

## ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025:2006 and  
EN 15804:2012+A2:2019/AC:2021 for:



## PLACO® BA 10



The International EPD® System

Programme operator: EPD international AB

Registration number:

**EPD-IES:** 0027605:001

**Version 01**

**Version date:** 2025/12/12

**Validity:** 5 years

**Validity date:** 2030/12/11



An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see [www.environdec.com](http://www.environdec.com)



**EPD Owner:** Saint-Gobain Placo

# General information

## Programme information

<b>PROGRAMME:</b>	The International EPD® System
<b>ADRESS:</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:support@.environdec.com">support@.environdec.com</a>

## PCR information

### Product Category rules (PCR)

CEN standard EN 15804:2012+A2:2019/AC:2021 as the Core Product Category Rules (PCR)

**Product category rules (PCR):** PCR 2019:14 Construction Products, version 2.0.1

**Complementary PCR:** (c-PCR-031), 2024-08-06. c-PCR Gypsum-based construction products

**PCR review was conducted by:** The Technical Committee of the International EPD® System

See [www.environdec.com](http://www.environdec.com) for a list of members.

**Chairs of the PCR review:** Rob Rouwette (chair), Noa Meron (co-chair).

## Verification

External and independent ('third-party') verification of the declaration and data, according to ISO 14025:2006, via

EPD verification through:

- Individual EPD verification without a pre-verified LCA/EPD tool
- Individual EPD verification with a pre-verified LCA/EPD tool
- EPD process certification\* without a pre-verified LCA/EPD tool
- EPD process certification\* with a pre-verified LCA/EPD tool
- Fully pre-verified EPD tool

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

- EPD verification by individual verifier

**Third party verifier:** Marcel Gomez Environmental Consulting; Telephone: +34 630 64 35 93;  
e-mail: [info@marcelgomez.com](mailto:info@marcelgomez.com)

Approved by: The International EPD® System

**Procedure for follow-up of data during EPD validity involves third part verifier:**  Yes  No

## Ownership and limitations on use of EPD

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

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterization factors); and be valid at the time of comparison.

## Information about EPD owner

**Address and contact information of the EPD owner:** Saint-Gobain Placo (hereinafter Placo®). Príncipe de Vergara 132, 8<sup>a</sup> planta - 28002 Madrid.

**Description of the organization of the EPD owner:** manufacture of plaster and Plasterboard (PYL).

**Management system-related certification:** The product has been manufactured in plants with a management system certified in accordance with ISO 14001, ISO 14006, ISO 50001, ISO 9001, and ISO 45001.

**LCA practitioner:** Silvia Bailo (silvia.bailo@saint-gobain.com) and Sandra Perez-Jimenez (sandra.perez-jimenez@saint-gobain.com)

**Communication:** The intended use of this EPD is for B2B communication.

## Product information

**Product name:** PLACO® BA 10

**Visual representation of the product:**



**UN CPC CODE:** 37530 Articles of plaster or of composition based on plaster

**Manufacturing site(s):** Quinto plant. Ctra. Castellón Km. 198 (N-232), Quinto- Zaragoza, 50770, Spain.

## Product description

Plasterboard with double-sided cardboard and a core made of natural gypsum, 10 mm thick and 1,200 mm wide. Manufactured through a continuous lamination process with tapered longitudinal edges.

It offers ease and speed of installation. Provides construction flexibility, allowing adaptation to any type of project. Supplied with a paint-ready finish. Delivers effective acoustic insulation. Provides high thermal insulation performance.

For more information: <https://www.placo.es/>

## Technical data/physical characteristics:

Parameter	Value / Description
EN Classification	A
Reaction to fire	A2-s1, d0
Water vapour resistance factor, $\mu$	10
Thermal conductivity	025 W/m.K (EN 520:2004+A1:2009)

Application	Value / Description
Intended use and key functionalities	Designed for interior dry construction systems: wall partitions, self-supporting cladding, continuous ceilings, and decorative elements. Suitable for new builds and renovations in homes, schools, hospitals, offices, and commercial or industrial buildings.
Expected influence on the operational aspects and impact of the building or other construction work	Improves acoustic insulation and provides thermal performance. Contributes to fire safety. Lightweight, reducing structural load and facilitating handling.
Restrictions to a type of construction or building	For indoor use only in dry environments. Not suitable for areas with high humidity (e.g., bathrooms without proper ventilation).
Lifespan	50 years

## Content declaration

Description of the main components and/or materials:

Quantity for 1 declared unit: 1m<sup>2</sup> of installed product.

Product components	Mass (kg)	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
Gypsum	6,1	0	0	0
Paper	0,3	100	2,2	1,42E-01
Other additives	0,1	0	0,03	2,14E-3
<b>Total</b>	<b>6,5</b>	<b>5,0</b>	<b>2,23</b>	<b>1,44E-01</b>
Packaging materials	Mass (kg)	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit	
Plastic	0,0002	0,003	0	
Flax culs	0,007	0,1	2,92E-03	
<b>Total</b>	<b>0,007</b>	<b>0,1</b>	<b>2,92E-03</b>	

## Hazardous substances

At the date of issue of this declaration, there is no "Substance of Very High Concern" (SVHC) in concentration above 0.1% by weight, and neither do their packaging, following the European REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals).

## LCA information

TYPE OF EPD	Cradle to grave and module D
DECLARED UNIT	1 m <sup>2</sup> of PLACO® BA 10 installed board
CONVERSION FACTOR TO MASS	Weight = 6.5 kg/m <sup>2</sup> Thickness = 9.5 mm
SYSTEM BOUNDARIES	Cradle to grave and module D
REFERENCE SERVICE LIFE (RSL)	The Reference Service Life (RSL) of the Gypsum product is 50 years. This 50-year value is the amount of time that we recommend our products last for without refurbishment and corresponds to standard building design life.
CUT-OFF RULES	All data is available, no cut-off rules has been applied. In the case that there is not enough information, the process energy and materials representing less than 1% of the whole energy and mass used can be excluded (if they do not cause significant impacts). The addition of all the inputs and outputs excluded cannot be bigger than the 5% of the whole mass and energy used, as well of the emissions to environment occurred. Flows related to human activities such as employee transport are excluded. The construction of plants, production of machines and transportation systems are excluded since the related flows are supposed to be negligible compared to the production of the building product when compared at these systems lifetime level.
ALLOCATIONS	Allocation has been avoided when possible and when not possible a mass allocation has been applied. The polluter pays and the modularity principles as well have been followed. <b>Allocation of materials for recycling:</b> - Post-consumer: When a flow enters the manufacturing process (A1-A3), it is treated with waste allocation (as defined in EN15804+A2). All the steps after its "End of Waste" status are quantified. The incoming flow contributes to module D and Secondary Materials indicator. - Pre-consumer: When a flow enters the manufacturing process (A1-A3), it is considered as an incoming coproduct that bears a fraction of the impact of the original manufacturing process where it was generated (which might be 0, e.g. in case of an economic allocation with a negligible (<1%) economic value). The incoming flow does not contribute to module D nor Secondary Materials indicator.
DATA QUALITY ASSESSMENT	Data quality of primary and secondary data had been judged by its precision (measured, calculated, or estimated), completeness (e.g., unreported emissions), consistency (degree of uniformity of the methodology applied), and representativeness (geographical, technological, and temporal).
GEOGRAPHICAL COVERAGE AND TIME PERIOD	Scope: Spain and Portugal Data is collected from one production site, Quinto, located in Zaragoza (Spain) Data collected for the year 2024
BACKGROUND DATA SOURCE	Databases from Sphera CUP2024.2 and ecoinvent v.3.10 EF Package 3.1
SOFTWARE	Sphera LCA for experts 10

## Data quality declaration

Data quality information according to EN 15941	
<b>Data collection</b>	Data collection period 2024/01/01 to 2024/12/31
<b>Sites used</b>	Quinto
<b>Geography</b>	Zaragoza (Spain)
<b>Technology</b>	Plasterboard is manufactured by enclosing a gypsum core between paper liners using a continuous, automated process
<b>Averaging</b>	100% of production
<b>LCI/LCA database</b>	Sphera CUP2024.2 and ecoinvent v.3.10
<b>Data Quality Scheme</b>	EN 15804 :2012+A2:2019, Annex E, Table E.2
<b>Use of fair data with more than 30% of a core impact</b>	None
<b>Use of Poor relevant data</b>	None
<b>Use of very poor relevant data</b>	No very poor data used

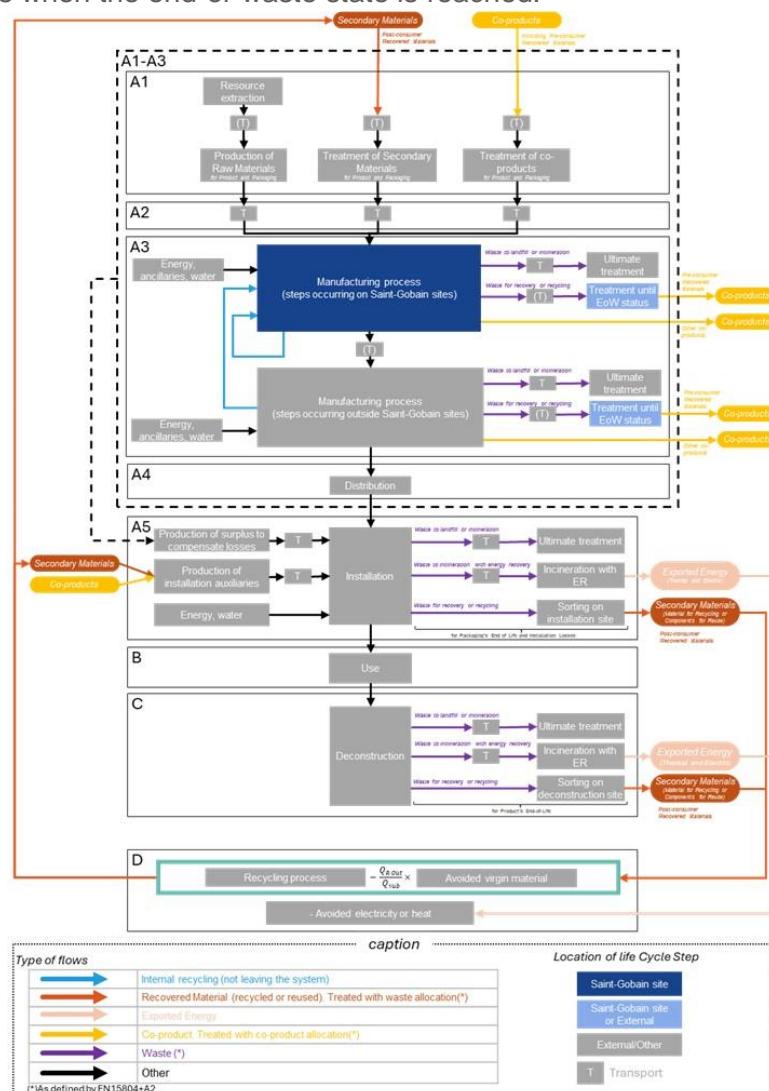
Process	Source type	Source	Reference year	Data category	A1-A3 GWP-GHG [kg CO2 eq.]
<b>Manufacturing process</b>					
Thermal energy	Database	Sphera 2024.2	<5 years old	Primary data	73,3%
Electricity	Database	Sphera 2024.2 /ecoinvent 3.10	<5 years old	Primary data	0,4%
<b>Transportation (only if specific data collected)</b>					
Transport of RM Product	Database	Sphera 2024.2 /ecoinvent 3.10	<5 years old	Secondary data	2,7%
Transport of RM Packaging	Database	Sphera 2024.2 /ecoinvent 3.10	<5 years old	Secondary data	0,1%
<b>Total share of primary data</b>					76,4%
A1-A3 GWP-GHG	1,19E+00				

# Description of system boundaries

System boundaries (X=included. MND=module not declared)

	PRODUCT STAGE			CONSTRUCTION STAGE		USE STAGE						END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY	
	Raw material supply	Transport	Manufacturing	Transport	Construction-Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-recovery	
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	EU	EU	ES	ES-PT	ES-PT	ES-PT	ES-PT	ES-PT	ES-PT	ES-PT	ES-PT	ES-PT	ES-PT	ES-PT	ES-PT	ES-PT	ES-PT

System boundaries when the end-of-waste state is reached:



# Life cycle stages

## A1-A3. Product stage

The product stage of plaster products is subdivided into 3 modules A1, A2 and A3 Respectively “raw material supply”, “transport to manufacturer” and “manufacturing”.

### A1. Raw materials supply

This module includes the extraction and transformation of raw materials.

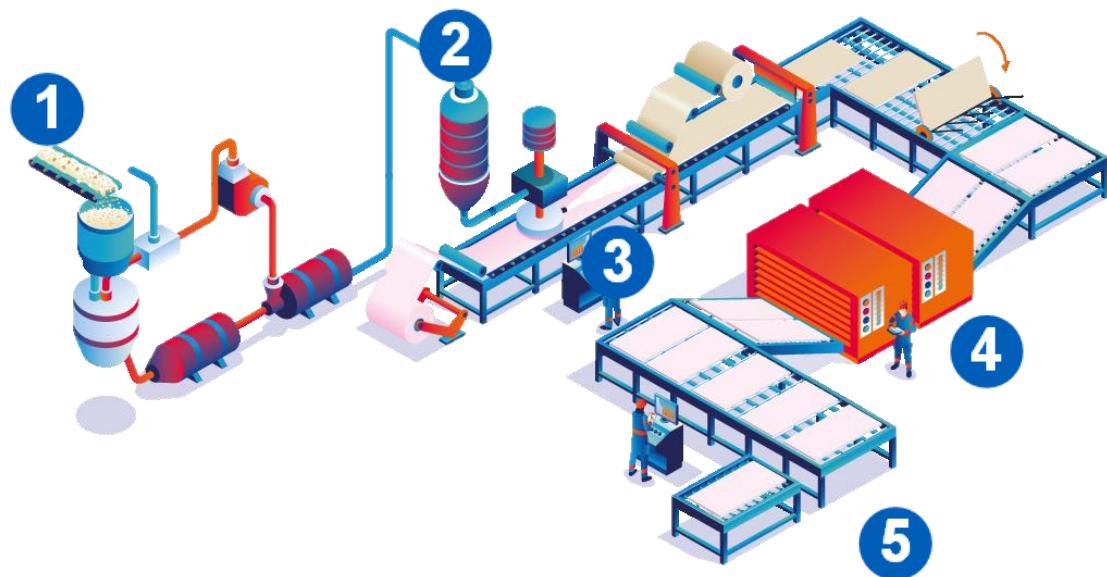
### A2. Transport to the manufacturer

This module includes the transportation of raw materials and packaging to the manufacturing site. The modelling includes road, boat and/or train transportations.

### A3. Manufacturing

This module includes the manufacture of products and the manufacture of packaging. The production of packaging material is considered at this stage. The processing of any waste arising from this stage is also included.

## Manufacturing process flow diagram



- 1. Calcination:** The gypsum is crushed and ground into a fine powder, then heated to approximately 160°C to remove moisture and produce stucco (hemihydrate gypsum). This powder is stored in silos and serves as the base material for plasterboard production.
- 2. Mixing:** the stucco powder is combined with water and additives to create a slurry. Additives are carefully dosed to achieve specific properties such as fire resistance or improved strength.
- 3. Forming:** The slurry is poured onto a continuous paper liner, which acts as a support. A second paper liner is placed on top, forming a sandwich structure. The boards are then precut after initial setting.
- 4. Drying:** The boards pass through a high-temperature dryer (up to 300°C) to evaporate excess water. This step ensures the gypsum core hardens and bonds firmly to the paper liners.
- 5. Finishing and Packaging:** Once dried, the boards are trimmed to size, inspected for quality, and packaged for distribution. Automated systems often handle storage and transport within the facility.

## A4-A5. Construction process stage

The construction process is divided into 2 modules: A4, Transport to the building site and A5, Installation in the building.

### A4. Transport to the building site

This module includes transport from the production gate to the building site. Transport is calculated based on a scenario with the parameters described in the following table.

Parameter	Value / Description
<b>Fuel type and consumption of vehicle or vehicle type used for transport e.g., long-distance truck, boat, etc.</b>	Freight truck, maximum load weight of 27 t, real load is 24 t and consumption of 0.38 liters per km
<b>Distance</b>	522 km by truck and 61 km by ship
<b>Capacity utilisation (including empty returns)</b>	100% (30% empty returns)
<b>Bulk density of transported products*</b>	650 – 700 kg/m <sup>3</sup>
<b>Volume capacity utilisation factor</b>	1 (by default)

### A5. Installation in the building

This module includes: the installation of the product, the surplus of raw materials and packaging (cradle to gate) to compensate for the loss of product during the installation, the transport and management of packaging and product waste.

Parameter	Value / Description
<b>Ancillary materials for installation (specified by materials)</b>	Jointing compound: 0,33 kg/m <sup>2</sup> Jointing tape: 1,4 m/m <sup>2</sup> board Screws: 11 units/m <sup>2</sup> board
<b>Water for on-site mixing of jointing compound</b>	0.16 liters/m <sup>2</sup>
<b>Other resource use</b>	None
<b>Electricity for on-site mixing of jointing compound</b>	None
<b>Scrap rate at installation</b>	5% for plasterboard and for ancillary materials 100% for packaging
<b>Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)</b>	Plasterboard: 0,3 kg/m <sup>2</sup> Jointing Compound: 0,017 kg/m <sup>2</sup> Jointing Tape/ 0,0002 kg/m <sup>2</sup> Packaging: 0,007 kg/m <sup>2</sup>
<b>Transport of packaging waste</b>	Landfill: 80 km Recycling: 80 km
<b>Output materials (specified by type) as results of waste processing at the building site e.g., of collection for recycling, for energy recovering, disposal (specified by route)</b>	Plasterboard: 0,297 kg/m <sup>2</sup> to landfill; 0,003 kg/m <sup>2</sup> to recycling Jointing Compound: 0,017 kg/m <sup>2</sup> to landfill Jointing Tape/ 0,0002 kg/m <sup>2</sup> to landfill Packaging: 0,007 kg/m <sup>2</sup> to landfill
<b>Direct emissions to ambient air, soil, and water</b>	None

## B1-B7. Use stage (excluding potential savings)

The use stage is divided into the following modules:

- **B1: Use**
- **B2: Maintenance**
- **B3: Repair**
- **B4: Replacement**
- **B5: Refurbishment**
- **B6: Operational energy use**
- **B7: Operational water use**

The product has a reference service life of 50 years. This assumes that the product will last in situ with no requirements for maintenance, repair, replacement, or refurbishment throughout this period. Therefore, it has no impact at this stage.

## C1-C4. End of Life Stage

This stage includes the next modules:

- **C1: Deconstruction, demolition.** The de-construction and/or dismantling of the product take part of the demolition of entire building. The energy considered for demolition is 0.04 MJ/m<sup>2</sup>.
- **C2: Transport to waste processing**
- **C3: Waste processing for reuse, recovery and/or recycling**
- **C4: Waste disposal**, including physical pre-treatment and site management.

**Description of the scenarios and additional technical information for the end of life:**

Parameter	Value / Description
<b>Collection process specified by type</b>	6,5 kg of plasterboard including paper liner is collected with mixed deconstruction and demolition waste 1% recycling Other deconstruction waste, such as ancillaries used for installation, is 100% collected with mixed deconstruction and demolition waste for landfill
<b>Recovery system specified by type</b>	0,06 kg recycled
<b>Disposal specified by type</b>	6,44 kg to landfill
<b>Assumptions for scenario development (e.g. transportation)</b>	The waste will be transported by truck with 24 t payload, using diesel as a fuel consuming 38 liters per 100 km Transport distance to recycling: 115,8km Transport distance to landfill: 80 km

## D. Reuse/recovery/recycling potential

In the module D is declared the environmental benefits and loads from reusable products, recyclable materials, or energy recovery. Module D considers:

- Inputs of secondary materials: recycled raw materials for product and packaging (pre- and post-consumer),
- Outputs of secondary materials: product and/or packaging sent to recycling,
- Exported energy (electric or thermal): product and/or packaging sent to incineration with energy recovery.

## Environmental performance

As specified in EN 15804:2012+A2:2019/AC:2021 and the Product-Category Rules, the environmental impacts are declared and reported using the baseline characterization factors based on EF 3.1. Raw materials and energy consumption, as well as transport distances have been taken directly from the manufacturing plant.

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

**Disclaimer 1:** The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the following indicators:

- Resource use, mineral and metals [kg Sb eq.]
- Resource use, energy carriers [MJ]
- Water deprivation potential [m<sup>3</sup> world equiv.]
- Land use [Pt]
- Human toxicity (cancer) [CTUh]
- Human toxicity(noncancer) [CTUh]
- Ecotoxicity (freshwater [CTUe]

**Disclaimer 2:** The impact category Ionizing radiation, human health [kBq U235 eq.] 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 material is also not measured by this indicator.

**Disclaimer 3:** The assumptions for the modules are in accordance with the project report (LCA study).

The following non-mandatory additional environmental indicators are not declared:

- Ecotoxicity freshwater [CTUe]
- Particulate Matter emissions [Disease incidence]
- Cancer human health effects [CTUh]
- Ionizing radiation - human health [kBq U235 eq.]
- Non-cancer human health effects [CTUh]
- Land Use [Pt].

Results refer to a declared unit of 1m<sup>2</sup> of installed gypsum board PLACO® BA 10 mm with a weight of 6,5 kg/m<sup>2</sup>. The following results refer to a single product manufactured in a single plant.

## Environmental Impacts

	PRODUCT STAGE	CONSTRUCTION STAGE	USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE LIFE CYCLE			
			A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
<b>Environmental indicators</b>																	
 Climate Change [kg CO2 eq.]	6,47E-01	2,36E-01	1,38E-01	0	0	0	0	0	0	0	0	0	2,70E-02	3,79E-02	6,68E-03	9,12E-01	-4,60E-02
 Climate Change (fossil) [kg CO2 eq.]	1,18E+00	2,32E-01	1,29E-01	0	0	0	0	0	0	0	0	0	2,70E-02	3,72E-02	9,91E-04	6,21E-02	-4,92E-02
 Climate Change (biogenic) [kg CO2 eq.]	-5,36E-01	6,29E-04	8,95E-03	0	0	0	0	0	0	0	0	0	2,18E-06	1,02E-04	5,68E-03	8,50E-01	1,86E-03
 Climate Change (land use change) [kg CO2 eq.]	2,05E-03	3,75E-03	3,02E-04	0	0	0	0	0	0	0	0	0	2,35E-06	6,15E-04	3,11E-07	9,11E-05	5,80E-04
 Ozone depletion [kg CFC-11 eq.]	4,76E-10	2,29E-14	1,13E-10	0	0	0	0	0	0	0	0	0	4,14E-10	3,69E-15	2,04E-11	9,37E-10	3,77E-09
 Acidification terrestrial and freshwater [Mole of H+ eq.]	1,25E-03	4,16E-04	2,51E-04	0	0	0	0	0	0	0	0	0	2,44E-04	4,17E-05	5,86E-06	3,90E-04	4,97E-04
 Eutrophication freshwater [kg P eq.]	2,44E-06	9,54E-07	2,29E-06	0	0	0	0	0	0	0	0	0	9,51E-08	1,56E-07	1,41E-08	2,94E-06	1,20E-05
 Eutrophication marine [kg N eq.]	5,04E-04	1,23E-04	8,40E-05	0	0	0	0	0	0	0	0	0	1,13E-04	1,39E-05	1,98E-06	1,68E-04	1,05E-04
 Eutrophication terrestrial [Mole of N eq.]	5,11E-03	1,46E-03	8,03E-04	0	0	0	0	0	0	0	0	0	1,24E-03	1,69E-04	2,13E-05	1,50E-03	9,48E-04
 Photochemical ozone formation - human health [kg NMVOC eq.]	1,87E-03	3,47E-04	2,63E-04	0	0	0	0	0	0	0	0	0	3,69E-04	3,90E-05	7,69E-06	6,37E-04	6,31E-04
 Resource use, mineral and metals [kg Sb eq.] <sup>1</sup>	6,79E-07	1,91E-08	9,70E-07	0	0	0	0	0	0	0	0	0	9,65E-09	3,11E-09	3,84E-09	5,20E-08	6,92E-07
 Resource use, energy carriers [MJ] <sup>1</sup>	1,82E+01	2,97E+00	1,76E+00	0	0	0	0	0	0	0	0	0	3,50E-01	4,78E-01	1,57E-02	1,21E+00	-2,30E-01
 Water deprivation potential [m <sup>3</sup> world equiv.] <sup>1</sup>	1,84E-01	3,33E-03	4,50E-02	0	0	0	0	0	0	0	0	0	1,09E-03	5,45E-04	-2,21E-03	3,80E-02	1,08E-01

<sup>1</sup> The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator

## Resource Use

	PRODUCT STAGE	CONSTRUCTION STAGE	USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE LIFE CYCLE	
			A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing
<b>Resources Use indicators</b>															D Reuse, recovery, recycling
 Use of renewable primary energy (PERE) [MJ] <sup>2</sup>	1,09E+01	2,47E-01	8,36E-01	0	0	0	0	0	0	0	2,17E-03	4,04E-02	9,90E-04	5,64E-02	3,53E+00
 Primary energy resources used as raw materials (PERM) [MJ] <sup>2</sup>	5,46E+00	0	2,92E-01	0	0	0	0	0	0	0	0	0	-5,45E-02	0	0
 Total use of renewable primary energy resources (PERT) [MJ] <sup>2</sup>	1,63E+01	2,47E-01	1,13E+00	0	0	0	0	0	0	0	2,17E-03	4,04E-02	-5,35E-02	5,64E-02	3,53E+00
 Use of non-renewable primary energy (PENRE) [MJ] <sup>2</sup>	1,80E+01	2,97E+00	1,76E+00	0	0	0	0	0	0	0	3,50E-01	4,78E-01	1,57E-02	1,21E+00	-4,60E-01
 Non-renewable primary energy resources used as raw materials (PENRM) [MJ] <sup>2</sup>	2,17E-01	0	2,46E-02	0	0	0	0	0	0	0	0	0	-9,97E-03	0	0
 Total use of non-renewable primary energy resources (PENRT) [MJ] <sup>2</sup>	1,82E+01	2,97E+00	1,78E+00	0	0	0	0	0	0	0	3,50E-01	4,78E-01	5,71E-03	1,21E+00	-4,60E-01
 Use of secondary material (SM) [kg]	3,37E-01	0,00E+00	1,69E-02	0	0	0	0	0	0	0	0	0	0	0	0
 Use of renewable secondary fuels (RSF) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Use of non-renewable secondary fuels (NRSF) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Use of net fresh water (FW) [m3]	5,95E-03	2,77E-04	1,21E-03	0	0	0	0	0	0	0	2,53E-05	4,53E-05	-5,15E-05	9,01E-04	1,76E-03

<sup>2</sup> From EPD International Construction Product PCR 2.0 (Annex 3). The option B was retained to calculate the primary energy use indicators.

## Waste Category & Output flows

	PRODUCT STAGE	CONSTRUCTION STAGE	USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE LIFE CYCLE			
			A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
<b>Waste Category &amp; Output Flows</b>																	
 Hazardous waste disposed (HWD) [kg]	3,18E-03	9,60E-11	2,61E-04	0	0	0	0	0	0	0	0	0	3,06E-04	1,55E-11	2,19E-05	5,93E-04	1,96E-02
 Non-hazardous waste disposed (NHWD) [kg]	6,20E-02	4,59E-04	2,90E-01	0	0	0	0	0	0	0	0	0	2,36E-03	7,43E-05	0	5,86E+00	2,05E-01
 Radioactive waste disposed (RWD) [kg]	1,05E-04	3,83E-06	1,72E-05	0	0	0	0	0	0	0	0	0	3,89E-08	6,17E-07	1,38E-08	5,12E-06	-1,40E-04
 Components for re-use (CRU) [kg]	0	0	2,66E-03	0	0	0	0	0	0	0	0	0	0	0	5,65E-02	0	0
 Materials for Recycling (MFR) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Material for Energy Recovery (MER) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Exported electrical energy (EEE) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
 Exported thermal energy (EET) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

## Additional indicators from EN 15804

	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				REUSE, RECOVERY RECYCLING
		A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
<b>Environmental indicators</b>															
 GWP-GHG [kg CO2 eq.] <sup>3</sup>	1,19E+00	2,36E-01	1,49E-01	0	0	0	0	0	0	0	2,70E-02	3,79E-02	1,02E-03	3,78E-01	-9,36E-02

## Information on biogenic carbon content

		PRODUCT STAGE
		A1 / A2 / A3
<b>Biogenic Carbon Content</b>		
 Biogenic carbon content in product [kg]		1,44E-01
 Biogenic carbon content in packaging [kg]		2,92E-03

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2. The product contains biogenic carbon due to the additives and paper liner used. Regarding packaging, biogenic carbon is quantified due to flax culs production.

<sup>3</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 almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

# Environmental Impacts

Environmental indicators	100% landfill					REUSE, RECOVERY, RECYCLING	100% recycling										
	END OF LIFE STAGE				C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	END OF LIFE STAGE				C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal					C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal					
 Climate Change (total) [kg CO <sub>2</sub> eq.] <sup>(a)</sup>	2,70E-02	3,79E-02	0,00E+00	9,59E-01					-4,68E-02				2,70E-02	3,79E-02	7,29E-01	0	2,63E-02
	2,70E-02	3,72E-02	0,00E+00	9,97E-02					-4,92E-02				2,70E-02	3,72E-02	1,57E-01	0	2,62E-02
	2,18E-06	1,02E-04	0,00E+00	8,58E-01					1,86E-03				2,18E-06	1,02E-04	5,71E-01	0	8,72E-05
	2,35E-06	6,15E-04	0,00E+00	7,04E-04					5,80E-04				2,35E-06	6,15E-04	9,33E-04	0	-4,48E-05
 Ozone depletion [kg CFC-11 eq.]	4,14E-10	3,69E-15	0,00E+00	9,47E-10					3,77E-09				4,14E-10	3,69E-15	2,04E-09	0	1,87E-10
 Acidification terrestrial and freshwater [Mole of H+ eq.]	2,44E-04	4,17E-05	0,00E+00	4,35E-04					4,97E-04				2,44E-04	4,17E-05	6,82E-04	0	1,24E-04
 Eutrophication freshwater [kg P eq.]	9,51E-08	1,56E-07	0,00E+00	3,13E-06					1,20E-05				9,51E-08	1,56E-07	1,65E-06	0	6,01E-07
	1,13E-04	1,39E-05	0,00E+00	1,84E-04					1,05E-04				1,13E-04	1,39E-05	2,27E-04	0	3,21E-05
	1,24E-03	1,69E-04	0,00E+00	1,69E-03					9,48E-04				1,24E-03	1,69E-04	2,47E-03	0	3,22E-04
 Photochemical ozone formation - human health [kg NMVOC eq.]	3,69E-04	3,90E-05	0,00E+00	6,82E-04					6,31E-04				3,69E-04	3,90E-05	8,54E-04	0	1,12E-04
 Resource use, mineral and metals [kg Sb eq.] <sup>4</sup>	9,65E-09	3,11E-09	0,00E+00	5,56E-08					6,92E-07				9,65E-09	3,11E-09	3,89E-07	0	4,15E-08
	3,50E-01	4,78E-01	0,00E+00	1,70E+00					-2,30E-01				3,50E-01	4,78E-01	2,31E+00	0	4,74E-01
 Water deprivation potential [m <sup>3</sup> world equiv.] <sup>1</sup>	1,09E-03	5,45E-04	0,00E+00	3,89E-02					1,08E-01				1,09E-03	5,45E-04	-2,20E-01	0	9,68E-03

<sup>4</sup> Disclaimer 2: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

<sup>(a)</sup> The total global warming potential (GWP-total) is the sum of GWP fossil, GWP biogenic and GWP land use change

## Resources Use

Resources Use indicators	100% landfill					100% recycling				
	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal		C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
 Use of renewable primary energy (PERE) [MJ]	2,17E-03	4,04E-02	0	9,71E-02	1,76E+00	2,17E-03	4,04E-02	1,68E-01	0	1,68E-01
 Primary energy resources used as raw materials (PERM) [MJ] *	0	0	0	0	0	0,00E+00	0,00E+00	-5,45E+00	0	0
 Total use of renewable primary energy resources (PERT) [MJ]	2,17E-03	4,04E-02	0	9,71E-02	1,76E+00	2,17E-03	4,04E-02	-5,28E+00	0	0
 Use of non-renewable primary energy (PENRE) [MJ]	3,50E-01	4,78E-01	0	1,70E+00	-2,30E-01	3,50E-01	4,78E-01	2,31E+00	0	0
 Non-renewable primary energy resources used as raw materials (PENRM) [MJ] *	0	0	0	0	0	0	0	-9,97E-01	0	0
 Total use of non-renewable primary energy resources (PENRT) [MJ]	3,50E-01	4,78E-01	0	1,70E+00	-2,30E-01	3,50E-01	4,78E-01	1,32E+00	0	0
 Input of secondary material (SM) [kg]	0	0	0	0	0	0	0	0	0	0
 Use of renewable secondary fuels (RSF) [MJ]	0	0	0	0	0	0	0	0	0	0
 Use of non-renewable secondary fuels (NRSF) [MJ]	0	0	0	0	0	0	0	0	0	0
 Use of net fresh water (FW) [m³]	2,53E-05	4,53E-05	0	9,55E-04	8,79E-04	2,53E-05	4,53E-05	-5,06E-03	0	0

\* For this study, both the product and its packaging are reported in the indicators "Use of renewable primary energy resources used as raw materials" ("PERM") and "Use of non-renewable primary energy resources used as raw materials" ("PENRM"). PERM and PENRM are reported as negative values when materials are recycled or recovered, but not when landfilled.

## Waste Category & Output flows

Waste Category & Output Flows	100% recycling					100% landfill				
	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
	C1 Deconstruction/ demolition	C2 Transport	C3 Waste processing	C4 Disposal		C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
 Hazardous waste disposed (HWD) [kg]	3,06E-04	1,55E-11	0	5,99E-04	9,80E-03	3,06E-04	1,55E-11	2,19E-03	0	4,73E-04
 Non-hazardous waste disposed (NHWD) [kg]	2,36E-03	7,43E-05	0	5,91E+00	1,02E-01	2,36E-03	7,43E-05	0,00E+00	0	0
 Radioactive waste disposed (RWD) [kg]	3,89E-08	6,17E-07	0	5,78E-06	-6,98E-05	3,89E-08	6,17E-07	2,98E-06	0	0
 Components for re-use (CRU) [kg]	0	0	0	0	0	0	0	0	0	0
 Materials for Recycling (MFR) [kg]	0	0	0	0	0	0	0	5,65E+00	0	0
 Material for Energy Recovery (MER) [kg]	0	0	0	0	0	0	0	0	0	0
 Exported electrical energy (EEE) [MJ]	0	0	0	0	0	0	0	0	0	0
 Exported thermal energy (EET) [MJ]	0	0	0	0	0	0	0	0	0	0

# Declaration of variation

## Variation between sites

This EPD covers a single product manufactured in a single site.

## Variations between products

This EPD covers a single product.

## Additional environmental information:

### Electricity information

The factory based in Quinto (Zaragoza, Spain) uses electricity with Guarantee of Origin certificate (GO).

Hence, the electricity mix considered for the manufacturing of the studied product is modelled according to the electricity mix described in the Guarantee of Origin certificate. The amount of electricity purchased with GO's covers 100% of the electricity consumption on the manufacturing site.

Type of information	Description
<b>Location</b>	Representative of the guarantee of origin purchased by Saint-Gobain
<b>Share of electricity covered by Guarantee of Origin</b>	100% of the energy consumption is covered by the GO
<b>Dataset version</b>	Sphera CUP2024.2 ecoinvent 3.10 (medium voltage)
<b>Type of dataset</b>	Cradle to gate from Sphera and ecoinvent databases
<b>Source of electricity mix</b>	CNMC Guarantee of Origin redemptions report
<b>GHG-GWP CO<sub>2</sub> eq.</b>	0,02 kg of CO <sub>2</sub> eq/kWh

An EPD is valid for 5 years. Therefore, the GO will be prolonged continuously to be valid for the whole validity of the EPD. If not prolonged, the EPD will be updated.

## Abbreviations

AIB	Association of issuing bodies
DU	Declared unit
EPD	Environmental Product Declaration
eq.	equivalents
FU	Functional unit
g	gram
GJ	Giga Joules (as Net Calorific Value)
GWP-GHG	Global Warming Potential - Greenhouse gas
IOBC	Instantaneous Oxidation of Biogenic Carbon
EF	Environmental Footprint
GO's	Guaranty of origin
kg	kilogram
kWh	kilowatt-hour
L	liter

LCA	Life Cycle Assessment
LCI	Life Cycle Inventory Analysis
LCIA	Life Cycle Impact Assessment
MJ	Mega Joules (as Net Calorific Value)
PCR	Product Category Rules
RSL	Reference Service Life (in years)
ton	metric ton

## References

1. ISO 14040:2006 Environmental Management-Life Cycle Assessment-Principles and framework.
2. ISO 14044:2006 Environmental Management-Life Cycle Assessment- Requirements and guidelines.
3. EN 15804:2012+A2:2019/AC:2021 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
4. EPD International. General Program Instructions (GPI) for the International EPD® System (version 5.0.1) [www.environdec.com](http://www.environdec.com).
5. The International EPD System PCR 2019:14 Construction products and Construction services. Version 2.0.1
6. EN 15941 Sustainability of construction works - Data quality for environmental assessment of products and construction work - Selection and use of data
7. c-PCR Gypsum-based construction products (EN 17328) (c-PCR-031 version: 2024-08-06)
8. European Chemical Agency, Candidate List of substances of very high concern for Authorization. <https://echa.europa.eu/candidate-list-table>
9. LCA report name: 'Informe de proyecto LCA PYL 2025'

## Version history

This is the first version of the EPD.