Molins



ENVIRONMENTAL PRODUCT DECLARATION

Adhesives for ceramic tiles

DAPcons®.100.313

DECLARACIÓN AMBIENTAL DE PRODUCTO
ENVIRONMENTAL PRODUCT DECLARATION

EPD of multiple products

According to the standards:
ISO 14025 and UNE-EN 15804:2012+A2:2020/AC:2021

cateb Arquitectura Tècnica Barcelona

ECO PLATFORM EPD VERIFIED

dapcons®

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, www.dapcons.com

DECLARACIÓN AMBIENTAL DE PRODUCTO
ENVIRONMENTAL PRODUCT DECLARATION

EPD of multiple products

DAPcons®.100.313

According to the standards:

ISO 14025 and UNE-EN 15804:2012+A2:2020/AC:2021

GENERAL INFORMATION

Product

Adhesive for ceramic tiles

Company

Product description

Adhesive for ceramic tiles is defined as a mixture of binders, aggregates, and additives manufactured industrially through an automated process. It is supplied in bags, to which water is subsequently added on-site, and is used for laying ceramic tiles and natural stone. It is also known as cementitious adhesive or thin-set mortar.

Reference RCP

RCP 100 (version 3.2 - 21/12/2023) Construction products in general

Production plant

The references in the adhesive for ceramic tiles EPD are produced at the Sant Vicenç dels Horts (Barcelona), Quer (Guadalajara), Salvaterra (Pontevedra), Guadassuar (Valencia), and Seville plants.

Validity

From: 22/10/2026 Until: 22/10/2031

The validity of DAPcons®.100.313 is subject to the conditions of the regulation DAPcons®. The current edition of this DAPcons® is the one that appears in the registry maintained by Cateb; for informational purposes, it is included on the Program website www.dapcons.com

This document consists of 17 pages. Partial reproduction is prohibited.

EXECUTIVE SUMMARY

Adhesive for ceramic tiles

DAPconstruction® Programme Operator
Environmental Product Declarations in the Construction sector
www.dapcons.com

Programme Manager
Colegio de la Arquitectura Técnica de Barcelona (Cateb)
Bon Pastor, 5 · 08021 Barcelona www.cateb.cat

Owner of the declaration
PROPAMSA, SA
CTRA N-340 KM. 1242,3 08620 - SANT VICENÇ DELS HORTS (España)
https://www.molins.es/construction-solutions/

Author of the Life cycle assessment:
Anthesis Group
Av. de Roma 252-254, 08560 - MANLLEU, BARCELONA, España

Declared product

Adhesive for ceramic tiles

Geographic representation

This study has been prepared using specific manufacturing process data provided by Molins Construction Solutions for its various production plants.

Variability between different products

he results of this declaration correspond to an average virtual product, calculated as a weighted average of the production of 23 references included in the adhesive for ceramic tiles.

Declaration number

DAPcons®.100.313

Version

01 - 20261022

Validity

This verified declaration authorizes its holder to carry the logo of the operator of the ecolabelling program DAPconstruction®. The declaration is applicable exclusively to the mentioned product and for five years from the date of registration. The information contained in this statement was provided under the responsibility of: **PROPAMSA, SA**

Programme Administrator Signature

Celestí Ventura Cisternas. President of Cateb

Verifier Signature

Laura Flores Rosell. Marcel Gómez Consultoria Ambiental, S.L.. Verifier accredited by the administrator of the DAPcons® Programme

36548201M CELESTINO VENTURA (R: Q0875009C)
36548201M CELESTINO VENTURA (R: Q0875009C) 26.10.2026 09:13:56 +0100

LAURA FLORES ROSELL - DNI 47970644G
LAURA FLORES ROSELL - DNI 47970644G 26.10.2026 09:13: 54 +0100

ENVIRONMENTAL PRODUCT DECLARATION

1. PRODUCT DESCRIPTION AND USE

Adhesive for ceramic tiles is defined as a mixture of binders, aggregates, and additives manufactured industrially through an automated process. It is supplied in bags, to which water is subsequently added on-site, and is used for laying ceramic tiles and natural stone. It is also known as cementitious adhesive or thin-set mortar.

The products covered in this declaration fall under the UNE-EN 12004-1 standard, which specifies their technical characteristics.

Specifically, the products considered in the EPD are:
- Pam® Ecogel Flex Blanco
- Pam® Ecogel Flex Gris
- Pam® Ecogel Porcel Blanco
- Pam® Ecogel Porcel Gris
- Propam® Ecogel Superflex
- Vat® Blanco
- Vat® Especial Yeso
- Vat® Extra Blanco
- Vat® Extra Gris
- Vat® Extra Plus Porcelánico
- Vat® Flex Rapid Blanco
- Vat® Flex Rapid Gris
- Vat® Flexible Blanco
- Vat® Flexible Gris
- Vat® Fluid
- Vat® Gris
- Vat® Plus
- Vat® Porcelánico Flex Blanco
- Vat® Porcelánico Flex Gris
- Vat® Super Blanco
- Vat® Super Gris
- Vat® Superflex Blanco
- Vat® Superflex Gris

Characteristics of the production-weighted average virtual product:
- Product service life: 50 years
- Product density: 1,140 – 1,450 kg/m^3
- Virtual average product density: 1,281 kg/m^3
- Layer thickness: 0.20 – 0.30 cm
- Virtual average product thickness: 0.27 cm

Product performance:
Mortars with high bonding capacity and workability. Depending on the product type, they feature additional characteristics such as slip resistance or high deformability. The fire resistance of this mortar family corresponds to "Class A1".

• Tensile adhesion strength → UNE-EN 12004-2: 0.5 - 2.5 N/mm^2
• Open time → UNE-EN 12004-2: : 20- 30 min
• Slip resistance → UNE-EN 12004-2: 0 - 0.5 mm

Tests or studies have been conducted regarding potential emissions to water and air from the mortars during the use phase. The results show zero emissions to water, and total volatile organic compound (VOC) content does not exceed 100 µg/m^3 of mortar.

1.1 Content information

Product components

The 12004 standard specifies the requirements for adhesive for ceramic tiles.

The composition of the declared virtual average for ceramic tile adhesive mortars , together with the ranges for their respective components, is detailed below:
• 40.1% carbonate [0% - 78%]
• 23.3% white cement [0% - 34%]
• 20.1% silica [0% - 78%]
• 7.2% grey cement [0.21% - 10%]
• 9.3% other materials [0% - 34%]

Regarding the "white cement" and "grey cement" components, it should be noted that each of these groups includes cements from different production plants. For white cement, 55% comes from the Barcelona and Valencia, 31% comes from Guadalajara and 14% from other production sites.

For grey cement, 56% comes from the Barcelona plant, 23% from the Guadalajara plant, and 8% from the Valencia plant. The remainder comes from the Pontevedra and Seville plants in lower percentages.

The “Other” category includes raw materials such as lime, anhydrite, methyl cellulose, resin/acetate, formate, carbonate, citric acid, plasticizer, paraffin, calcium sulfoaluminate, aluminous cement and cellulose fiber.

Packaging materials

Ceramic tile adhesive mortars are packaged in 25 kg double-ply paper bag with an intermediate plastic film and later stacked on wooden pallets and wrapped with plastic film for distribution.

One kilogram of the average virtual product for adhesive for ceramic tiles is packaged with:
• Paper bag: 3.30 grams
• Pallet: 9.35 grams (excluding reuse)
• Film: 0.43 grams

2. DESCRIPTION OF THE STAGES OF THE LIFE CYCLE

2.1. Manufacturing (A1, A2 y A3)

Raw Materials and transport (A1 y A2)

It considers the quarry extraction and processing of all raw materials and additives used in manufacturing.

Manufacturing losses generated during the production process are included. A portion of the waste generated

during mortar production is reintroduced into the production process, while the remainder is managed as waste. The following percentages of waste destined for waste management have been considered for each production plant:

- 1.02% at the Barcelona plant
- 0.18% at the Seville plant
- 0.07% at the Pontevedra plant
- 0.06% at the Guadalajara plant
- 0.30% at the Valencia plant

Transport of all raw materials considered in module A1, from the place of extraction or production to the factory gate By small truck (7.5-16 tonnes), medium truck (16-32 tonnes), heavy truck (>32 tonnes), or by ship. All trucks comply with the EURO VI standard.

Manufacturing (A3)

This module considers all mortar manufacturing processes:

- Stockpiling of cement, aggregates, and additives.
- Dosing of raw materials.
- Mixing of raw materials.
- Consumption of hydroelectricity, diesel, and water.
- Production and transport of packaging materials and packaging operations.
- Management of waste generated during the manufacturing process (transport to the waste manager and applied treatment).

2.2. Construction process stage (A4 y A5)

Transport to the building site (A4)

The transportation of 1 kg of product, together with its corresponding packaging, is considered from the production plant to the installation site.

To calculate the distribution distances, the distance was weighted by 2025 sales. The average distance corresponds to the weighted average of the distribution based on the quantity of product distributed for each family.

It should be noted that the percentages shown in the table below do not represent the total amount of mortar distributed by each mode, but rather the proportion of the total distance considered in the model that each mode of transportation accounts for.

Table 1. Basic of a scenario with the parameters described in the following table

Destinations	Type of transport	Percentage	Average km
Spain	Articulated truck	58.02	114.4
	Rigid truck	7.71	15.2
	Ship	26.68	52.6
Europe	Articulated truck	4.77	114.4
	Rigid truck	0.63	15.2
	Ship	2.19	52.6

Product installation process and construction (A5)

It includes the energy and water consumption required for the mortar installation process, as well as the transport and management of waste generated during this phase (the waste being the packaging materials).

In accordance with AENOR PCR 006 for mortars, the waste generated during installation is considered negligible and has therefore been treated as a non-relevant process within the scope of the study.

• For application, the material must be mixed with water using a low-speed mechanical mixer to obtain a homogeneous paste.
• After mixing, a standing time—specific to each product family—must be observed, during which the additives react to provide the product with its designated characteristics.
• Application must be carried out following the instructions defined in the technical data sheets of each material.

2.3. Product use (B1-B7)

Use (B1)

Undeclared

Maintenance (B2)

Undeclared

Repair (B3)

Undeclared

Replacement (B4)

Undeclared

Refurbishment (B5)

Undeclared

Operational energy use (B6)

Undeclared

Operational water use (B7)

Undeclared

2.4. End of life (C1-C4)

Deconstruction and demolition (C1)

The energy consumption required for demolition is taken into account.

Transport (C2)

Transport of the product when it reaches its end of life, to the treatment site for said waste.

Waste processing for reuse, recovery and/or recycling (C3)

It includes the processes associated with the treatment received by the product when it reaches its end of life, in the event that it is reused, recycled, or energetically recovered.

Disposal (C4)

It includes the processes associated with final disposal in a landfill, including physical pretreatment and management at the disposal site.

2.5. Reuse/recovery/recycling potential (D)

This module analyzes the benefits and loads associated with the recovery, reuse, and recycling processes of mortar waste at the end of its useful life, the effects of which occur beyond the system boundaries and can generate positive impacts.

Likewise, the recycling potential of the product packaging (wood, plastic, and paper) has been considered.

Module D has been calculated in accordance with the protocols and formulas established in UNE-EN 15804 2012+A2:2020/AC:2021, Annex D, section D.3.4."

3. LIFE CYCLE ASSESSMENT

The life cycle assessment on which this declaration is based has been carried out in accordance with international standards ISO 14040:2006, ISO 14044:2006, and UNE-EN 15804 2012+A2:2020/AC:2021 following the EN 15804+A2:2020/AC:2021 impact assessment methodology, Method v1.03 (aligned with the EF 3.1 method).

This EPD has been drafted following the DAPcons® program of the Barcelona College of Technical Architecture (CATEB) and the PCR of the aforementioned program, PCR 100 version 3.2.

The study considers a "cradle-to-gate with options" scope, including Modules C1-C4 and Module D, covering the extraction and processing of raw materials for mortar production, as well as the distribution and end-of-life stages of the products.

The life cycle assessment was based on specific data from the mortar production process, collected through questionnaires completed by the Molins Construction Solutions production centers. Data referring to the 2025 production year (from january to december) has been considered.

For the selection of non-specific data, such as raw material production, the internationally recognized Ecoinvent v3.11 database, included in the SimaPro v10.3 software, was used. Emission factors for different impact categories were also extracted directly from the current Environmental Product Declarations of some raw materials.

This EPD expresses the average performance of the references of adhesive for ceramic tiles produced by Molins Construction Solutions; therefore, it was necessary to calculate average inventory data. A weighted average based on the production of each reference was performed to reference the data to 1 kg of mortar.

3.1. Declared Unit

1 kg of applied adhesive for ceramic tiles.

Additional comments

Virtual average product density: 1,281 kg/m^3

3.2. Scope and modules that are declared

Table 2. Declared modules

Product stage			Construction Process Stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw materials supply	Transport	Manufacturing	Transport	Construction - Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction	Transport	Waste processing	Disposal	Reuse, recovery, recycling potential
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

X = Declared module **MND** = Undeclared module

3.3. LCA results of potential environmental impact referred to the declared unit (ACV)

Table 3. Parameters of environmental impact

Parameter	Unit	Life cycle stage																Module D
		Product stage			Construction Process Stage		Use stage							End of life stage				
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO2 eq	3.82E-01	2.32E-02	-1.74E-02	1.05E-02	2.49E-02	MND	MND	MND	MND	MND	MND	MND	1.71E-03	1.23E-02	5.33E-03	2.63E-03	6.36E-05
Climate change - fossil (GWP-fossil)	kg CO2 eq	3.93E-01	2.32E-02	5.52E-03	1.05E-02	5.34E-04	MND	MND	MND	MND	MND	MND	MND	1.71E-03	1.23E-02	1.20E-03	9.97E-04	6.63E-05
Climate change - biogenic (GWP-biogenic)	kg CO2 eq	-1.21E-02	7.62E-07	-2.31E-02	3.44E-07	2.43E-02	MND	MND	MND	MND	MND	MND	MND	6.25E-08	3.86E-07	4.13E-03	1.63E-03	-2.84E-08
Climate change - land use and changes in land use (GWP-luluc)	kg CO2 eq	9.82E-04	4.05E-07	1.34E-04	1.80E-07	1.03E-06	MND	MND	MND	MND	MND	MND	MND	3.69E-08	1.94E-07	4.38E-06	4.55E-08	-2.71E-06
Ozone layer depletion (ODP)	kg CFC 11 eq	3.02E-08	5.31E-10	2.05E-10	2.41E-10	4.50E-12	MND	MND	MND	MND	MND	MND	MND	3.80E-11	2.79E-10	2.43E-11	1.56E-11	1.66E-11
Acidification (AP)	mol H+ eq	5.96E-04	7.34E-05	2.41E-05	2.85E-05	1.17E-06	MND	MND	MND	MND	MND	MND	MND	1.58E-05	3.17E-05	9.33E-06	9.01E-06	1.50E-08
Eutrophication of fresh water (EP-freshwater)	kg P eq	2.79E-02	1.25E-02	2.92E-02	5.73E-03	4.96E-03	MND	MND	MND	MND	MND	MND	MND	5.50E-04	5.83E-03	5.48E-04	4.59E-04	-2.73E-04
Eutrophication of sea water (EP-marine)	kg N eq.	2.22E-04	1.76E-05	8.37E-06	6.77E-06	1.51E-06	MND	MND	MND	MND	MND	MND	MND	7.44E-06	1.21E-05	4.04E-06	4.13E-06	-1.15E-06
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	1.55E-03	1.94E-04	8.33E-05	7.45E-05	2.98E-06	MND	MND	MND	MND	MND	MND	MND	8.15E-05	1.32E-04	4.43E-05	4.53E-05	-1.18E-05
Photochemical ozone formation (POCP)	kg NMVOC eq	6.49E-04	8.81E-05	3.01E-05	3.66E-05	1.47E-06	MND	MND	MND	MND	MND	MND	MND	2.45E-05	5.24E-05	1.35E-05	1.37E-05	-4.12E-06
Depletion of abiotic resources - minerals and metals (ADP-minerals&metals)	kg Sb eq	3.17E-07	5.98E-10	9.56E-10	2.73E-10	1.30E-10	MND	MND	MND	MND	MND	MND	MND	5.87E-11	3.20E-10	5.19E-11	3.33E-11	-2.99E-10
Depletion of abiotic resources - fossil fuels (ADP-fossil)	MJ, net calorific value	3.91E+00	3.17E-01	9.55E-02	1.43E-01	5.33E-03	MND	MND	MND	MND	MND	MND	MND	2.23E-02	1.63E-01	2.23E-02	1.28E-02	1.90E-03
Water consumption (WDP)	m3 worldwide eq. private	9.16E-02	1.04E-04	8.16E-03	4.70E-05	8.58E-03	MND	MND	MND	MND	MND	MND	MND	8.91E-06	5.34E-05	3.25E-04	1.02E-05	2.03E-04
Eco-toxicity - freshwater (ETP-fw)	CTUe	2.79E-02	1.25E-02	2.92E-02	5.73E-03	4.96E-03	MND	MND	MND	MND	MND	MND	MND	5.50E-04	5.83E-03	5.48E-04	4.59E-04	-2.73E-04
Human toxicity, cancer effect (HTP-c)	CTUh	2.60E-12	1.65E-12	6.18E-12	7.38E-13	1.37E-13	MND	MND	MND	MND	MND	MND	MND	9.20E-14	8.27E-13	9.54E-14	6.62E-14	7.48E-12
Human toxicity, non-cancer effects (HTP-nc)	CTUh	7.55E-11	1.86E-10	3.13E-11	8.67E-11	4.82E-12	MND	MND	MND	MND	MND	MND	MND	1.73E-12	8.13E-11	1.85E-12	1.27E-12	1.10E-14
The Indicador includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This Indicador is thus equal to the GWP Indicador originally defined in EN 15804:2012+A1:2013. Can be obtained from IPCC characterization factors.																		
Global Warming Potential (GHG)	kg CO2 eq	3.94E-01	2.32E-02	5.79E-03	1.05E-02	1.66E-03	MND	MND	MND	MND	MND	MND	MND	1.71E-03	1.23E-02	1.21E-03	9.98E-04	6.36E-05

A1 Raw material supply.**A2** Transport. **A3** Manufacturing. **A4** Transport. **A5** Installation and construction processes.**B1** Use. **B2** Maintenance. **B3** Repair. **B4** Replacement. **B5** Refurbishment.**B6** Operational energy use. **B7** Operational water use.**C1** Deconstruction and demolition.**C2** Transport. **C3** Waste management for reuse, recovery and recycling.**C4** Disposal. **D** Environmental benefits and burdens beyond the system boundary. **MND** Undeclared module.

Table 4. Parameters for the use of resources, waste and output material flows

Parameter	Unit	Life cycle stage																Module D
		Product stage			Construction Process Stage		Use stage							End of life stage				
		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Use of renewable primary energy excluding renewable primary energy resources used as feedstock	MJ, net calorific value	3.07E-01	7.79E-04	1.90E-01	3.54E-04	1.27E-03	MND	MND	MND	MND	MND	MND	MND	6.23E-05	4.07E-04	3.31E-03	5.60E-05	-1.31E-01
Use of renewable primary energy used as raw material	MJ, net calorific value	5.98E-02	0.00E+00	2.35E-01	0.00E+00	-2.35E-01	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	-4.29E-02	-1.69E-02	0.00E+00
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	3.66E-01	7.79E-04	4.25E-01	3.54E-04	-2.34E-01	MND	MND	MND	MND	MND	MND	MND	6.23E-05	4.07E-04	-3.96E-02	-1.69E-02	-1.31E-01
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	3.03E+00	3.36E-01	1.02E-01	1.52E-01	5.57E-03	MND	MND	MND	MND	MND	MND	MND	2.37E-02	1.73E-01	2.34E-02	1.36E-02	2.53E-03
Use of non-renewable primary energy used as raw material	MJ, net calorific value	0.00E+00	0.00E+00	1.87E-02	0.00E+00	-1.87E-02	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	3.03E+00	3.36E-01	1.21E-01	1.52E-01	-1.31E-02	MND	MND	MND	MND	MND	MND	MND	2.37E-02	1.73E-01	2.34E-02	1.36E-02	2.53E-03
Use of secondary materials	kg	4.86E-02	0.00E+00	1.02E-03	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ, net calorific value	1.24E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ, net calorific value	1.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of freshwater resources	m3	1.17E-02	6.11E-06	1.57E-04	2.77E-06	2.00E-04	MND	MND	MND	MND	MND	MND	MND	3.77E-07	3.16E-06	5.14E-06	3.96E-07	-1.82E-04
Hazardous waste removed	kg	1.23E-04	2.07E-06	1.24E-06	9.42E-07	1.82E-08	MND	MND	MND	MND	MND	MND	MND	1.49E-07	1.08E-06	9.82E-08	8.49E-08	1.56E-08
Non-hazardous waste eliminated	kg	3.03E-02	1.04E-05	4.11E-03	4.72E-06	1.71E-03	MND	MND	MND	MND	MND	MND	MND	8.17E-07	5.48E-06	1.55E-06	3.04E-01	-2.64E-05
Radioactive waste disposed of	kg	2.39E-05	1.87E-08	2.17E-07	8.53E-09	3.12E-08	MND	MND	MND	MND	MND	MND	MND	1.49E-09	9.84E-09	9.44E-08	7.46E-10	-4.42E-08
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.12E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	2.21E-05	0.00E+00	4.94E-03	0.00E+00	5.16E-03	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	7.17E-01	0.00E+00	0.00E+00
Materials for energy recovery (energy recovery)	kg	1.89E-07	0.00E+00	2.13E-04	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	1.65E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported electrical energy (AEE)	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported thermal energy (EET)	MJ	1.65E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	MND	MND	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

A1 Raw material supply.**A2** Transport. **A3** Manufacturing. **A4** Transport. **A5** Installation and construction processes.**B1** Use. **B2** Maintenance. **B3** Repair. **B4** Replacement. **B5** Refurbishment.**B6** Operational energy use. **B7** Operational water use.**C1** Deconstruction and demolition.**C2** Transport. **C3** Waste management for reuse, recovery and recycling.**C4** Disposal. **D** Environmental benefits and burdens beyond the system boundary. **MND** Undeclared module.

Table 5. Kg of biogenic carbon

Carbon content (biogenic) - product	1,57E-03
Carbon content (biogenic) - packaging	6,33E-03

3.4. Recommendations of this EPD

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

EPDs within the same product category, but published under different EPD programs, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same first-digit version number) or on fully aligned PCRs or PCR versions; cover products with identical functions, technical performance, and uses (e.g., identical declared/functional units); have an identical scope regarding the life cycle stages included (unless it is proven that the excluded life cycle stage is negligible); apply identical impact assessment methods (including the same version of characterization factors); and be valid at the time of comparison.

For more information on comparability, see UNE-EN 15804 2012+A2:2020/AC:2021 and ISO 14025.

3.5. Cut-off rules

According to UNE-EN 15804:2012+A2:2020/AC:2021, the cut-off criteria do not exceed 5% of the overall environmental impact associated with the product under study. In addition, the following processes have not been included within the scope of the study:

- Manufacturing of equipment used in production, buildings, or any other capital goods
- Packaging of raw materials;
- Losses during installation;
- Business travel
- Maintenance, research, and development activities at Molins Construction Solutions plants
- Transport of personnel to and within the plant
- Fugitive emissions of particles during the transport and storage of raw materials
- Long-term emissions

3.6. Additional environmental information

None of the components of the final product are included in the 'Candidate List of substances of very high concern for authorisation' of the REACH regulation.

3.7. Other data

Not applicable.

4. ADDITIONAL TECHNICAL INFORMATION AND SCENARIOS

4.1. Transport to the building site (A4)

Parameter	Parameter expressed per functional unit
Type and fuel consumption, type of vehicle used for transportation	The adhesive for ceramic tiles is transported to the installation site by truck or ship
Distance	Articulated truck: 114.4 km Large truck: 15.2 km Ship: 52.6 km
Capacity utilization (including empty return)	61%
Apparent density of transported product	1,281 kg/m^3
Useful capacity factor (1, <1 or >1 for products that are packed compressed or nested)	1

4.2. Installation processes (A5)

Parameter	Parameter expressed per functional unit
Auxiliary materials for construction (specifying each material)	No auxiliary materials are required for installation.
Water use	20% water by weight.
Use of other resources	Not applicable.
Quantitative description of the type of energy (regional mix) and consumption during the installation process	Energy consumption: 0.3 Wh/kg of adhesive. The generic low-voltage electricity mix is assumed and regionalized into Spanish or European electricity depending on the distribution.
Waste of materials in the work before the treatment of waste, generated by the installation of the product (specify by type)	Material losses during installation are considered negligible; therefore, no additional production processes are included to compensate for the loss of wasted product. Packaging waste is considered as follows: • 3.3 grams of paper and cardboard • 3.12 grams of wood • 0.43 grams of plastic
Material outputs (specified by type) as a result of waste treatment on the building site. For example: collection for recycling, energy recovery, disposal (specified by route)	Paper: • 2.59 grams to recycling • 0.70 grams to landfill Wood: • 2.39 grams to recycling • 0.36 grams to incineration • 0.36 grams to landfill Plastic: • 0.18 grams to recycling • 0.05 grams to incineration • 0.20 grams to landfill

Parameter	Parameter expressed per functional unit
Direct emissions to air, soil and water	Not applicable.

4.3. Reference life (B1)

Undeclared

4.4. Maintenance (B2), Repair (B3), Replacement (B4), or Refurbishment (B5)

Maintenance (B2)

Undeclared

Repair (B3)

Undeclared

Replacement (B4)

Undeclared

Refurbishment (B5)

Undeclared

4.6. Operational energy use (B6) and operational water use (B7)

Undeclared

4.7. End of life (C1-C4)

	Process				
	Collection processes (specified by types)	Recovery systems (specified by type)			Elimination
	kg collected with mixed construction waste	kg for reuse	kg for recycling	kg for energy recovery	kg for final disposal
	1	0	0.72	0	0.28
Assumptions for scenario development	• The typical scenarios specified in PCR 2019:14 VERSION 2.0.1 have been considered. Specifically: - Diesel consumption of 5 kWh/tonne for the demolition/deconstruction of masonry, tiles, and pavers (C1). - 80 km for transport of non-incinerated products/materials in a 16–32 tonne truck (EURO 5) (C2). - Diesel consumption of 1.8 kWh/tonne for loading and unloading at the sorting plant (C3). - Electricity consumption of 2.2 kWh/tonne for mechanical sorting (C3). - The generic medium-voltage electricity mix is assumed and regionalized into Spanish or European electricity depending on the distribution.Diesel consumption of 1.5 kWh/tonne for the crushing of masonry, tiles, and pavers (C3). - Diesel consumption of 1.6 kWh/tonne for the compaction of construction waste intended for landfill (including backfilling) (C4). • A mortar recycling rate of 71% is considered for the Spanish scenario and 80% for the European scenario. The data was obtained from Eurostat, specifically from the indicator "Treatment of waste by waste category, hazardousness and waste management operations", under the category "Mineral waste from construction and demolition". (Eurostat, 2022) (C3) • An equivalence of kWh = 3.6 MJ has been assumed as the energy conversion hypothesis.				

5. ADDITIONAL INFORMATION

a) The respective locations of the production plants mentioned in the first section are:

• Sant Vicenç dels Horts: Ctra. Nacional 340, km 1242, 08620 Sant Vicenç dels Horts, Barcelona, Spain.
• Quer: Polígono Industrial Quer, Av. de Vega del Henares, 2, 19209 Quer, Guadalajara, Spain.
• Salvaterra: Polígono Industrial PLISAN, 36450 Salvaterra de Miño, Pontevedra, Spain.
• Guadassuar: Polígono Industrial La Creu, Calle Vía de la Vía, s/n, 46610 Guadassuar, Valencia, Spain.
• Seville: Carretera de la Isla, km 1.5, 41020 Seville, Spain.

b) Three raw materials containing secondary (recycled) material are used in the production of adhesive mortars for tile installation:

• Valencia Carbonate (50% recycled content pre-consumer): 0.07 kg/kg of mortar
• Foundry Fines (100% recycled content pre-consumer): 0.0003 kg/kg of mortar

Moreover, the recycled content reported in the EPDs for the following raw materials has been considered:
• CEM I 52.5 R 2025: The EPD A1–A3 secondary material indicator comes exclusively from stage A1.
• TERNAL WHITE: We assumed that the EPD A1–A3 secondary material indicator comes exclusively from stage A1.
• Alipre Green: We assumed that the EPD A1–A3 secondary material indicator comes exclusively from stage A1.

This document consists of 17 pages. Partial reproduction is prohibited.

The product is supplied in bulk and contains recycled material.
• CEM II/A-L 42.5 R – Alcalá de Guadaíra: We considered the secondary material indicator corresponding to stage A1.

c) The percentage variation of the impact category results for modules A1–A3 compared to the average product of the family is presented below, showing the minimum and maximum ranges. For further information on the variation ranges by reference, please consult the attached document "A1-A3 Results Variation 2025 by Reference".

• Acidification (AP): min. -63% max. 57%
• Climate change - total (GWP-total): min. -79% max. 44%
• Climate change - biogenic (GWP-biogenic): min. -357% max. 36%
• Climate change - fossil (GWP-fossil): min. -79% max. 43%
• Climate change - land use and land use change (GWP-luluc): min. -168% max. 89%
• Freshwater ecotoxicity (ETP-fw): min. -18% max. 123%
• Marine eutrophication (EP-marine): min. -56% max. 75%
• Freshwater eutrophication (EP-freshwater): min. -102% max. 45%
• Terrestrial eutrophication (EP-terrestrial): min. -39% max. 69%
• Human toxicity, carcinogenic effects (HTP-c): min. -21% max. 118%
• Human toxicity, non-carcinogenic effects (HTP-nc): min. -6% max. 155%
• Ozone depletion potential (ODP): min. -165% max. 43%
• Photochemical ozone formation (POCP): min. -45% max. 60%
• Abiotic resource depletion – fossil fuels (ADP-fossil): min. -106% max. 60%
• Abiotic resource depletion – minerals and metals (ADP-minerals&metals): min. -135% max. 69%
• Water consumption (WDP): min. -85% max. 73%
• Global Warming Potential (GHG): min. -75% max. 41%

d) The development of this study considered the data quality requirements established by ISO 14025 and the applicable reference PCRs (Product Category Rules). The results of this assessment indicate that the data quality is good, achieving a quantitative score of 4.2 out of 5. During the data quality study, it was determined that processes classified as 'poor' or 'fair' do not contribute significantly to the total impact, as none of them exceeds 30% in the environmental categories analyzed.

6. PCR AND VERIFICATION

This statement is based on Document

RCP 100 (version 3.2 - 21/12/2023) Construction products in general

Independent verification of the declaration and data, in accordance with ISO 14025 and RCP 100 (version 3.2 - 21/12/2023)

☑ External

Third party Verifier

Laura Flores Rosell
Accredited by the administrator of the DAPcons® Programme

Verification date:

22/10/2026

References

• Anthesis Group (2026). Life Cycle Assessment of eight mortar families and one epoxy resin flooring family. Report prepared for Molins Construction Solutions within the DAPcons® programme.
• European Parliament and of the Council (18 December 2006) concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). https://doi.org/10.4324/9781315270326-156
• Environdec (2025). Product Category Rules: Construction Products (PCR 2019:14, Version 2.0.1). The International EPD System. https://www.environdec.com
• Erlandsson et al. (2015); OVAM (2018); Erlandsson, M., Peterson, D. (2015). Climate Impact of Buildings with Different Energy Performance. Background Report for Control Station 2015. IVL Swedish Environmental Research Institute, Report No. U5176, 27 May 2015.
• Eurostat. (n.d.). Waste Generation and Treatment. Retrieved in May 2026 from: https://ec.europa.eu/eurostat/databrowser/view/env_wastrt__custom_21162831/default/table
• ISO (2010). UNE-EN ISO 14025:2010 Environmental Labels and Declarations - Type III Environmental Declarations - Principles and Procedures (ISO 14025:2006).
• ISO (2006a). UNE-EN ISO 14040:2006 Environmental Management - Life Cycle Assessment - Principles and Framework.
• ISO (2006b). UNE-EN ISO 14044:2006 Environmental Management - Life Cycle Assessment - Requirements and Guidelines.
• UNE-EN 15804:2012+A2:2020/AC:2021 (2021). Sustainability of Construction Works. Environmental Product Declarations. Core Product Category Rules for Construction Products.
• DAPconstrucción (21/12/2023). Product Category Rules (PCR) for Preparing an Environmental Product Declaration (DAPcons®) for Construction Products in General. PCR 100 Version 3.2.
• DAPconstrucción (21/12/2023). General Instructions of the DAPconstrucción® Programme Operator for Environmental Product Declarations in the Construction Sector.
• CEMENTOS MOLINS INDUSTRIAL, S.A. Valid until 29/04/2031. GlobalEPD EN16908-171. CEM I 52.5 R 2025.
• Instituto Español del Cemento y sus Aplicaciones. Valid until 29/04/2028. GlobalEPD EN 16908-009 Rev.1. BL I 52.5 R (Sotacib).
• ÇIMSA CEMENTOS ESPAÑA S.A.U. Valid until 15/10/2029. GlobalEPD EN 16908-055. BL II/A-LL 52.5 R Cement.
• Ciments Molins Industrial. Valid until N/A. LCA. ELECTROLAND CAC.
• Imerys. Valid until 28/09/2027. S-P-06863. TERNAL WHITE (EPD).
• GRUPO CEMENTOS PORTLAND VALDERRIVAS. Valid until 10/02/2030. GlobalEPD EN 16908-083 Rev.1. CEM I 52.5 N/SR5 - El Alto (EPD).
• GRUPO CEMENTOS PORTLAND VALDERRIVAS. Valid until 10/02/2030. GlobalEPD EN 16908-081. BL I 52.5 R - El Alto (EPD).
• Cementos Tudela Veguín. Valid until 20/12/2028. GlobalEPD EN 16908-125. CEM I 52.5 R / BL I 52.5 R Tudela Veguín.
• Heidelberg Materials. Valid until 04/09/2029. EPD-IES-0000404:006 (S-P-00404). ALIPRE GREEN (EPD).
• GRUPO CEMENTOS PORTLAND VALDERRIVAS. Valid until 10/02/2030. GlobalEPD EN 16908-076. CEM I 52.5 R (ul) -

Olazagutia (EPD).

• Imerys. Valid until N/A. LCA. LEAP FIT.

• CEMEX. Valid until 18/03/2029. GlobalEPD EN 16908-023 Rev.1. CEM I 52.5 R - Alicante (EPD).

• GRUPO CEMENTOS PORTLAND VALDERRIVAS. Valid until 10/02/2030. GlobalEPD EN 16908-0980. CEM II/A-L 42.5 R - Alcalá de Guadaíra (EPD).

• SE Tylose GmbH & Co. KG. Valid until 03/01/2029. NEPD-5641-4909-EN. EPD-NEPD-5641-4909 Hydroxyethylcellulose.

• WACKER. Valid until N/A. LCA. 202202_WACKER_LCA_Copolymer of VAE-Vinyl Chloride Dispersible Polymer Powder.

Programme Manager

Colegio de la Arquitectura Técnica de Barcelona (Cateb)

Bon Pastor, 5 · 08021 Barcelona www.cateb.cat