

# Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

**High density composite cladding for exteriors**

**NATURCLAD - B**

From

**Parklex Prodema Int. S.L.U.**

**PARKLEX PRODEMA**

Programme:	The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a>
Programme operator:	EPD International AB
EPD registration number:	S-P-05246
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*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)*



## General Information

### Programme information

<b>Programme:</b>	The International EPD® System
<b>Address:</b>	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
<b>Website:</b>	<a href="http://www.environdec.com">www.environdec.com</a>
<b>E-mail:</b>	<a href="mailto:info@environdec.com">info@environdec.com</a>

ISO standard ISO 21930 and CEN standard EN 15804 serves as the core Product Category Rules (PCR)

Product category rules (PCR):  
PCR 2019:14 Construction products, version 1.11

PCR review was conducted by:  
The Technical Committee of the International EPD® System. See [www.environdec.com/TC](http://www.environdec.com/TC) for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat [www.environdec.com/contact](http://www.environdec.com/contact).

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

External     Internal

Covering

EPD process certification     EPD verification

Third party verifier:

Tecnalia R&I Certificacion, SL  
Auditor: Eva Larzabal  
[info@tecnaliacertificacion.com](mailto:info@tecnaliacertificacion.com)  
Accredited by: ENAC nº125/C-PR283 accreditation.

Procedure for follow-up of data during EPD validity involves third party verifier:

Yes     No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

## Company information

Owner of the EPD: Parklex Prodema Int. S.L.U.

Description of the organisation:

Parklex Prodema Int. is a company dedicated to the manufacture of high-density composite cladding for exteriors, extremely resistant to atmospheric changes in humidity and temperature.

Our first determination is to provide the world of architecture with exclusive materials that will enable architects to design warm, beautiful and comfortable spaces that improve the quality of life of their users. Efficient buildings dressed in the elegance of natural wood.

Environmental Management System Certificate	UNE-EN ISO 14001 GA-2002/070
Ecodesign Management Systems Certification	UNE-EN ISO 14006 ED-0009/2010
Forest product custody chain Management Systems Certificate	PEFC/14-35-00025-AEN

The company has acquired a commitment to nature by promoting a respectful and sustainable management with the environment, and particularly with the sustainable exploitation of forests.

Name and location of production site:

Maderas Mejoradas Industrial,s.a.  
Polígono Alkaiaga. C/ Baldrún 1  
31780 Bera - Navarra - Spain

Contact:

Fernando Encio  
Quality & Environment System Manager  
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More information: <https://www.parklexprodema.com>

## Product information

Product name: High density composite cladding for exteriors. NATURCLAD - B

Product description: The products analysed are the following:



NATURCLAD - B is formed of a high density bakelite core, coated with a decorative wood texture paper. The surface varies from one panel to another, in order to avoid repeated patterns in any composition. An additional film improves the durability of the panels, conferring anti-adherent properties protecting against of solar radiation, atmospheric agents, dirt and chemical attacks.

Intended use of the construction product: As external finishes in walls or ceilings.

### Technical data

Tests	Standard	Property or attribute	Measurement unit	Resultado
<b>Dimensional tolerances</b>				
Thickness	EN 438-2 Part 5	$8,0 \leq t < 12,0$	mm	$\pm 0,50$
		$12,0 \leq t < 16,0$		$\pm 0,60$
		$16,0 \leq t < 20,0$		$\pm 0,70$
		$20,0 \leq t < 22,0$		$\pm 0,80$
Flatness (f)	EN 438-2 Part 9	$8,0 \leq t < 10,0$	mm/m	5,0
		$10,0 \leq t$		3,0
Length and width	EN 438-2 Part 6	-	mm/m	+10 / - 0
Edge straightness	EN 438-2 Part 7	-	mm/m	1,5
Edge squareness	EN 438-2 Part 8	-	mm/m	1,5
<b>Physical properties</b>				
Dimensional stability at elevated temperatures	EN 438-2 Part 17	Cumulative dimensional change	% max Longrain	0,3
			% max Crossgrain	0,6
Resistance to impact with large diameter ball	EN 438-2 Part 21	Maximum height for which no visible surface cracking or imprint greater than 10mm	mm	$\geq 1.800$
Determination of graffiti resistance	ASTM D 6578:2000	Cleanability level	Permanent blue marker	4
			Spray red paint	4
			Wax black crayon	3
			Water based black marker	1
<b>Weather resistance requirements</b>				
Resistance to UV light	EN 438-2 Part 28 Rating according to EN 20105 - A02	Contrast	Grey scale rating	$\geq 3$
		Aspect	Rating	$\geq 4$
Resistance to artificial weathering (including light fastness)	EN 438-2 Part 29 Rating according to EN 20105 - A02	Contrast	Grey scale rating	$\geq 3$
		Appearance	Rating	$\geq 4$
<b>5. CE Safety requirements</b>				
Water vapour permeability	EN 438-7 Part 4.4	Wet cup method	$\mu$	110
		Dry cup method		250
Resistance to fixings	EN 438-7 Part 4.5	Screw holding value $t \geq 8$ mm	N	$> 3.000$
		Screw holding value $t \geq 10$ mm		$> 4.000$
Flexural strength	EN ISO 178	Longrain	MPa	$\geq 80$
		Crossgrain		$\geq 80$
Flexural Modulus	EN ISO 178	Longrain	MPa	$\geq 9.000$
		Crossgrain		$\geq 9.000$
Thermal resistance/Conductivity	EN 12864	Thermal conductivity ( $\lambda$ )	W/m K	0,3
Resistance to climatic shock	EN 438-2 Part19	Appearance	Rating	$\geq 4$
		Flexural strength	Ds Rating	$\geq 0,80$
		Elastic modulus	Dm Rating	$\geq 0,80$
Density	EN ISO 1.183	Density	g/cm <sup>3</sup>	$\geq 1,35$
Resistance to wet conditions	EN 438-2 Part 15	Moisture absorbed	%	$\leq 2$
		Appearance	Rating	$\geq 4$
<b>6. Reaction to fire</b>				
Reaction to fire	EN 13.501-1	Euroclass	Classification	B-s1, d0
	ASTM E84		Class	A

## LCA information

Declared unit: The declared unit is the baseline reference for which all information is collected. In this study, the declared business unit “1m<sup>2</sup> of board” of the following typologies:

### EXTERNAL USE BOARDS

NATURCLAD - B 8mm  
 NATURCLAD - B 10mm

Reference service life: Not relevant for this EPD.

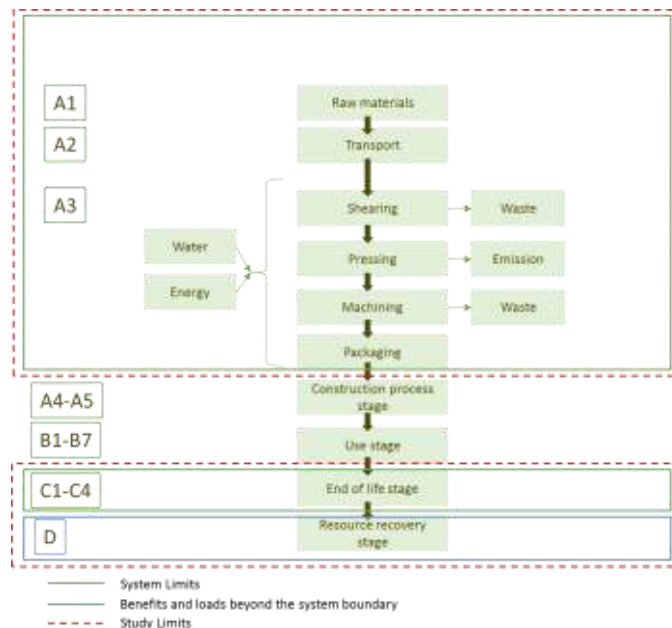
Geographical scope: The geographical scope of this EPD is international.

Time representativeness: The data collection from factory (primary data) is from 2020/01/01 to 2020/12/31. The electricity mix is from 2020 year. In this study, no datasets older than 10 years were used.

Database(s) and LCA software used: All the data used to model the process and obtain the Life Cycle Inventory are specific data and they are representative of the different processes implemented during the manufacturing process. The data has been measured directly at the company's own premises. In addition, the most complete and highest quality European life cycle inventory database, Ecoinvent 3.6, has been used, as this database contains the most extensive and updated information and its scope coincides with the geographical, technological and temporal area of the project. The LCA was modelled with Simapro 9.1.1.1.

Description of system boundaries: According to the standard UNE-EN 15804\_2012+A2\_2020 (MARCH 2020) and PCR 2019:14 CONSTRUCTION PRODUCTS (version 1.11) the system boundary is cradle to gate with modules C1–C4 and module D (A1–A3 + C + D). The life cycle stages A4-A5, B1-B7 were excluded from the LCA study.

### System diagram:



### System boundaries

### Manufacturing process:

The manufacturing process takes place over 5 steps:

1. Raw material reception and selection. In some cases, shearing is necessary to achieve appropriate dimensions.
2. Preparing packages, joining different layers of film and paper to be pressed later on.
3. Pressing.
4. Machining the boards, adjusting them to client requirements with an automatic saw.
5. Packaging the end product with the different protective layers required and final product is stored until dispatch.

#### Author of the Life Cycle Assessment:

IK ingenieria

Av. Cervantes 51, Edif. 10, panta 5, dpto.

48970 Basauri, Bizkaia (Spain)

#### Data quality

The environmental impact of the High density composite cladding has been calculated. It is based on the international standards established for the development of environmental product declarations, such as ISO 14025 for the preparation of the environmental product declaration, ISO 14040 and ISO 14044 for the preparation of the life cycle analysis, UNE-EN 15804:2012+A2:2020 (MARCH 2020) and the Product Category Rules PCR - "2019:14 Construction products " (Version 1.11) of the CPC 314.

Data for raw material supply, transport to fabrication plant and production (A1-A3) is based on specific consumption data for the factory at Bera. Generic background datasets were used for the downstream processes. SimaPro v9.1.1.1. software was used to prepare the life cycle analysis together with the Ecoinvent 3.6 database. Characterization factors from EN15804: 2012 + A2:2019.

The geographical coverage is international. Technological coverage is typical or average.

#### Assumptions

The modularity principle, as well as the polluter-payer principle have been followed. The following assumptions have been made in this EPD:

- ✓ It does not include the manufacturing processes of the capital goods or spare parts and/or maintenance with a life of more than three years.
- ✓ The environmental impact of infrastructure for general management, office, and headquarters operations is not included.
- ✓ The impact caused by people (common activities, travel for work...) will not be considered.
- ✓ The processes associated with fuel production are intrinsically included in the indicators in ECOINVENT's database used in carrying out the LCA.
- ✓ The environmental impact of external transport has been calculated using lorries from the ECOINVENT 3.6 database, EURO 6. These lorries have been selected to reflect the most realistic scenario possible.

#### Cut-off rules

The standard ISO 14025 and the PCR -"2019:14 CONSTRUCTION PRODUCTS" indicate that the life cycle inventory data should include a minimum of 95% of the total inputs (materials and energy) for each stage. This cut-off rule does not apply for hazardous materials and substances. No such cut-off criteria have been taken into account in this study.

#### Allocation

Where necessary, such as auxiliary materials, water, waste generation, emissions and energy consumption, an allocation based in mass has been used.

### Greenhouse gas emission from the use of electricity in the manufacturing phase

The mix of renewable energy used to produce certain raw materials and the in-factory production process is based in the year 2020. Specific renewable electricity mix with Guarantee of Origin, high voltage (direct emissions and losses in grid) electricity is considered for the manufacturing process.

Electricity mix	Amount	Units
Specific electricity mix with GoO	0,04	Kg CO2-eqv/kWh

## LCA Scenarios and additional technical information

### Dismantling/demolition (module C1):

Since they are not products with a structural use, the energy consumption of this phase is considered not relevant.

### Transport (module C2):

With a collection rate of 100%, the transports are carried out by lorry (EURO 6) over 50 km.

### Waste processing (modules C3 and C4):

A recycling ratio of 43,53 %, energy recovery ratio of 41,79 %, incineration ratio of 13,78 % and a landfilled ratio of 0,9% is considered in accordance with the publication of the H2020 project "Absorbing the Potential of Wood Waste in EU Regions and Industrial Bio-based Ecosystems — BioReg" document "D1.1 EUROPEAN WOOD WASTE STATISTICS REPORT FOR RECIPIENT AND MODEL REGIONS" for Europe

(<https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5bf1792ce&appId=PPGMS>). These percentages are representative of the areas where the product is marketed.

In module C3 the boards waste treatment (chipping) is considered. In module C4 the impact of incineration process and the landfilling.

### Recyclability potentials (module D):

Module D contains credits from the recycling and energy recovery of the boards in module C3. For the recycling process is considered that the board is collected and recycled for use in substitution of virgin wood chips. For energy recovery, use in substitution electricity and natural gas to produce heat.

Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	EU	EU	EU	ND	ND	ND	ND	ND	ND	ND	ND	ND	GLO	GLO	GLO	GLO	GLO
Specific data used	>90%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	No applicable					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	No applicable					-	-	-	-	-	-	-	-	-	-	-	-

## Content information

Product components	NATURCLAD – B 8 mm			NATURCLAD – B 10 mm		
	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Plastics	1,46E-01	0,00%	0,00%	1,46E-01	0,00%	0,00%
Synthetic resins	1,06E+01	0,00%	0,00%	1,30E+01	0,00%	0,00%
Paper	7,35E-01	25,00%	100,00%	7,35E-01	25,00%	100,00%
<b>TOTAL</b>	<b>1,15E+01</b>	<b>1,60%</b>	<b>6,41%</b>	<b>1,39E+01</b>	<b>1,33%</b>	<b>5,30%</b>
Packaging materials	Weight, kg	Weight-% (versus the product)		Weight, kg	Weight-% (versus the product)	
Cardboard	2,75E-03	0,02%		3,49E-03	0,03%	
Plastic	1,02E-02	0,09%		1,29E-02	0,09%	
Wood	4,60E-01	4,01%		5,84E-01	4,21%	
Steel	2,14E-02	0,19%		2,71E-02	0,20%	
<b>TOTAL</b>	<b>4,94E-01</b>	<b>4,31%</b>		<b>6,28E-01</b>	<b>4,53%</b>	

Packaging: Product packaging includes different layers of plastic films, a sacrifice board, wooden wedges and a polyester hoop. Panels that do not meet quality standards are reused as sacrifice boards for packaging.

No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in this boards manufactured by Maderas Mejoradas Industrial s.a., either above the threshold for registration with the European Chemicals Agency or above 0,1% (wt/wt).

# Environmental Information

## Potential environmental impact – mandatory indicators according to EN 15804

### Results per declared unit

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
<b>NATURCLAD - B 8 mm</b>							
GWP-fossil	kg CO2 eq.	2,55E+01	0,00E+00	9,31E-02	9,94E-02	1,47E-02	-6,52E+00
GWP-biogenic	kg CO2 eq.	-5,19E+00	0,00E+00	5,01E-05	2,98E-03	2,32E+00	7,74E+00
GWP-luluc	kg CO2 eq.	1,02E-01	0,00E+00	3,31E-05	2,23E-04	3,95E-06	-2,00E-02
GWP-total	kg CO2 eq.	2,04E+01	0,00E+00	9,32E-02	1,03E-01	2,33E+00	1,20E+00
ODP	kg CFC 11 eq.	2,50E-06	0,00E+00	2,12E-08	8,31E-09	2,09E-09	-8,56E-07
AP	mol H+ eq.	1,29E-01	0,00E+00	2,67E-04	5,49E-04	5,01E-04	-2,35E-02
EP-freshwater	kg PO43- eq.	4,65E-03	0,00E+00	2,28E-06	3,14E-05	9,08E-07	-3,79E-04
EP-freshwater	kg P eq.	1,51E-03	0,00E+00	7,44E-07	1,02E-05	2,96E-07	-1,23E-04
EP-marine	kg N eq.	4,56E-02	0,00E+00	5,29E-05	7,34E-05	2,35E-04	-3,46E-03
EP-terrestrial	mol N eq.	3,16E-01	0,00E+00	5,92E-04	9,00E-04	2,66E-03	-4,09E-02
POCP	kg NMVOC eq.	1,58E-01	0,00E+00	2,27E-04	2,34E-04	6,99E-04	-1,26E-02
ADP-minerals&metals*	kg Sb eq.	3,15E-04	0,00E+00	2,57E-06	3,83E-07	9,18E-08	-2,67E-05
ADP-fossil*	MJ	5,31E+02	0,00E+00	1,41E+00	2,01E+00	1,66E-01	-1,21E+02
WDP	m3 eq	2,79E+01	0,00E+00	3,98E-03	2,26E-02	5,17E-03	-1,91E+00
<b>NATURCLAD - B 10 mm</b>							
GWP-fossil	kg CO2 eq.	3,04E+01	0,00E+00	1,13E-01	1,20E-01	1,78E-02	-7,87E+00
GWP-biogenic	kg CO2 eq.	-6,29E+00	0,00E+00	6,06E-05	3,61E-03	2,80E+00	9,35E+00
GWP-luluc	kg CO2 eq.	1,24E-01	0,00E+00	4,01E-05	2,70E-04	4,77E-06	-2,42E-02
GWP-total	kg CO2 eq.	2,42E+01	0,00E+00	1,13E-01	1,24E-01	2,82E+00	1,45E+00
ODP	kg CFC 11 eq.	3,00E-06	0,00E+00	2,56E-08	1,00E-08	2,52E-09	-1,03E-06
AP	mol H+ eq.	1,53E-01	0,00E+00	3,24E-04	6,63E-04	6,05E-04	-2,84E-02
EP-freshwater	kg PO43- eq.	5,60E-03	0,00E+00	2,76E-06	3,80E-05	1,10E-06	-4,57E-04
EP-freshwater	kg P eq.	1,82E-03	0,00E+00	9,00E-07	1,24E-05	3,57E-07	-1,49E-04
EP-marine	kg N eq.	5,47E-02	0,00E+00	6,41E-05	8,87E-05	2,84E-04	-4,18E-03
EP-terrestrial	mol N eq.	3,75E-01	0,00E+00	7,17E-04	1,09E-03	3,22E-03	-4,94E-02
POCP	kg NMVOC eq.	1,89E-01	0,00E+00	2,75E-04	2,83E-04	8,45E-04	-1,52E-02
ADP-minerals&metals*	kg Sb eq.	3,76E-04	0,00E+00	3,11E-06	4,63E-07	1,11E-07	-3,23E-05
ADP-fossil*	MJ	6,38E+02	0,00E+00	1,70E+00	2,43E+00	2,01E-01	-1,46E+02
WDP	m3 eq	3,31E+01	0,00E+00	4,82E-03	2,73E-02	6,24E-03	-2,30E+00

GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

\* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

## Potential environmental impact – additional mandatory and voluntary indicators

### Results per declared unit

Indicator	A1-A3	C1	C2	C3	C4	D
<b>NATURCLAD - B 8 mm</b>						
GWP-GHG1	2,49E+01	0,00E+00	9,24E-02	9,87E-02	2,10E-02	-6,45E+00
<b>NATURCLAD - B 10 mm</b>						
GWP-GHG1	2,97E+01	0,00E+00	1,12E-01	1,19E-01	2,53E-02	-7,80E+00

<sup>1</sup> The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.



## Information on biogenic carbon content

BIOGENIC CARBON CONTENT	Results per declared unit		
	Unit	QUANTITY	
		NATURCLAD - B 8 mm	NATURCLAD – B 10 mm
Biogenic carbon content in product	kg C	3,59E+00	4,72E+00
Biogenic carbon content in packaging	kg C	1,93E-01	1,80E-01

*Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>.*

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## Additional information

The technical datasheet and the safety datasheet can be found in the following webpage:

<https://www.parklexprodema.com/technical-area/>

## Information related to Sector EPD

This is an individual EPD®

## Differences versus previous versions

This is the first version of the EPD®.

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## References

- General Programme Instruction of the International EPD®System. Version 3.01.
- ISO 14020:2000 Environmental labels and declarations-General principles.
- ISO 14025:2010 Environmental labels and declarations-Type III Environmental Declarations-Principles and procedures.
- ISO 14040:2006 Environmental Management-Life Cycle Assessment-Principles and framework.
- ISO 14044:2006 Environmental Management-Life Cycle Assessment-Requirements and guidelines.
- PCR 2019:14 Construction products (EN 15804: A2) version 1.11
- EN 15804:2012+A2:2019 Sustainability of construction works-Environmental Product Declarations-Core rules for the product category of construction products.

## VERIFICATION STATEMENT CERTIFICATE CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD00905

TECNALIA R&I CERTIFICACION S.L., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:

TECNALIA R&I CERTIFICACION S.L., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:

**PARKLEX PRODEMA INT. S.L.U.**  
**Bº San Miguel 9**  
**20250 LEGORRETA (Gipuzkoa)**

for the following product(s):  
para el siguiente(s) producto(s):

**High density composite cladding for exteriors NATURCLAD - B**

**Tablero composite de alta densidad para revestimiento de exterior NATURCLAD – B**

with registration number **S-P-05246** in the International EPD® System ([www.environdec.com](http://www.environdec.com)).  
con número de registro **S-P-05246** en el Sistema Internacional EPD® ([www.environdec.com](http://www.environdec.com)).

it's in conformity with:  
es conforme con:

- **ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations.**
- **General Programme Instructions for the International EPD® System v.3.01.**
- **PCR 2019:14 Construction products (EN 15804:A2) version 1.11.**
- **UN CPC 314 Boards and panels.**



Carlos Nazabal Alsua  
Manager

Issued date / Fecha de emisión:	18/01/2022
Update date / Fecha de actualización:	18/01/2022
Valid until / Válido hasta:	16/01/2027
Serial Nº / Nº Serie:	EPD0090500-E

*This certificate is not valid without its related EPD.  
Este certificado no es válido sin su correspondiente EPD.*

*El presente certificado está sujeto a modificaciones, suspensiones temporales y retiradas por TECNALIA R&I CERTIFICACION.  
This certificate is subject to modifications, temporary suspensions and withdrawals by TECNALIA R&I CERTIFICACION.*

*El estado de vigencia del certificado puede confirmarse mediante consulta en [www.tecnaliacertificacion.com](http://www.tecnaliacertificacion.com).  
The validity of this certificate can be checked through consultation in [www.tecnaliacertificacion.com](http://www.tecnaliacertificacion.com).*

