPAN S.L. It is designed for the production of coated and uncoated particles. The production process begins with the reception of various types of wood (sawdust, carpentry shavings, sawmills, recycled materials, etc...). The wood is crushed and stored once classified.

The materials likely to be contaminated with unwanted materials for the board go through a cleaning system, where stones, metals or plastics are separated and in this process the wood is classified by size. After going through the cleaning process, the splinter is transformed into a chip.

For the manufacture of chipboard it is essential that the particles of wood has a humidity level within specifications, so it is dried with hot air. The material then enters the press, where the board is formed thanks to the gluing of wood chips and adhesives.

To operate the process, thermal energy from biomass is used in the drying process and to heat the press and electricity is generated from natural gas. The waste is sent to the agglomerate process or as biomass for energy recovery.

The finished product is transported to customers.

PRODUCT DESCRIPTION

Wood-based panel consisting of three layers of resin-bonded wood particles that are pressed into board format under high pressure and heat. Subsequently, a layer of melamine paper is added. Particleboard PB-P2 is non-load-bearing panel for interior use in dry conditions with high dimensional stability and stiffness . Its use is for furniture and construction.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals		
Minerals		
Fossil materials	5,89	Spain
Bio-based materials	94,11	Spain

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	3,27
Biogenic carbon content in packaging, kg C	0,002632

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m ² of board 16 mm thick
Mass per declared unit	10.624 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.

The installation of KRONOSPAN S.L. It is designed for the production of coated and uncoated particles. In the production process, the following stages:

1. Reception of wood. The company uses various types of wood and highlights its use of wood by-products (sawdust, carpentry shavings, sawmills) and material recycling (chips from recycled pallets, etc...).
2. Chipping installation: The plant has two chippers, with blades that grind the wood.
3. Cleaning of splinters and sawdust: Materials likely to be contaminated with unwanted materials for the board they go through a cleaning system, where materials are separated such as stones, metals or plastics, etc. Later the machines conveyors move the chips and sawdust to the cleaning towers. In this phase a double process is carried out:
 - I. Removal of fractions that are not wood, such as metals ferrous, non-ferrous metals, plastics, cardboard, stones, etc.),
 - II. Classification by size of the chips.
4. Sawing machines: The chip is transformed into shavings using mills.
5. Drying and screening: For the manufacture of chipboard it is essential that the particles of wood have a specific degree of humidity.
6. Gluing and pressing: The types of chips are mixed and glued. The already glued material is transported to the forming lines, where the board will be manufactured agglomerate.
7. Sanding: The purpose of sanding the boards is to achieve uniformity of thickness and of surface, both for use as a bare board or for boards that They subsequently go through the coating process.

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.

The transportation distance is defined according to the suppliers of each material and the points of sale of the product. The most common method of transportation is by truck, however, there are raw materials that are brought by sea or train. In reality, it may vary, but since the role of transport emissions in the overall results is small, the variation in freight is assumed to be negligible.

Transportation does not cause losses since the products are correctly packaged

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

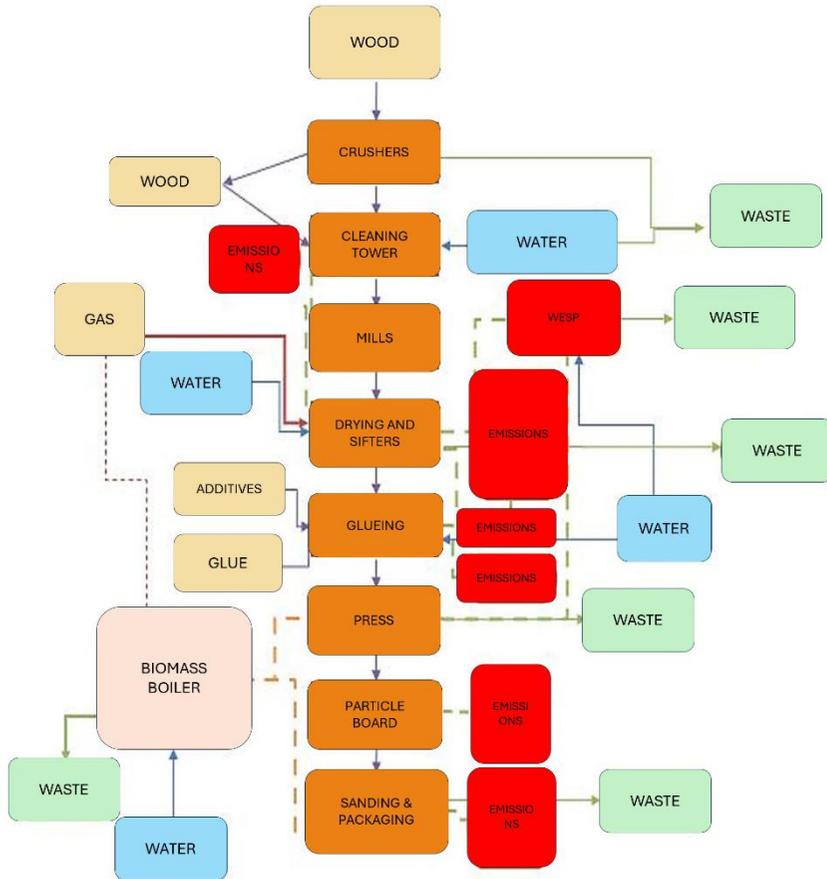
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

At the end of its useful life, in the demolition phase, it is considered that 100% to recycling.

At the waste treatment plant, waste that can be reused, recycled or recovered for energy is separated and diverted for further use. Unusable materials are disposed of in a landfill. Due to the recycling potential of steel and wood, they can be used as secondary raw materials and energy, respectively.

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	-1,02E+01	5,31E-02	1,87E+00	-8,24E+00	8,45E-01	3,18E-02	MND	0,00E+00	2,65E-01	1,21E+01	2,75E-02	-3,12E-02						
GWP – fossil	kg CO ₂ e	1,87E+00	5,30E-02	1,83E+00	3,76E+00	8,44E-01	2,21E-02	MND	0,00E+00	2,65E-01	1,04E-01	2,75E-02	-3,09E-02						
GWP – biogenic	kg CO ₂ e	-1,20E+01	0,00E+00	2,69E-02	-1,20E+01	0,00E+00	9,65E-03	MND	0,00E+00	0,00E+00	1,20E+01	4,44E-16	-2,53E-04						
GWP – LULUC	kg CO ₂ e	1,25E-03	2,08E-05	1,16E-02	1,28E-02	3,31E-04	3,25E-06	MND	0,00E+00	1,04E-04	7,81E-05	2,85E-05	-5,43E-05						
Ozone depletion pot.	kg CFC-11e	2,44E-06	1,23E-08	1,61E-07	2,62E-06	1,95E-07	5,94E-10	MND	0,00E+00	6,13E-08	6,80E-09	8,18E-09	-1,49E-09						
Acidification potential	mol H ⁺ e	1,34E-02	2,15E-04	1,90E-02	3,26E-02	3,43E-03	2,70E-05	MND	0,00E+00	1,08E-03	9,93E-04	2,32E-04	-1,81E-04						
EP-freshwater ²⁾	kg Pe	3,66E-05	3,72E-07	7,67E-05	1,14E-04	5,93E-06	1,03E-07	MND	0,00E+00	1,86E-06	3,44E-06	5,29E-07	-2,27E-06						
EP-marine	kg Ne	1,59E-03	6,43E-05	5,35E-03	7,01E-03	1,02E-03	1,33E-05	MND	0,00E+00	3,21E-04	4,30E-04	1,53E-04	-3,25E-05						
EP-terrestrial	mol Ne	3,66E-02	7,09E-04	5,61E-02	9,35E-02	1,13E-02	1,06E-04	MND	0,00E+00	3,54E-03	4,58E-03	8,61E-04	-3,68E-04						
POCP (“smog”) ³⁾	kg NMVOCe	4,70E-03	2,17E-04	2,67E-02	3,16E-02	3,46E-03	3,06E-05	MND	0,00E+00	1,08E-03	1,13E-03	3,08E-04	-1,13E-04						
ADP-minerals & metals ⁴⁾	kg Sbe	3,49E-05	1,88E-07	4,09E-06	3,92E-05	2,99E-06	1,59E-08	MND	0,00E+00	9,39E-07	2,86E-07	9,28E-08	-9,61E-08						
ADP-fossil resources	MJ	3,56E+01	7,87E-01	3,94E+01	7,58E+01	1,25E+01	5,67E-02	MND	0,00E+00	3,93E+00	1,17E+00	6,27E-01	-7,33E-01						
Water use ⁵⁾	m ³ e depr.	3,90E+00	3,64E-03	7,21E-01	4,62E+00	5,79E-02	5,07E-03	MND	0,00E+00	1,82E-02	3,67E-01	3,76E-03	-1,48E-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, 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	2,19E-07	4,58E-09	5,34E-08	2,77E-07	7,29E-08	4,15E-10	MND	0,00E+00	2,29E-08	9,76E-09	4,64E-09	-2,77E-09						
Ionizing radiation ⁶⁾	kBq 11235e	6,49E-02	4,12E-03	1,04E+00	1,11E+00	6,56E-02	4,90E-04	MND	0,00E+00	2,06E-02	1,41E-02	3,03E-03	-1,10E-02						
Ecotoxicity (freshwater)	CTUe	3,63E+01	6,53E-01	3,21E+01	6,91E+01	1,04E+01	7,43E-02	MND	0,00E+00	3,26E+00	1,57E+00	6,37E-01	-5,92E-01						
Human toxicity, cancer	CTUh	1,05E-09	2,02E-11	2,12E-09	3,19E-09	3,22E-10	5,81E-12	MND	0,00E+00	1,01E-10	2,45E-10	2,04E-11	-1,22E-11						
Human tox. non-cancer	CTUh	2,39E-08	6,63E-10	9,05E-08	1,15E-07	1,06E-08	2,01E-10	MND	0,00E+00	3,31E-09	1,14E-08	6,47E-10	-4,28E-10						
SQP ⁷⁾	-	1,14E+01	5,51E-01	5,86E+00	1,78E+01	8,77E+00	7,24E-02	MND	0,00E+00	2,75E+00	2,97E-01	1,51E+00	-3,80E-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	1,19E+00	1,13E-02	7,89E+00	9,09E+00	1,80E-01	2,89E-03	MND	0,00E+00	5,64E-02	9,90E-02	1,16E-02	-2,30E-01						
Renew. PER as material	MJ	1,23E+02	0,00E+00	-2,83E-01	1,23E+02	0,00E+00	-9,17E-02	MND	0,00E+00	0,00E+00	-1,23E+02	0,00E+00	2,22E-03						
Total use of renew. PER	MJ	1,24E+02	1,13E-02	7,61E+00	1,32E+02	1,80E-01	-8,88E-02	MND	0,00E+00	5,64E-02	-1,23E+02	1,16E-02	-2,28E-01						
Non-re. PER as energy	MJ	3,01E+01	7,87E-01	3,87E+01	6,95E+01	1,25E+01	5,67E-02	MND	0,00E+00	3,93E+00	1,17E+00	6,28E-01	-5,41E-01						
Non-re. PER as material	MJ	5,54E+00	0,00E+00	-1,82E-01	5,36E+00	0,00E+00	-3,14E-01	MND	0,00E+00	0,00E+00	-5,04E+00	0,00E+00	1,90E-01						
Total use of non-re. PER	MJ	3,56E+01	7,87E-01	3,85E+01	7,49E+01	1,25E+01	-2,58E-01	MND	0,00E+00	3,93E+00	-3,88E+00	6,28E-01	-3,51E-01						
Secondary materials	kg	1,07E+01	2,64E-04	2,14E-01	1,09E+01	4,20E-03	5,37E-05	MND	0,00E+00	1,32E-03	1,85E-03	2,24E-04	4,71E-03						
Renew. secondary fuels	MJ	4,23E-06	2,91E-06	2,33E-05	3,04E-05	4,63E-05	4,98E-07	MND	0,00E+00	1,45E-05	4,21E-06	8,61E-06	-7,25E-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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
Use of net fresh water	m ³	8,38E-03	9,90E-05	1,63E-02	2,48E-02	1,58E-03	2,32E-05	MND	0,00E+00	4,95E-04	-7,24E-04	6,72E-04	-4,53E-04						

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	8,26E-02	8,83E-04	2,29E-01	3,13E-01	1,41E-02	1,45E-04	MND	0,00E+00	4,41E-03	1,94E-03	0,00E+00	-1,84E-03						
Non-hazardous waste	kg	1,52E+00	1,57E-02	3,31E+00	4,84E+00	2,50E-01	1,45E-01	MND	0,00E+00	7,83E-02	5,42E+00	2,55E+00	-1,05E-01						
Radioactive waste	kg	8,10E-05	5,42E-06	2,71E-04	3,57E-04	8,63E-05	1,89E-07	MND	0,00E+00	2,71E-05	3,40E-06	0,00E+00	-3,08E-06						

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	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	6,89E-02	MND	0,00E+00	0,00E+00	2,76E+00	0,00E+00	0,00E+00						
Materials for energy rec	kg	0,00E+00	0,00E+00	7,49E-01	7,49E-01	0,00E+00	6,39E-03	MND	0,00E+00	0,00E+00	5,31E+00	0,00E+00	0,00E+00						
Exported energy	MJ	0,00E+00	0,00E+00	4,48E+00	4,48E+00	0,00E+00	4,08E-01	MND	0,00E+00	0,00E+00	4,84E+01	0,00E+00	-4,84E+01						

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	1,87E+00	5,25E-02	1,83E+00	3,75E+00	8,36E-01	2,73E-02	MND	0,00E+00	2,62E-01	1,00E-01	1,92E-01	-3,01E-02						
Ozone depletion Pot.	kg CFC ₁₁ e	3,09E-06	9,73E-09	1,36E-07	3,24E-06	1,55E-07	4,80E-10	MND	0,00E+00	4,86E-08	5,88E-09	6,49E-09	-1,32E-09						
Acidification	kg SO ₂ e	9,57E-03	1,67E-04	1,50E-02	2,47E-02	2,66E-03	2,02E-05	MND	0,00E+00	8,35E-04	7,14E-04	1,76E-04	-1,50E-04						
Eutrophication	kg PO ₄ ³ e	2,19E-03	3,80E-05	4,51E-03	6,74E-03	6,04E-04	2,49E-04	MND	0,00E+00	1,89E-04	7,85E-04	7,34E-03	-8,26E-05						
POCP (“smog”)	kg C ₂ H ₄ e	4,25E-04	6,85E-06	4,56E-04	8,88E-04	1,09E-04	2,02E-06	MND	0,00E+00	3,42E-05	2,45E-05	4,26E-05	-9,20E-06						
ADP-elements	kg Sbe	3,48E-05	1,84E-07	3,94E-06	3,89E-05	2,93E-06	1,53E-08	MND	0,00E+00	9,18E-07	2,59E-07	8,96E-08	-9,60E-08						
ADP-fossil	MJ	3,56E+01	7,87E-01	3,94E+01	7,58E+01	1,25E+01	5,67E-02	MND	0,00E+00	3,93E+00	1,17E+00	6,27E-01	-7,32E-01						

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	1,87E+00	5,31E-02	1,85E+00	3,77E+00	8,45E-01	2,21E-02	MND	0,00E+00	2,65E-01	1,04E-01	2,75E-02	-3,09E-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.

Imane Uald Lamkaddam as an authorized verifier for EPD Hub Limited
21.02.2025



ANNEXES

Thickness	Format		Kg CO2 per board
8,00	5120x	1840	-38,814
8,00	5125x	1840	-38,852
8,00	5130x	2450	-51,782
8,00	5620x	2087	-48,323
8,00	5625x	2080	-48,204
8,00	5625x	2080	-48,204
10,00	4915x	2450	-62,015
10,00	5130x	2450	-64,728
10,00	5625x	2080	-60,255
12,00	4120x	2080	-52,960
12,00	4450x	2080	-57,202
12,00	4900x	2080	-62,987
12,00	4915x	2450	-74,418
12,00	5130x	2450	-77,673
12,00	5625x	2080	-72,306
12,00	4420x	2080	-56,816
12,00	4320x	2080	-55,531
12,00	4915x	2450	-74,418
12,00	5625x	2080	-72,306
13,00	3900x	2080	-54,310
14,00	4915x	2450	-86,821
15,00	3900x	2080	-62,665
15,00	4915x	2450	-93,023
15,00	5120x	1840	-72,776
15,00	5125x	1840	-72,847
15,00	5130x	2450	-97,092
15,00	5520x	2500	-106,605
15,00	5625x	2080	-90,383
15,00	5625x	2080	-90,383
15,00	4915x	2450	-93,023
15,00	5625x	2080	-90,383
16,00	4915x	2450	-99,224
16,00	5225x	2110	-97,799
16,00	5620x	2210	-102,342
16,00	5625x	2080	-96,408
16,00	5705x	2080	-97,779
16,00	5705x	2110	-99,189
16,00	4140x	2080	-70,979
16,00	4170x	2080	-71,470
16,00	5025x	2450	-101,445
16,00	5625x	2080	-96,408
16,00	5625x	2080	-96,408
16,00	5705x	2080	-97,779
16,50	4915x	2450	-102,325
17,00	4915x	2450	-105,426
17,00	5520x	2450	-118,403
17,00	4915x	2450	-105,426
17,00	5035x	2500	-110,204
18,00	4915x	2450	-111,627
18,00	5120x	1840	-87,331
18,00	5125x	1840	-87,416
18,00	5130x	2450	-116,510
18,00	5625x	2080	-108,459
18,00	5705x	2080	-110,002
18,00	4915x	2450	-111,627

18,00	5625x	2080	-108,459
19,00	4915x	2450	-117,829
19,00	5225x	2110	-107,877
19,00	5625x	2080	-114,077
19,00	5705x	2110	-117,787
19,00	5625x	2080	-114,485
19,00	5025x	2450	-120,466
19,00	5625x	2080	-114,485
22,00	4905x	2450	-136,155
22,00	5625x	2080	-132,090
25,00	5625x	2080	-150,638
25,00	4915x	2450	-155,038
25,00	5625x	2080	-150,638
27,00	4915x	2450	-167,441
30,00	5625x	2080	-180,765
35,00	5625x	2080	-210,893
35,00	5625x	2080	-210,893