



laudio






ENVIRONMENTAL PRODUCT DECLARATION (EPD)

Sustainable European Radiata Pine-based plywood

EPD

Programme: The International EPD® System
www.environdec.com

Programme operator: EPD International AB

	 	  
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EPD OWNER

GRUPO GARNICA PLYWOOD S.A.U.

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Complete reports:



In accordance with ISO 14025 and EN 15804

PCR 2019:14 FOR CONSTRUCTION PRODUCTS AND CONSTRUCTION SERVICES (V 1.24), panels from:

garnica

Challenge the ordinary

ABOUT GARNICA

Introduction



A benchmark in the market

Garnica is a global leader in the plywood industry. Our goal is to surprise our clients, wherever they are in the world, with an outstanding product using a unique production model based on sustainability and innovation.



Challenging the ordinary since 1941

Since its founding in 1941 as a sawmill in La Rioja (Spain), Garnica has been a pioneer in exploring new ways to manage and use natural resources intelligently and to manufacture exceptional plywood solutions. Garnica has come a long way in that time, always in search of excellence, steadily progressing without losing sight of the future.



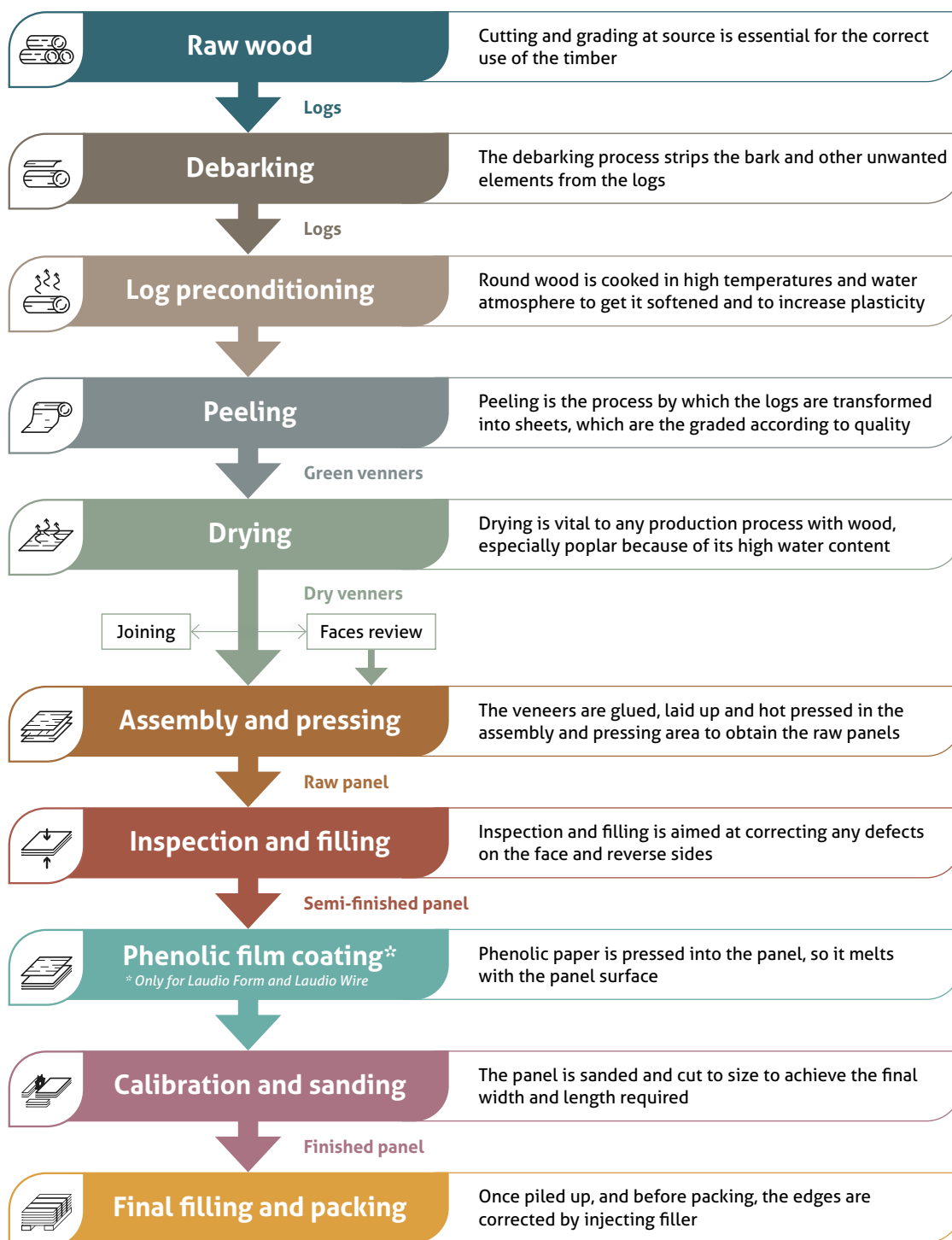
European manufacturer

Garnica is strategically located near five of Europe's largest poplar plantations. It has central headquarters and seven production centres, five in Spain and two in France.

POPLAR PLYWOOD PRODUCTION PROCESS

How we do it?

This document applies to interior use lightweight panels made entirely from sustainably planted European poplar panels manufactured by Garnica.



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Product definition

Laudio panels are pine plywood boards both raw and filmed, valid for a wide range of intended uses. The pine used by Garnica is sourced from plantations mostly located within a 50-100 kilometer radius of our Llodio facility. This pine is predominantly *Pinus radiata*, highly valued for its uniformity, strength and excellent mechanical performance.



European Radiata Pine-based plywood panel. Thanks to its natural durability, strength and versatility, it is perfect for a variety of industrial uses.
Different face and finish qualities available.



European Radiata Pine-based plywood panel ideal for decoration. The exceptional quality of the selected faces, the beauty of the grain and the characteristic edges of the pine make it a product ideal for furniture-making and decoration.



Panel based on European Radiata Pine made of veneers glued together with the fibers in the same direction to provide exceptional grain strength, stability and dimensional uniformity.

- LVL-L, with all veneers unidirectional to guarantee maximum grain strength and stability.
- LVL-T, with two or more transversal veneers, ideal for those application that need both grain and cross-grain strength and stability.



Phenolic paper-faced plywood panel, with a European Radiata Pine-based core and edges sealed with damp-proof paint.

Available with:

- Phenolic film covering of 170 g/m² density on the face and 170 g/m² density on the back.
- Reinforced phenolic film covering of 440 g/m² density on the face (TOP) and 170 g/m² density on the back.



Anti-slip panel with Radiata Pine-based core with each face covered in phenolic paper and edges sealed with damp-proof paint.

Exceptional resistance to impact and abrasion thanks to the high-quality phenolic film, which also reduces water penetration. Available with:

- 240 g/m² anti-slip Xtra face and 120 g/m² smooth back
- 170 g/m² anti-slip face and 170 g/m² smooth back



ENVIRONMENTAL PRODUCT DESIGN

LCA calculation

DECLARED UNIT

The functional unit is 1 m³ of wood panels, including packaging.

GEOGRAPHICAL COVERAGE

Global.

TIME REPRESENTATIVENESS

The inventory of the LCA study is based on primary data from the factory for 2021 production for wood panels

DATABASE AND LCA SOFTWARE USED

The LCA was modelled with SimaPro 9.3.0.3. LCA software using the impact factors and the Ecoinvent database (V3.8).

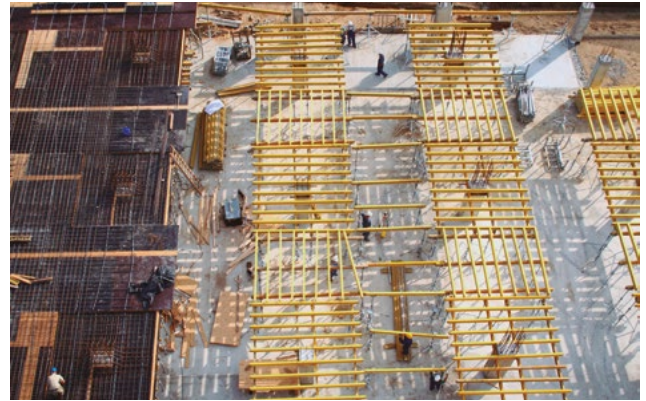
SYSTEM BOUNDARIES

The limits that have been selected following the standard UNE-EN 15804_2012+A2 2020 and 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.

The system boundary is cradle to gate with modules C1-C4 and module D (A1-A3 + C + D).

ALLOCATIONS

Throughout the production process, in addition to plywood, three co-products are produced: chips, cylindrical logs, and bark. This being the case, the allocation has been made based on economic criteria, according to the income obtained from the different products and co-products, given that the difference in economic income is high (over 25%).and co-products, given that the difference in economic income is high (over 25%).





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LCA Scenarios and additional technical information

The limits that have been selected follow the guidelines of 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.

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 transport is carried out by lorry (EURO 5) over 50 km.

WASTE PROCESSING (MODULES C3 AND C4):

A recycling ratio of 43,53%, an energy recovery ratio of 41,79%, an 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. These percentages are representative of the areas where the product is marketed.

In module C3 the panel waste treatment (chipping) is considered. In module C4 the impact of the 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.

LCA Scenarios for end of life		
Collection process specified by type	5,50E+00	Kg collected separately
	0,00E+00	Kg collected with mixed construction waste
Recovery system specified by type	0,00E+00	Kg for reuse
	2,39E+02	Kg for recycling
	2,30E+02	Kg for energy recovery
Disposal specified by type	8,07E+01	Kg for final disposal
Assumptions for scenario transportation	Lorry 16-32 metric tons, EURO5 Consumption: 0,03 kg/km Distance: 50 km	

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Content information

Per 1 m ³			
Product components	Weight (kg)	Post-consumer material, weight (%)	Renewable material, weight (%)
Wood	5,31E+02	0,00%	100,00%
Adhesives	1,93E+01	0,00%	0,00%
Total	5,50E+02	0,00%	96,50%

Per 1 m ³			
Product components	Weight (kg)	Post-consumer material, weight (%)	Renewable material, weight (%)
Wood	4,81E+02	0,00%	100,00%
Adhesives	1,93E+01	0,00%	0,00%
Paper	4,95E+01	0,00%	40,00%
Total	5,50E+02	0,00%	91,10%

Packaging materials for both product types			
Product components	Weight (kg)	Post-consumer material, weight (%)	Renewable material, weight (%)
Wood	4,81E+02	0,00%	100,00%
Adhesives	1,93E+01	0,00%	0,00%
Paper	4,95E+01	0,00%	40,00%
Total	5,50E+02	0,00%	91,10%

PACKAGING: The product is transported to the construction site packed with plastic film and cardboard, in pallets.

No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in the analyzed linear drainages manufactured by Garnica Llodio, either above the threshold for registration with the European Chemicals Agency or above 0,1% (wt/wt).

The life cycle model that was chosen is “Cradle to Gate”, covering all operations required for manufacturing the panels, from felling the timber and cutting the wood until the fully finished product is obtained.

The data that feed the calculation process represent the manufacturing process of wooden panels for the production period. This is primary data for the most part, collected directly from reliable sources that can be divided into the following categories:

- Delivery notes from delivered or supplied materials.
- Map distances.
- Invoices.
- Direct measurements.
- Counters.
- Product data sheets.

The Environmental performance considered for the evaluation of impact associated with the production under Product Category Rules (PCR) 2019:14 Construction Products (EN 15804:A2) Version 1.24 are as follows:

- **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

POTENTIAL ENVIRONMENTAL IMPACT

Mandatory indicators according to EN 15804

Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	3,63E+02	0,00E+00	4,57E+00	4,43E+00	7,38E-01	-3,29E+02
GWP-biogenic	kg CO ₂ eq.	-8,83E+02	0,00E+00	1,83E-03	7,55E+02	1,30E+02	-8,18E-01
GWP-luluc	kg CO ₂ eq.	5,17E+00	0,00E+00	1,79E-03	1,02E-02	2,56E-04	-3,82E-01
GWP-total	kg CO ₂ eq.	-5,14E+02	0,00E+00	4,57E+00	7,59E+02	1,31E+02	-3,30E+02
ODP	kg CFC 11 eq.	4,43E-05	0,00E+00	1,06E-06	2,22E-07	9,62E-08	-3,74E-05
AP	mol H ⁺ eq.	2,22E+00	0,00E+00	1,85E-02	2,36E-02	2,38E-02	-8,85E-01
EP-freshwater	³⁻ eq. kg PO ₄	1,26E-01	0,00E+00	9,84E-05	1,41E-03	3,95E-05	-4,34E-02
EP-freshwater	kg P eq.	4,09E-02	0,00E+00	3,20E-05	4,59E-04	1,29E-05	-1,41E-02
EP-marine	kg N eq.	7,79E-01	0,00E+00	5,53E-03	3,21E-03	1,13E-02	-1,34E-01
EP-terrestrial	mol N eq.	7,96E+00	0,00E+00	6,11E-02	3,67E-02	1,28E-01	-1,51E+00
POCP	kg NMVOC eq.	2,05E+00	0,00E+00	1,87E-02	1,03E-02	3,35E-02	-4,72E-01
ADP-minerals&metals*	kg Sb eq.	1,47E-03	0,00E+00	1,59E-05	1,22E-05	2,66E-06	-1,22E-03
ADP-fossil*	MJ	7,63E+03	0,00E+00	6,91E+01	9,23E+01	8,23E+00	-6,13E+03
WDP	m ³ deprive	2,74E+02	0,00E+00	2,07E-01	1,07E+00	2,26E-01	-4,12E+01

* 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.




Results per declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	5,29E+02	0,00E+00	4,57E+00	4,43E+00	7,38E-01	-3,29E+02
GWP-biogenic	kg CO ₂ eq.	-8,36E+02	0,00E+00	1,83E-03	7,15E+02	1,24E+02	-8,18E-01
GWP-luluc	kg CO ₂ eq.	7,37E+00	0,00E+00	1,79E-03	1,02E-02	2,56E-04	-3,82E-01
GWP-total	kg CO ₂ eq.	-3,00E+02	0,00E+00	4,57E+00	7,20E+02	1,24E+02	-3,30E+02
ODP	kg CFC 11 eq.	6,28E-05	0,00E+00	1,06E-06	2,22E-07	9,62E-08	-3,74E-05
AP	mol H ⁺ eq.	3,19E+00	0,00E+00	1,85E-02	2,36E-02	2,38E-02	-8,85E-01
EP-freshwater	³⁻ eq. kg PO ₄	1,80E-01	0,00E+00	9,84E-05	1,41E-03	3,95E-05	-4,34E-02
EP-freshwater	kg P eq.	5,87E-02	0,00E+00	3,20E-05	4,59E-04	1,29E-05	-1,41E-02
EP-marine	kg N eq.	1,11E+00	0,00E+00	5,53E-03	3,21E-03	1,13E-02	-1,34E-01
EP-terrestrial	mol N eq.	1,14E+01	0,00E+00	6,11E-02	3,67E-02	1,28E-01	-1,51E+00
POCP	kg NMVOC eq.	2,94E+00	0,00E+00	1,87E-02	1,03E-02	3,35E-02	-4,72E-01
ADP-minerals&metals*	kg Sb eq.	2,15E-03	0,00E+00	1,59E-05	1,22E-05	2,66E-06	-1,22E-03
ADP-fossil*	MJ	1,12E+04	0,00E+00	6,91E+01	9,23E+01	8,23E+00	-6,13E+03
WDP	m ³ deprive	4,02E+02	0,00E+00	2,07E-01	1,07E+00	2,26E-01	-4,12E+01



* 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
GWP-GHG1	3,68E+02	0,00E+00	4,56E+00	4,46E+00	1,17E+00	-3,30E+02

 						
Results per declared unit						
Indicator	A1-A3	C1	C2	C3	C4	D
GWP-GHG1	5,35E+02	0,00E+00	4,56E+00	4,46E+00	1,17E+00	-3,30E+02

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Verification



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certification



VERIFICATION STATEMENT CERTIFICATE CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD00303

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:*

GRUPO GARNICA PLYWOOD, S.A.U.
Parque San Miguel 10 Bajo
26007 LOGROÑO (La Rioja) - SPAIN

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

PLYWOOD PANELS: LAUDIO PINE, LAUDIO DECO and LAUDIO LVL.
TABLEROS CONTRACHAPADOS: LAUDIO PINE, LAUDIO DECO y LAUDIO LVL.

with registration number **S-P-00531** in the International EPD® System (www.environdec.com).
*con número de registro **S-P-00531** en el Sistema Internacional EPD® (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.4.0.
- PCR 2019:14 Construction products (EN 15804:A2) v.1.2.4.
- CPC 314 Boards and panels.

Issued date / Fecha de emisión: 11/05/2017
Update date / Fecha de actualización: 02/02/2023
Valid until / Válido hasta: 01/02/2028
Serial Nº / Nº Serie: EPD0030302-E



Carlos Nazabal Alsua
Manager

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.
The validity of this certificate can be checked through consultation in www.tecnaliacertificacion.com.



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Verification



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certification



VERIFICATION STATEMENT CERTIFICATE CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD00305

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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:*

GRUPO GARNICA PLYWOOD, S.A.U.
Parque San Miguel 10 Bajo
26007 LOGROÑO (La Rioja) - SPAIN

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

PLYWOOD PANELS: LAUDIO FORM and LAUDIO WIRE.
TABLEROS CONTRACHAPADOS: LAUDIO FORM y LAUDIO WIRE.

with registration number **S-P-08218** in the International EPD® System (www.environdec.com).
*con número de registro **S-P-08218** en el Sistema Internacional EPD® (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.4.0.
- PCR 2019:14 Construction products (EN 15804:A2) v.1.2.4.
- CPC 314 Boards and panels.

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Valid until / Válido hasta: 01/02/2028
Serial Nº / Nº Serie: EPD0030500-E



Carlos Nazabal Alsua
Manager



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The validity of this certificate can be checked through consultation in www.tecnaliacertificacion.com.








EPD

Programme: The International EPD® System

www.environdec.com

Programme operator: EPD International AB

	 	  
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EPD OWNER

GRUPO GARNICA PLYWOOD S.A.U.

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Complete reports:



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