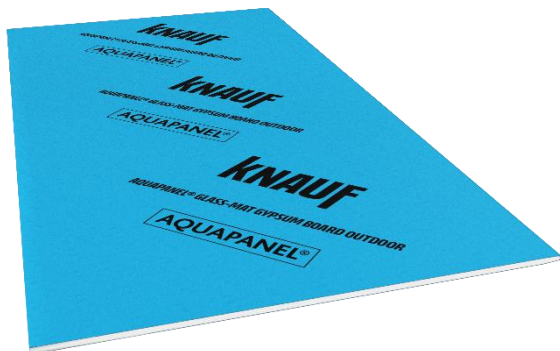
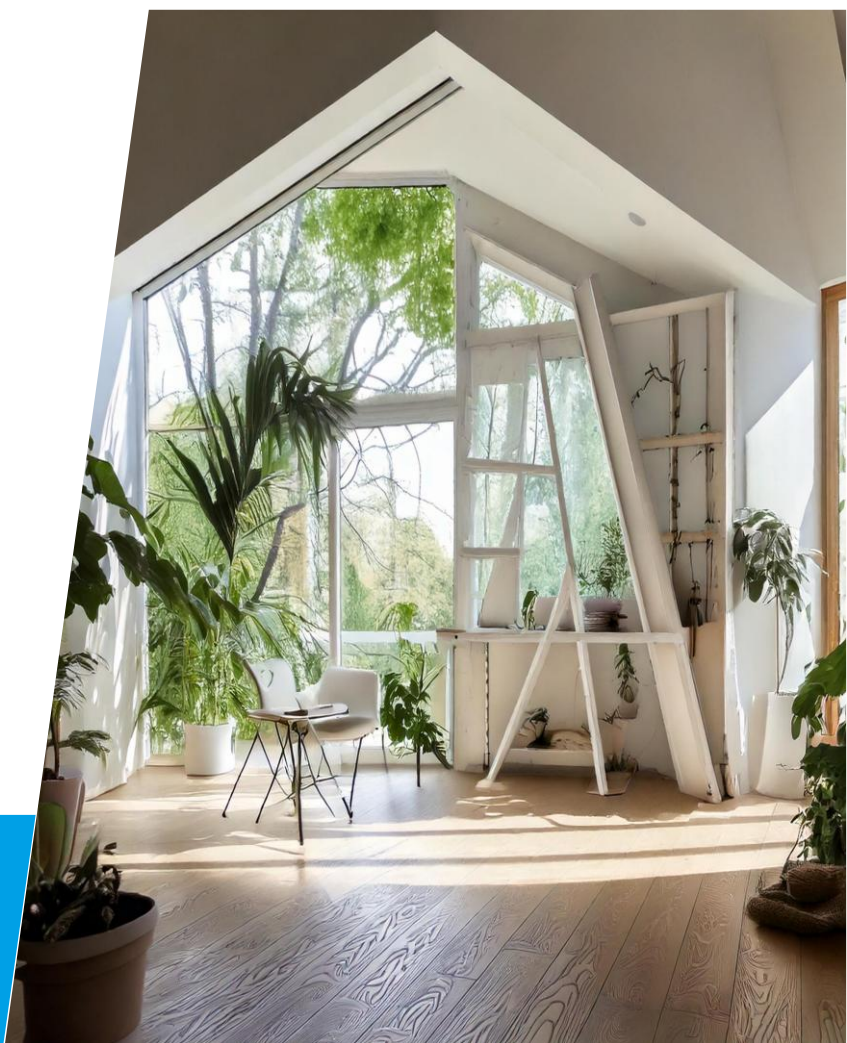


KNAUF

**AQUAPANEL® Glass-Mat
Gypsum Board Outdoor
12,5 mm**



AQUAPANEL®



DAPcons®.NTe.296

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with the standards:
ISO 14025 and UNE-EN 15804:2012+A2:2020/AC:2021

Build on us.

General Information

Product

AQUAPANEL® Glass-Mat Gypsum Board Outdoor 12,5 mm

Company



Product description

AQUAPANEL® Glass-Mat Gypsum Board Outdoor with a thickness of 12.5 mm, coated with reinforced fiberglass fleece on both sides. Specially designed to withstand exterior moisture in Knauf AQUAPANEL® Glass-Mat systems.

Standard PCR

UNE-EN 17328:2024 Complementary product category rules for gypsum-based construction products

Production plant

This Environmental Product Declaration (EPD) pertains to the product manufactured by Knauf GmbH sucursal España (Spain) at their factory in Guixers (Carretera de Berga, km 28'5, Lleida).

Validity

From: 30/04/2026 Until: 30/04/2031

The validity of DAPcons®.Nte.296 is subject to the terms and conditions of the DAPcons® regulations. The current version of this DAPcons® is the one listed in the register maintained by Cateb; for information purposes, it is available on the Programme's website at www.dapcons.com.

Executive Summary

AQUAPANEL® Glass-Mat Gypsum Board Outdoor 12,5 mm

	DAPconstrucción® Programme Environmental Product Declarations in the construction sector www.dapcons.com
	Programme administrator Colegio de la Arquitectura Técnica de Barcelona (Cateb) Bon Pastor, 5 · 08021 Barcelona www.cateb.cat
	Name of the data controller KNAUF GMBH SUCURSAL EN ESPAÑA AVENIDA DE BURGOS 114, 6TH FLOOR, 28050 MADRID (Spain) https://knauf.com/es-ES/knauf
	Statement issued by: KNAUF GMBH SUCURSAL EN ESPAÑA AVENIDA DE BURGOS 114, 6TH FLOOR, 28050 MADRID (Spain) https://knauf.com/es-ES/knauf

Product declared

AQUAPANEL® Glass-Mat Gypsum Board Outdoor 12,5 mm

Geographical representation

Manufacturing: Spain

Distribution: Europe

Variability between different products

In this document, the results for each product are declared individually.

Declaration number

DAPcons®.NTe.296

Date of registration

06/06/2025

Validity

This verified declaration authorises the holder to display the logo of the operator of the DAPconstrucción® eco-labelling programme. The declaration applies exclusively to the product mentioned and is valid for five years from the date of registration. The information contained in this declaration was provided under the responsibility of: **KNAUF GMBH SUCURSAL EN ESPAÑA**

Signature of the programme administrator

Celestí Ventura Cisternas. President of Cateb

Signature of the programme verifier

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

Environmental Product Declaration

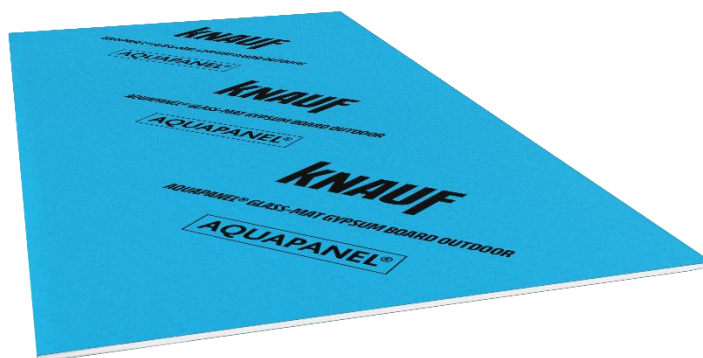
1. Product description and its use

The AQUAPANEL® Glass-Mat Gypsum Board Outdoor 12,5 mm GM-FH1IR type laminated gypsum board is composed of a special gypsum core and a reinforced fiberglass fleece on both sides, colored blue. It is manufactured through a continuous lamination process and in accordance with the EN 15283-1 standard. To facilitate joint treatment, the longitudinal edges are tapered or squared, and the transverse edges are cut.

The Knauf AQUAPANEL® Glass-Mat Gypsum Board Outdoor, lightweight, resistant to moisture, sunlight radiation, and mold. It is used as a substrate for ventilated facades, ETICS systems (e.g., Knauf ETIKS), and other types of cladding for humid environments. Also, it could be used as cladding for exterior suspended ceilings in semi-outdoor areas.

The main characteristics according to the EN standard can be found in the corresponding product datasheet and are as follows:

- Nominal weight: 11,6 kg/m²
- Reaction to fire: A1
- Water vapor resistance factor: 10 / 4 (EN ISO 10456)
- Thermal conductivity: 0.25 W/(m·K) (EN ISO 10456)
- UN CPC: 3753



1.1 Content information

Products components

The main components of the product are as follows, percentage by weight within the product:

- Gypsum: >93%
- Fiberglass fleece: >4%
- Additives: <3%

Packaging materials

The packaging materials of the product are as follows:

- Plastic film: 0,0032 kg/m²
- Wooden blocks: 0,053 kg/m²

2. Description of the life cycle stages

2.1 Manufacturing (A1, A2 and A3)

Raw material and transport (A1 y A2)

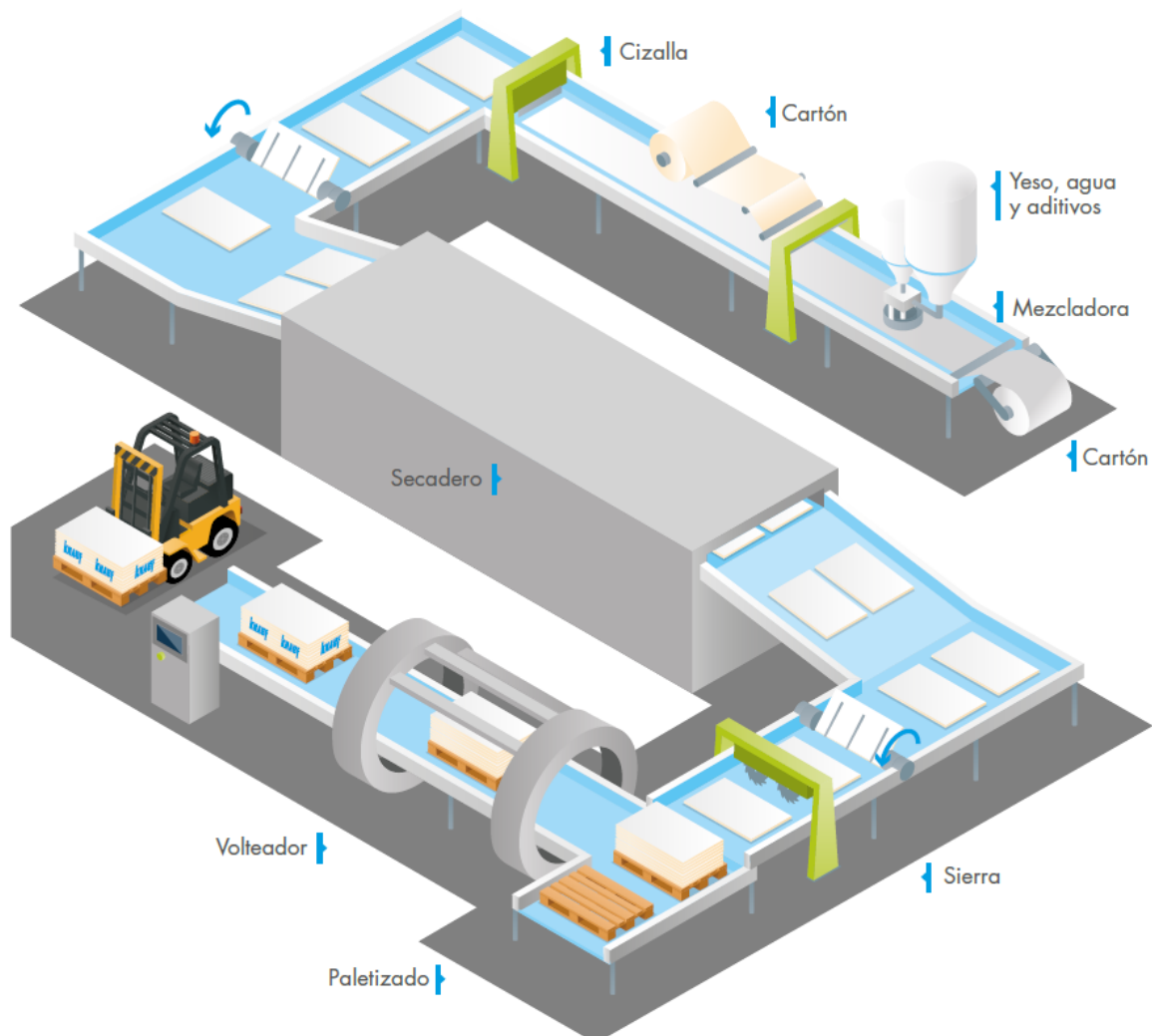
This module takes into account the extraction and processing of raw materials and the energy used prior to the manufacturing process. In this case, it includes the extraction of gypsum from the quarry and the reintroduction of gypsum resulting from production waste.

This module includes the transport of the different raw materials from the supplier to the plant. The distance and transport type (truck >32 t EURO 6 or truck 16–32 t EURO 6) have been defined for each raw material.

Manufacturing (A3)

This module includes the consumption of energy, water, and packaging materials used during the manufacturing process; as well as the transportation and management of the waste produced in the factory.

The boards are produced through a continuous lamination manufacturing process. Once gypsum is extracted from the quarry, it is introduced onto a conveyor belt that takes it to a mill where it is ground into powder. Excess moisture is removed; it is calcined and mixed with other components and water to produce the material that will form the core of the board. This core is placed between two continuous fiberglass fleece belts in the molding section. This produces a continuous board that is moved along a conveyor belt, where the gypsum begins to harden. Subsequently, it is cut to the desired length. Next, the board is introduced into a dryer to fully remove the moisture; here, the boards are transported and gradually cooled. Finally, upon exiting the dryer, the boards are stacked and palletized for subsequent storage and transportation to the installation site. Whenever possible, manufacturing scraps are introduced back into the product after a grinding and calcination process.



2.2 Construction (A4 and A5)

Transport of the product to the site (A4)

This module includes the transportation from the factory gate to the construction site where the product will be installed. An average transportation distance for the product has been calculated based on the destination markets (Europe).

Table 1. Scenarios for transporting the product to the installation site.

Destination	Transport type	Percentage (%)	Average km
Spain	-	0	0
Europe	Lorry > 32 metric ton EURO 6	100	1500
Rest of the world	-	0	0

Product installation process and construction (A5)

The construction and building process includes all materials and energy used for the installation of the product. The transportation and management of the waste produced (packaging and 5% scraps) is considered in this phase, too. During the installation, the following materials are used, considering manufacturing, transportation, and end of life.

- Screws (80% recycled steel, 20% non-recycled steel): 0,11 kg/m²

2.3 Product Use (B1-B7)

Use (B1)

Maintenance (B2)

Repair (B3)

Replacement B4)

Refurbishment (B5)

Operational energy use (B6)

Operational water use (B7)

The product does not produce any impact during the usage phase. The useful life of the product has been estimated to be at least 50 years. The product can remain installed in the building for this period of time without the need for maintenance, repair, replacement, or renovation under normal usage conditions.

2.4 End of life (C1-C4)

Deconstruction and demolition (C1)

Once the useful life of the product has ended, it can be dismantled using manual means, without the need for material resources or energy.

Transport to waste processing (C2)

The transportation of waste to management or disposal facilities, as appropriate, is considered. A distance of 50 km has been estimated, using 16 to 32-ton trucks, from the construction site to the final treatment location.

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

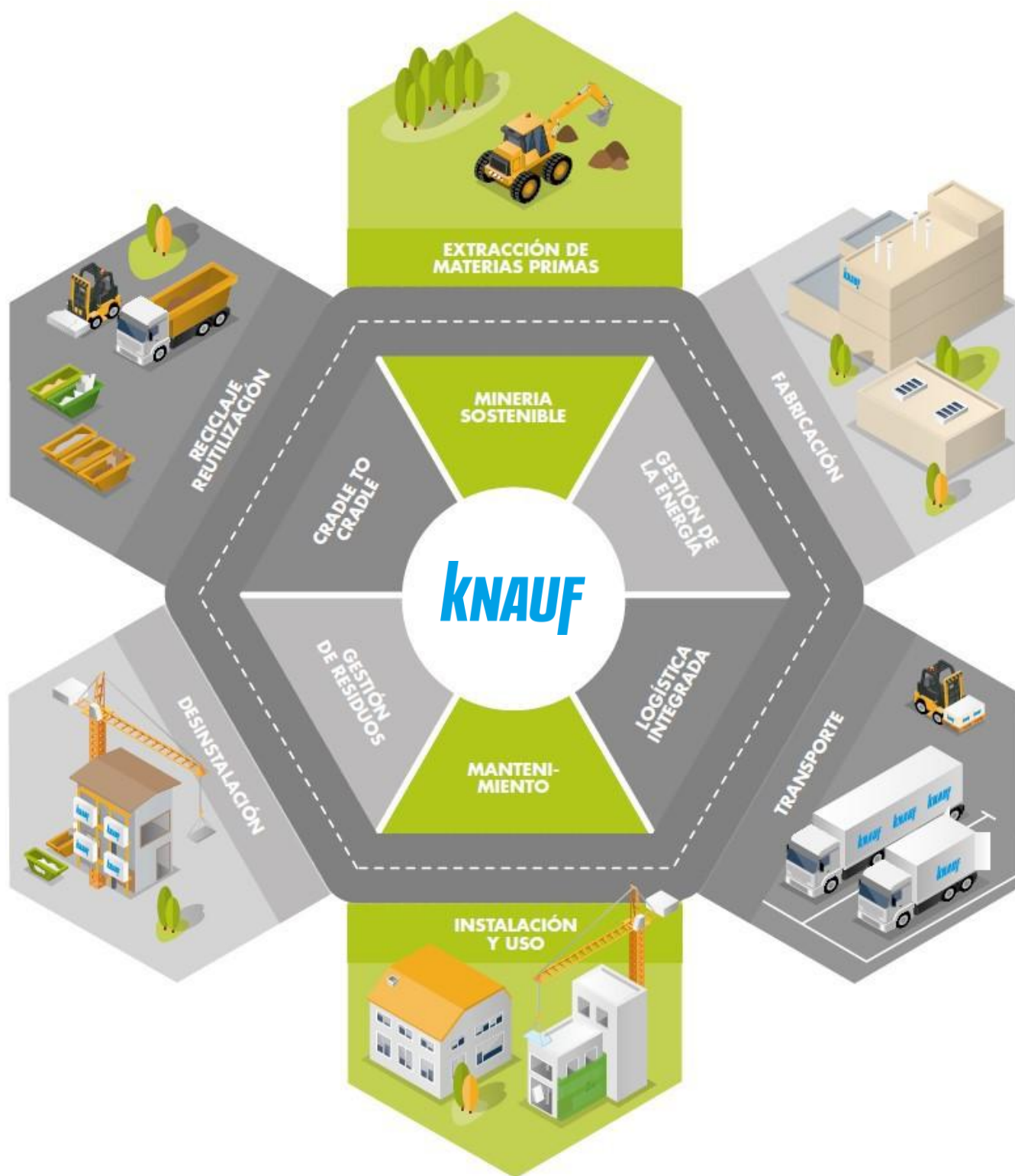
The gypsum core is a source of secondary raw material since it can be recycled indefinitely without losing its properties. According to the current European and national regulatory framework regarding Construction and Demolition Waste (CDW): re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials, of non-hazardous construction and demolition waste must add up to a minimum of 70 % by weight.

Final disposal (C4)

According to the current European and national regulatory framework regarding Construction and Demolition Waste (CDW), 30% of the remaining product is sent to a controlled landfill. The fibre glass fleece is fully sent to a controlled landfill.

2.5 Potential environmental benefits and loads beyond the system boundary (D)

The AQUAPANEL® Glass-Mat Gypsum Board Outdoor should be separated from all other waste and can be sent to a reprocessor. The gypsum core is fully recyclable, and the fibre glass fleece can be separated and sent to a controlled landfill.



3. Life cycle analysis.

This study has been conducted in accordance with the standards ISO 14025:2010, UNE-EN 15804:2012+A2:2020/AC:2021, and UNE-EN 17328:2024, Complementary product category rules for gypsum-based construction products. The scope of the study covers from cradle to grave including module D (Modules A+B+C+D). The study was carried out using Simapro v9.6 software along with the Ecoinvent v3.10 database. The primary data comes from the factory and corresponds to the year 2023. The data quality has been evaluated based on Annex E included in UNE-EN 15804:2012+A2:2020/AC:2021, and its range is from Good to Very good.

For the calculation of the different indicators, in addition to the aforementioned standards, the following impact models were used (characterization factors EF 3.1): IPCC 2021 GWP100, Cumulative Energy Demand (LHV), EDIP 2003, and AWARE. As a general rule,

primary data are obtained from sensors and other monitoring elements per product included in factory machinery (thermal and electrical energy); when this has not been possible, a load allocation has been carried out based on physical criteria (mass), as in the case of water and production waste. The "polluter pays" principle and the modularity principle (allocation of impacts to the stage where raw material/energy consumption occurs) have been followed.

3.1 Functional Unit

Manufacturing, installation, use, and end-of-life of 1 m² of The AQUAPANEL® Glass-Mat Gypsum Board Outdoor with a thickness of 12.5 mm, with a weight of 11,6 kg/m² and a service life of 50 years.

3.2 System boundaries

Table 2. Declared modules.

Manufacturing			Construction		Product use							End of life				Environmental benefits and impacts beyond system boundaries
Extraction and processing of raw materials	Transport to the manufacturer	Manufacturing	Transport of the product to the building site	Product installation and construction	Usage	Maintenance	Repair	Substitution	Rehabilitation	Use of operational energy	Operational water use	Deconstruction and demolition	Transportation	Waste management for reuse, recovery and recycling	Final elimination	Potential for reuse, recovery and recycling
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

X = Declared module

MND = Module not declared.

3.3 Life cycle assessment data

Table 3. Environmental Impact Parameters

Parameters	Units	Life Cycle Stage														D
		Manufacturing	Construction		Usage							End of Life				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Climate change - total (GWP-total)	kg CO ₂ eq	2,45E+00	1,80E+00	3,89E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,01E-02	0,00E+00	2,27E-02	4,78E-02
Climate change - fossil (GWP-fossil)	kg CO ₂ eq	2,55E+00	1,80E+00	2,91E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,01E-02	0,00E+00	2,27E-02	4,69E-02
Climate change - biogenic (GWP-biogenic)	kg CO ₂ eq	-9,72E-02	0,00E+00	9,72E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Climate change - land use and changes in land use (GWP-luluc)	kg CO ₂ eq	1,56E-03	6,39E-04	1,85E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,13E-05	0,00E+00	3,61E-06	8,93E-04
Ozone layer depletion (ODP)	kg CFC 11 eq	2,33E-07	3,76E-08	1,39E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,25E-09	0,00E+00	8,45E-10	9,47E-10
Acidification (AP)	mol H+ eq	1,08E-02	4,26E-03	1,11E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,42E-04	0,00E+00	1,41E-04	-1,28E-04
Eutrophication of freshwater (EP-freshwater)	kg P eq	3,19E-04	1,27E-04	6,78E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,23E-06	0,00E+00	1,03E-06	7,19E-06
Eutrophication of sea water (EP-marine)	kg N eq.	2,37E-03	1,12E-03	2,52E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,72E-05	0,00E+00	6,04E-05	-8,45E-05
Terrestrial eutrophication (EP-terrestrial)	mol N eq.	3,59E-02	1,21E-02	3,21E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,03E-04	0,00E+00	6,60E-04	-1,43E-03
Photochemical Ozone Formation (POCP)	kg NMVOC eq	9,96E-03	7,39E-03	1,09E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,46E-04	0,00E+00	2,66E-04	-2,20E-04
Depletion of abiotic resources – minerals and metals (ADP-minerals&metals)	kg Sb eq	4,81E-05	5,04E-06	3,26E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,68E-07	0,00E+00	2,85E-08	1,71E-07
Depletion of abiotic resources – fossil fuels (ADP-fossil)	MJ, net calorific value	4,75E+01	2,71E+01	4,58E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,02E-01	0,00E+00	5,65E-01	1,98E+00
Water Consumption (WDP)	m³ World Private Eq.	1,19E+00	1,29E-01	9,86E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,29E-03	0,00E+00	1,95E-03	6,45E-02
Eco-toxicity - freshwater (ETP-fw)	CTUe	1,31E+01	6,40E+00	4,11E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,13E-01	0,00E+00	5,77E-02	-6,05E-02
Human toxicity, carcinogenic effects (HTP-c)	CTUh	1,77E-08	1,15E-08	1,28E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,84E-10	0,00E+00	9,53E-11	1,13E-10
Human toxicity, non-carcinogenic effects (HTP-nc)	CTUh	2,34E-08	1,74E-08	3,06E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,78E-10	0,00E+00	8,32E-11	3,32E-10
The indicator includes all greenhouse gases included in the total GWP, excluding the uptake and emissions of biogenic carbon dioxide and the biogenic carbon stored in the product. This indicator is therefore equivalent to the GWP indicator originally defined in EN 15804:2012+A1:2013. It can be derived from the IPCC characterisation factors.																
Global Warming Potential (GHG)	kg CO ₂ eq	2,55E+00	1,80E+00	2,91E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,01E-02	0,00E+00	2,27E-02	4,78E-02

The indicator includes all greenhouse gases included in the total GWP, excluding the uptake and emissions of biogenic carbon dioxide and the biogenic carbon stored in the product. This indicator is therefore equivalent to the GWP indicator originally defined in EN 15804:2012+A1:2013. It can be derived from the IPCC characterisation factors.

A1 Extraction and processing of raw materials **A2** Transport to the manufacturer **A3** Manufacturing **A4** Transport of the product to the construction site **A5** Installation and construction processes **B1** Usage **B2** Maintenance **B3** Repair **B4** Substitution **B5** Rehabilitation **B6** Use of operational energy **B7** Operational Water Use **C1** Deconstruction and demolition **C2** Transportation **C3** Waste management for reuse, recovery and recycling **C4** Final Elimination **D** Environmental benefits and costs beyond the system's boundaries. MND: Module not declared.

Table 4. Resource use, waste, and output material flow parameters

Parameter	Unit	Life Cycle Stage														D
		Manufacturing A1-A3	Construction		Usage							End of life				
			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	5,10E+00	4,16E-01	1,29E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,39E-02	0,00E+00	1,09E-02	5,90E-01
Use of renewable primary energy used as raw material	MJ, net calorific value	8,19E-01	0,00E+00	-8,19E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy (primary energy and renewable primary energy resources used as feedstock)	MJ, net calorific value	5,92E+00	4,16E-01	4,72E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,39E-02	0,00E+00	1,09E-02	5,90E-01
Non-renewable primary energy use, excluding non-renewable primary energy resources used as feedstock	MJ, net calorific value	4,74E+01	2,71E+01	4,69E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,02E-01	0,00E+00	5,65E-01	1,98E+00
Use of non-renewable primary energy used as raw material	MJ, net calorific value	1,12E-01	0,00E+00	-1,12E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	4,75E+01	2,71E+01	4,58E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,02E-01	0,00E+00	5,65E-01	1,98E+00
Use of secondary materials	kg	5,62E-02	0,00E+00	8,80E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of freshwater resources	m³	9,15E-01	2,89E-02	5,35E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,64E-04	0,00E+00	9,42E-04	4,75E-02
Hazardous waste removed	kg	2,92E-04	1,78E-04	2,73E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,92E-06	0,00E+00	3,36E-06	2,84E-06
Non-hazardous waste eliminated	kg	3,95E-01	2,31E+00	3,06E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,70E-02	0,00E+00	3,85E+00	3,34E-03
Radioactive waste disposed of	kg	1,02E-04	8,13E-06	8,91E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,71E-07	0,00E+00	1,14E-07	1,87E-05
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	4,59E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,12E+00	0,00E+00
Materials for energy recovery (energy recovery)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported Electricity (EE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported Thermal Energy (ETE)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

A1 Extraction and processing of raw materials **A2** Transport to the manufacturer **A3** Manufacturing **A4** Transport of the product to the construction site **A5** Installation and construction processes **B1** Usage **B2** Maintenance **B3** Repair **B4** Substitution **B5** Rehabilitation **B6** Use of operational energy **B7** Operational Water Use **C1** Deconstruction and demolition **C2** Transportation **C3** Waste management for reuse, recovery and recycling **C4** Final Elimination **D** Environmental benefits and costs beyond the system's boundaries. MND: Module not declared.

Table 5. Kg of biogenic carbon

Carbon content (biogenic) – packaging	0,027
Carbon content (biogenic) – product	0,000

3.4 Recommendations of this EPD

EPDs within the same product category but registered in different programs or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or on fully aligned PCRs or PCR versions; cover products with identical functions, technical performance, and use (e.g., identical declared/functional units); have equivalent system boundaries and data descriptions; apply equivalent data quality requirements, data collection methods, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterization factors); have equivalent content declarations; and be valid at the time of comparison. For more information on comparability, see EN 15804 and ISO 14025 standards. Neither the verifier nor the program operator makes any claims or assume any responsibility regarding the legality of the product.

3.5 Cutt-off rules

At least 99% of the raw materials and energy used throughout the entire life cycle have been included, and more than 95% per module. Flows related to human activities and flows related to the construction of production plants, R&D, manufacturing machines, and transportation systems have been excluded, as they are considered negligible.

3.6 Additional environmental information

During the product's life cycle, no hazardous substances listed in the "Candidate List of Substances of Very High Concern (SVHC) for authorization" are used in a percentage greater than 0.1% of the product's weight.

3.7 Other data

The main waste generated during production can be described as non-hazardous waste in the European Waste Catalogue with code 17 08 02, "Gypsum-based construction materials other than those mentioned in 17 08 01."; however, this waste (scraps) is introduced again in the manufacturing flow.

4. Additional technical information and scenarios

4.1 Transport from factory to site A4)

Parameter	Parameter expressed per functional unit
Type and fuel consumption, type of vehicle used for transportation	Lorry >32 metric ton, EURO6
Distance	1500 km
Capacity utilization (including empty return)	The % assimilated in the Ecoinvent 3.10 database.
Apparent density of transported product	920 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)	Screws: 0.11 kg/m ² (80% recycled)
Water use	Not required.
Use of other resources	Not required.
Quantitative description of the type of energy (regional mix) and consumption during the installation process	Not required.
Waste of materials in the work before the treatment of waste, generated by the installation of the product (specify by type)	Packaging: Plastic film: 0.0032 kg/m ² Wooden blocks: 0.053 kg/m ² Product installation waste: 5% losses have been considered in all phases.
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)	100% of the packaging waste is recycled. A 5% material loss has been considered across all phases. According to the current European and national regulatory framework regarding Construction and Demolition Waste (CDW), 70% of such CDW by weight must be recovered. It is estimated that the remaining 30% of this waste is sent to a controlled landfill.

Direct emissions to air, soil and water

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4.3 Reference service life (B1)

Parameter	Parameter expressed per functional unit
Reference Lifetime (RSL)	50 years
Characteristics and properties of the product	Drywall systems with laminated gypsum board. The product can remain installed in the building during the RSL (Reference Service Life) period without the need for maintenance, repair, replacement, or renovation under normal usage conditions.
Requirements (conditions of use, frequency of maintenance, repair, etc.)	

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

Maintenance (B2)

Parameter	Parameter expressed per functional unit
Maintenance process, for example: cleaning agent, surfactant type	Not required.
Maintenance cycle	Not required.
Auxiliary materials for the maintenance process (specifying each material)	Not required.
Energy inputs for the maintenance process (quantity and type of energy vector)	Not required.
Net consumption of fresh water during maintenance or repair	Not required.
Material waste during maintenance (specifying the type)	Not required.

Repair (B3)

Parameter	Parameter expressed per functional unit
Repair process	Not required.
Process of inspection	Not required.
Repair cycle	Not required.
Auxiliary materials (specifying each material), for example lubricant	Not required.
Interchange of parts during the product life cycle	Not required.
Energy inputs during maintenance, type of energy, example: electricity, and quantity	Not required.
Energy input during the repair, renovation, replacement process if applicable and relevant (quantity and type of energy vector)	Not required.
Material waste during repair (specifying each material)	Not required.
Net freshwater consumption	Not required.

Replacement (B4)

Parameter	Parameter expressed per functional unit
Energy input during substitution, for example for the use of cranes (quantity and energy vector)	Not required.
Change of worn parts in the product life cycle (specifying each material)	Not required.
Net freshwater consumption	Not required.

Refurbishment (B5)

Parameter	Parameter expressed per functional unit
Rehabilitation process	Not required.
Rehabilitation cycle	Not required.
Energy input during rehabilitation, for example for the use of cranes (quantity and energy vector)	Not required.
Input material for rehabilitation, including auxiliary materials (specifying by material)	Not required.
Waste of material during rehabilitation (specifying each material)	Not required.
Other scenario development assumptions	Not required.

4.5 Reference service life

Parameter	Parameter expressed per functional unit
Reference life	50 years
Declared properties of the product, finishes, etc.	Consult the manufacturer's corresponding technical documentation (Declarations of Performance, Product Datasheets, System Sheets, etc.).
Application design parameters (manufacturer's instructions)	Consult the manufacturer's corresponding technical documentation (Declarations of Performance, Product Datasheets, System Sheets, etc.).
Estimation of the quality of execution, when installed according to the manufacturer's instructions	Properly installed, the product meets the highest standards of quality.
Outdoor environment for outdoor applications. For example, weather, pollutants, UV radiation, temperature, etc.	Outdoor product.
Indoor environment for indoor applications. For example, temperature, humidity, chemical exposure	Consult the manufacturer's corresponding technical documentation (Declarations of Performance, Product Datasheets, System Sheets, etc.).
Terms of use. For example, frequency of use, mechanical exposure, etc	Not required.
Maintenance. For example, the required frequency, etc.	Not required.

4.6 Operational energy use (B6) y Operational water use (B7)

Parameter	Parameter expressed per functional unit
Auxiliary materials (specified by material)	Not required.
Type of energy vector. For example, electricity, natural gas, district heating	Not required.
Equipment output power	Not required.
Net freshwater consumption	Not required.
Characteristic features (energy efficiency, emissions, etc.)	Not required.
Other scenario development assumptions. For example, transportation	Not required.

4.7 End of life (C1–C4)

Process				
Collection procedures (by type)	Recovery systems (specified by type)			Disposal
kg collected as mixed construction waste	kg for reuse	kg for recycling	kg for energy recovery	kg for final disposal
0	0	7.8	0.0	3.8

Supuestos para el desarrollo de escenarios

According to the current European and national regulatory framework regarding Construction and Demolition Waste (CDW): re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials, of non-hazardous construction and demolition waste must add up to a minimum of 70 % by weight; 30% of the remaining product is sent to a controlled landfill. The AQUAPANEL® Glass-Mat Gypsum Board Outdoor should be separated from all other waste and can be sent to a reprocessor. The gypsum core is fully recyclable, and the fibre glass fleece can be separated and sent to a controlled landfill.

5.3 Environmental management system and sustainable mining

Knauf ensures a sustainable supply of resources, as well as proper business management, through its multiple company certifications. In terms of sustainability, two notable certifications are:

- Knauf holds the ISO 22480 certificate for Sustainable Mining Management System, for gypsum extraction in open-pit mining.
- Most Knauf products are certified under ISO 14001 Environmental Management System, for the production of gypsum boards, metal profiles, and gypsum pastes.

More information: <https://knauf.com/es-ES/knauf>

5. Additional Information

5.1 Recycling of production waste

Knauf Spain uses natural gypsum for the production of its products, which is 100% recyclable. Generally, the laminated gypsum boards that Knauf markets contain recycled material, originating from internal production waste and the cellulose used in their composition, among others. Knauf Spain has recycling facilities where gypsum boards that do not meet the strict internal quality controls, or board cutoffs to fit required dimensions, are recycled to obtain two products: gypsum and paperboard; both are returned to the production process as resources ready to be reused.

5.2 Healthy materials

Knauf products are safe and circular, as evidenced by our Cradle to Cradle Silver certification for products manufactured in Spain, which includes our profile and board products; as well as other ingredient verification labels like the Declare label. Additionally, Knauf products have the IBR air quality certification. The seal of the Institut für Baubiologie Rosenheim GmbH (IBR) verifies emissions of TVOCs, formaldehyde, and carcinogens, according to both AgBB and French VOC regulation requirements (A+), under ISO 16000. This seal is valid for two years; therefore, the product is regularly evaluated. Some Knauf products have other prominent air quality certifications as well, such as Emicode EC1 or IAC Gold.

6. PCR and verification

This statement is based on the

UNE-EN 17328:2024 Complementary product category rules for gypsum-based construction products Gypsum-based construction products

Independent verification of the declaration and data, in accordance with ISO 14025 and EN UNE-EN 17328:2024



External

Third-party verifier

Laura Flores Rosell

Accredited by the DAPcons® Programme administrator

MARCEL GÓMEZ
consultoria ambiental

Date of verifier:

30/04/2026

References

- ISO 14040:2008 Environmental management. Life cycle assessment. Principles and framework
- ISO 14044:2008 Environmental management. Life cycle assessment. Requirements and guidelines.
- ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations. Principles and procedures
- UNE-EN 15804:2012+A2:2020/AC:2021 Sustainability in construction. Environmental product declarations
- Product Category Rules UNE-EN 17328:2024 (6 August 2024) Supplementary product category rules for gypsum-based construction products
- Product Category Rules 2019:14 (v 1.3.4, 30/04/2024)
- Product Category Rules 100 (v 3.2, 21/12/2023)
- Knauf Life Cycle Assessment: Life cycle assessment of AQUAPANEL® Glass-Mat Gypsum Board Outdoor with a thickness of 12.5 mm (EU scope) (Apr 2025)

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