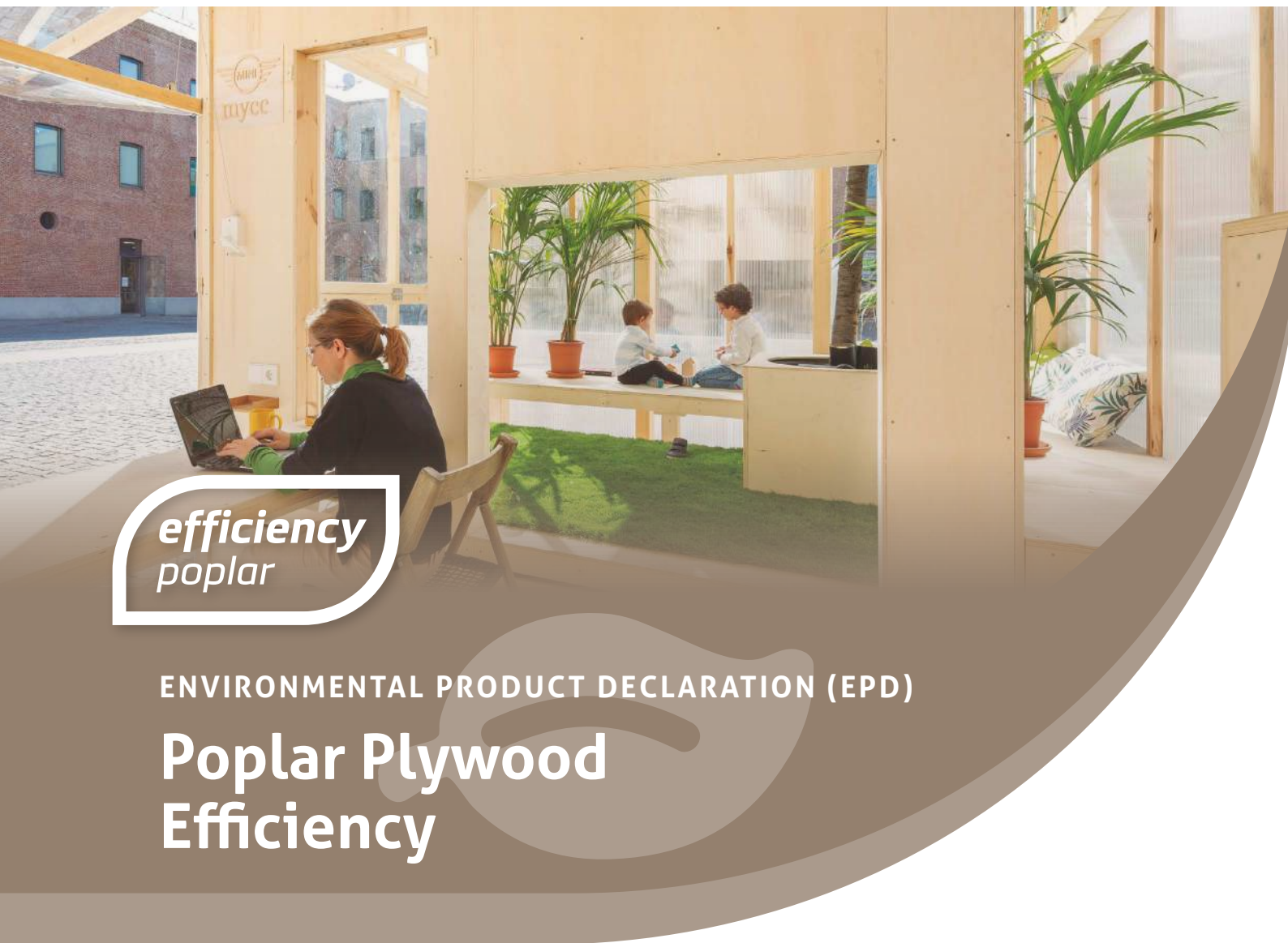




*efficiency
poplar*

ENVIRONMENTAL PRODUCT DECLARATION (EPD)

Poplar Plywood Efficiency

EPD

Programme: The International EPD System
www.environdec.com

Programme operator: EPD International

EPD registration number: S-P-05371

Registration date: 2022-01-14

Revision date: 2022-07-08

Validity: 2026-12-26

Geographical scope: Global

EPD OWNER

GRUPO GARNICA PLYWOOD S.A.U.

Web: www.garnica.one

E-mail: quality@garnica.one

Complete report:



In accordance
with **ISO 14025**
and **EN 15804**

PCR 2012:01 FOR
CONSTRUCTION PRODUCTS
AND CONSTRUCTION
SERVICES (V 2. 33), CPC 314
BOARDS AND 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.



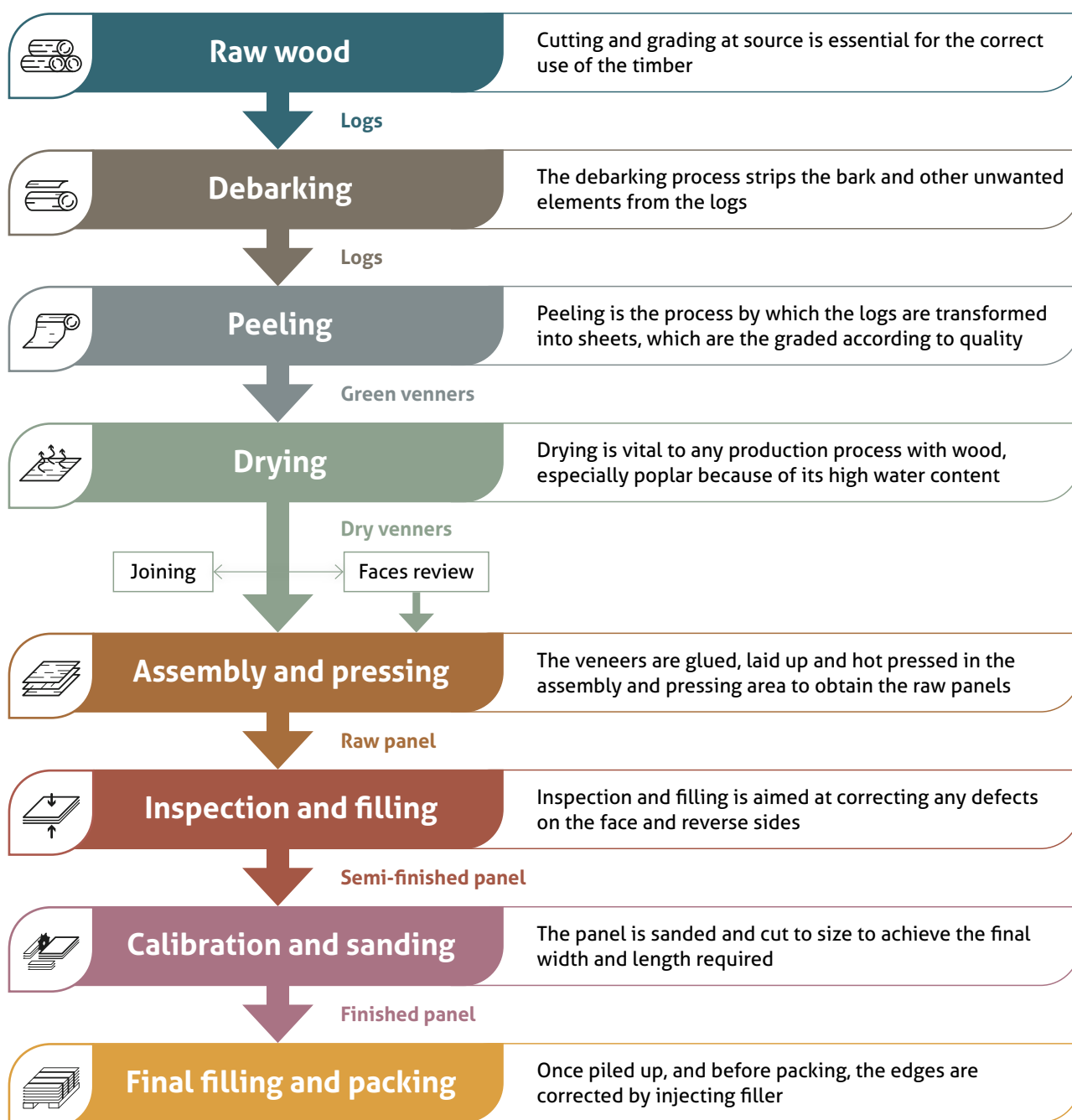
European manufacturer

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.



EFFICIENCY

Product definition

Lightweight panel composed entirely of European poplar sustainably grown. Also available with a primed finish with 80 microns of water-based acrylic paint, designed to reduce time and cost for end users who finish the panel with a final coat of paint. Available in white or gray. Maximum sustainability thanks to its composition based on fast-growing plantation wood.



Raw plywood panels



Poplar plywood panel for interior use with a primed finish



Gluing: Class 1 (interior) according to EN 636

Emissions: Class E1 according to EN 13986

Planned applications

Extremely versatile line that translates to a multitude of applications:

- Interior construction: walls, doors, and frames, kitchen cabinets.
- Furniture manufacturing for caravans, motorhomes, and vans.
- Public and private establishments.
- DIY projects.



FUNCTIONAL UNIT

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

SYSTEM BOUNDARIES

Cradle to gate with options. Modules A1 to A3.

TIME REPRESENTATIVENESS

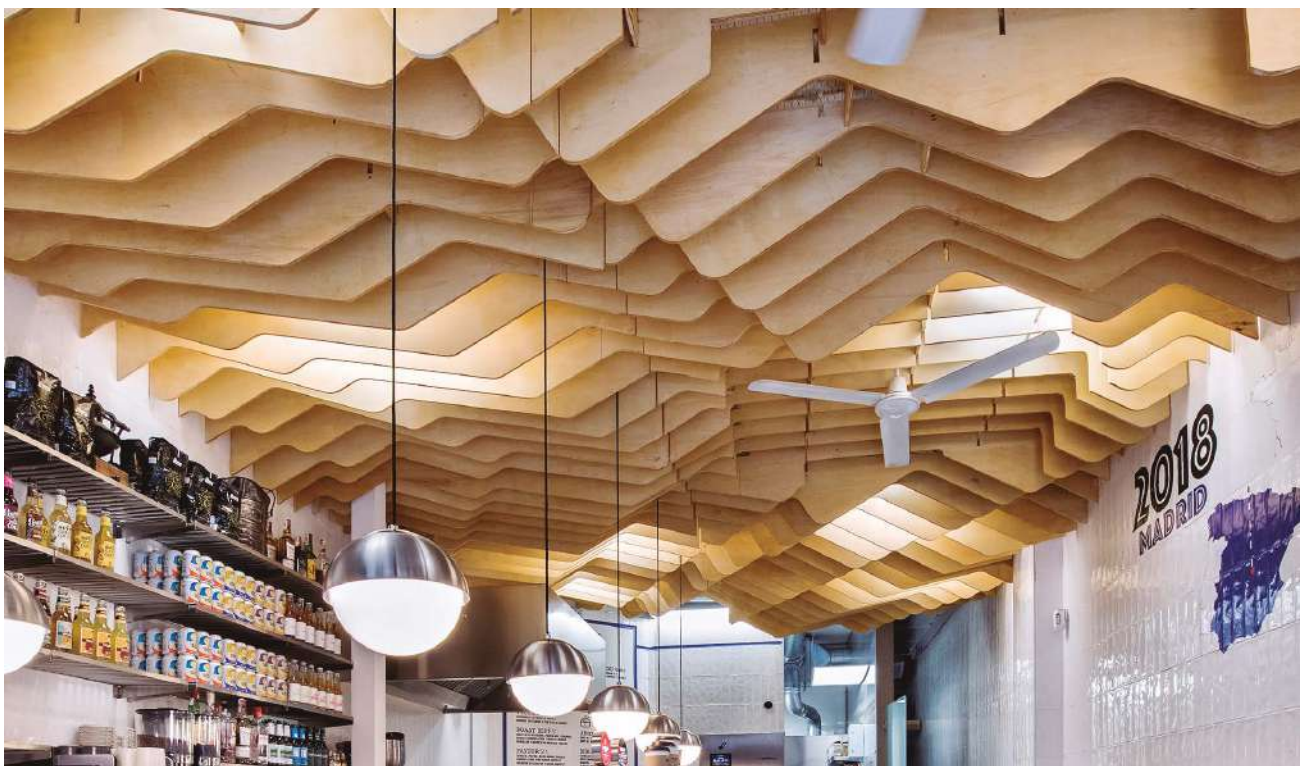
The inventory of the LCA study is based on the 2019 production for wood panels.

ALLOCATIONS

Allocation criteria are based on volume.

DATABASE AND LCA SOFTWARE USED

The LCA was modelled with SimaPro 8.0.5 LCA software using the impact factors and the Ecoinvent database (V3.01).



ENVIRONMENTAL PRODUCT DESIGN

LCA calculation

The limits that have been selected for the system cover the manufacture of wood panels, including the production of raw materials up to the point of the final packed product at the factory gate (life cycle designated from Cradle to Gate), following the guidelines of PCR 2012: 01 for construction products and services.

MATERIALS AND ADDITIVES

Wood panels with a thickness of 15 mm and an average density of 450 kg/m³, have the following composition:

- **Wood (poplar wood):** 80-88%.
- **Adhesive:** mix of different organic and inorganic substances containing UF resin, water, etc.
- **Efficiency poplar primed:** 10% of primed substances (by weight).

EXTRACTION AND ORIGIN OF RAW MATERIALS

Wood comes predominantly from regional forest areas. This wood comes from forests situated within a radius of approx. 100 km from the production site. Transportation distances tend to be small in order to keep logistical costs as low as possible with the acquisition of raw materials.

LOCAL AND GENERAL AVAILABILITY OF RAW MATERIALS

The wood used in the production of Efficiency Poplar panels is obtained from local plantations. The forest areas where wood is harvested are both public and private areas near to Garnica production facilities. Garnica carries out the forestry operation for the majority of its supplies. Forest and industrial by-products, such as non-peeling logs, branches, wood chips, etc. are then used for other industries as raw materials.

The adhesive used for the panels is mixed and prepared at Garnica facilities.



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 material.
- Map distances.
- Invoices.
- Direct measurements.
- Counters.
- Product data sheets.

The Environmental performance considered for the evaluation of impact associated with the production under 2012 v 2.33 PCR are as follows:

GWP - Global warming potential

ODP - Ozone layer depletion

AP - Acidification potential

EP - Eutrophication potential

POCP - Photochemical oxidant formation potential

ADPE - Abiotic depletion potential – Elements

ADPF - Abiotic depletion potential – Fossil

WDP - Water Scarcity Footprint

HT - Human toxicity

IMPACT CATEGORY	UNIT	Impact assessment per functional unit (1 m ³)	Impact assessment per unit of board pannel	Impact assessment per functional unit (1 m ³) of coated boards
GWP	kg CO ₂ eq	2,14E+02	9,80E+00	4,55E+02
ODP	kg CFC-11 eq	3,12E-05	1,43E-06	6,26E-05
AP	kg SO ₂ eq	1,17E+00	5,37E-02	2,77E+00
EP	kg PO ₄ - eq	4,70E-01	2,15E-02	1,03E+00
POCP	kg C ₂ H ₄ eq.	6,37E-01	2,91E-02	1,52E+00
ADPE	kg Sb eq	3,13E-04	1,43E-05	1,18E-03
ADPF	MJ	3,10E+03	1,42E+02	6,25E+03
WDP	m ³	5,15E+00	2,36E-01	7,17E+00
HT	kg 1,4-DB eq	2,60E+01	1,19E+00	6,96E+01

ADDITIONAL INFORMATION

CO₂ stored

The amount of CO₂ stored in the product was considered for achieving this balance, according to EN 16449. The formula used for calculating this CO₂ content is indicated in point 5 of EN 16449:2014 Wood and wood-based products - Calculation of the biogenic carbon content of wood and conversion to carbon dioxide.

The CO₂ balance shows that manufacturing 1 m³ of Efficiency Poplar [A1+A2+A3] generates 214.25 kg of CO₂ per m³. A total of 750.00 kg of CO₂ per m³ is the biogenic carbon content (according to EN 16449) in Efficiency Poplar, and the overall balance is -535.75 kg CO₂ eq.

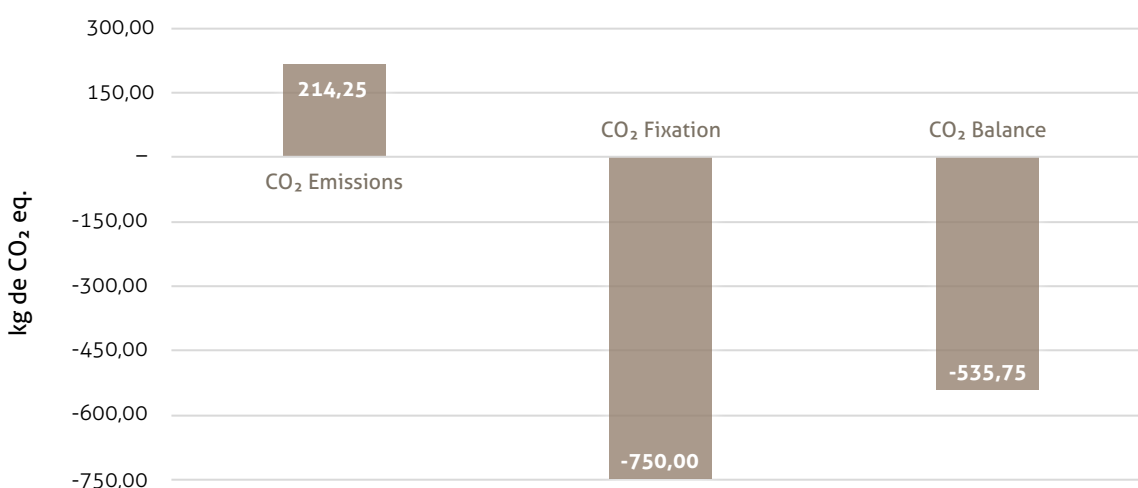
This calculation can also be performed based on a standard panel in order to know its environmental performance values in this impact category. The company's standard panel is understood as the panel with dimensions of 2500x1220x15 mm, and we calculate that 1 unit of raw Efficiency panel [A1+A2+A3] generates 9.80 kg of CO₂ per unit. A total of 34.31 kg of CO₂ per unit is the biogenic

carbon content (according to EN 16449) in raw Efficiency panel and the overall balance is -24.50 kg CO₂ eq.

The CO₂ balance shows that manufacturing 1 m³ of primed Efficiency Poplar panels [A1+A2+A3] generates 454.90 kg of CO₂ per m³. A total of 750.00 kg of CO₂ per m³ is the biogenic carbon content (according to EN 16449) in a primed Efficiency Poplar panel and the overall balance is -295,10 kg CO₂ eq.

This calculation can also be performed based on a standard panel in order to know its environmental performance values in this impact category. The company's standard panel is understood as panel with dimensions of 2500x1220x15 mm, and we calculate that 1 unit of primed Efficiency Poplar panel [A1+A2+A3] generates 20.81 kg of CO₂ per unit. A total of 34.31 kg of CO₂ per unit is the biogenic carbon content (according to EN 16449) in an primed Efficiency Poplar panel and the overall balance is -13,50 kg CO₂ eq.

Figure 1. CO₂ Balance in Garnica Efficiency Poplar raw panel



Verification

This verification has been made under PCR 2012:01 Construction products and Construction services v2.33 and the Environdec's Program General Instructions.

The declaration is complete and contains:

- *Product definition and physical data related to manufacturing.*
- *Details of inputs and their origin.*
- *Description of how the product is manufactured.*
- *Data on the conditions of use, and the final phase of life.*
- *Results of the evaluation of the life cycle.*
- *Evidence, verification and testing.*

Independent verification according to ISO 14025:2006

☐

EPD process certification

☒

EPD verification

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

☐

Yes

☒

No

Third party verifier:

Anxo Mourelle-Álvarez

EPD International Verifier - Spain

Signature:





EPD

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