



# ENVIRONMENTAL PRODUCT DECLARATION OF KNAUF PLASTERBOARDS

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC 2021  
This EPD covers multiple products.

EPD PROGRAM

The international EPD System, <https://environdec.com/>

PROGRAM OPERATOR

EPD INTERNATIONAL AB

CPC CODE

37530 Articles of plaster or of composition based on plaster

EPD REGISTRATION NUMBER

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2022-11-25

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2027-11-25

GEOGRAPHICAL SCOPE

Global

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## ► Company Information

Knauf is one of the world's leading manufacturers of modern insulation materials, drylining systems, plasters and accessories, thermal insulation composite systems, paints, floor dry floor systems, and construction equipment and tools.

Knauf's factory in Stanos, Amphiloikia, Greece, covers 100 acres of land, of which 13 acres is building cover. In the same geographical area, it operates a gypsum quarry (180 acres) owned by the company. The factory operates on a 24-hour basis while a significant part of its production is exported to the Balkan countries, Eastern Mediterranean and North Africa. Knauf has a vertical production from the raw material, gypsum, a product of its own mining that is processed in its facilities into complete structural elements (gypsum, plasterboard) with maximum added value. Inspection of all raw materials is carried out daily by the well-equipped quality control department, before their use in the production lines.

## ► Product Information

This is an average EPD for plasterboards produced by Amphiloikia plant in Greece. The LCIA results of the LCA represents the weighted average product. There is no significant differentiation among the environmental performance of each product. The products included are:

- **Type A plasterboards (GKB)**
- **Type DF fire-resistant plasterboards (GKF)**
- **Type H2 impregnated plasterboards (GKI)**
- **Type DFH2 fire-resistant & impregnated plasterboards (GKFI)**
- **Ultra Board DFIR special fire-resistant pasteboard, with increased core density and surface hardness**

### ► Type A plasterboards (GKB)

Knauf type A (GKB) standard plasterboards are suitable for basic drywall systems

Properties	Unit	Value	Standard
<b>Type</b>	-	A/GKB	EN 520/DIN 18180
<b>Fire-resistance</b>	-	A2-s1, d0 (B)	EN 520
<b>Vapor permeability (Dry)</b>		10	EN ISO 10456
<b>Vapor permeability (Humid)</b>		4	EN ISO 10456
<b>Thermal conductivity <math>\lambda</math></b>	W/m*K	0,21	EN ISO 10456
<b>Specific weight</b>	kg/m <sup>3</sup>	≥ 680	DIN 18180
<b>Weight (9,5 mm)</b>	kg/m <sup>2</sup>	≥ 6,5	DIN 18180
<b>Weight (12,5 mm)</b>	kg/m <sup>2</sup>	≥ 8,5	DIN 18180
<b>Crushing strength <math>f_{c,90,k}</math></b>	N/mm <sup>2</sup>	≥ 3,5	DIN 1052
<b>Tensile strength <math>f_{m,k}</math> (longitudinal)</b>	N/mm <sup>2</sup>	≥ 6,5	DIN 1052
<b>Tensile strength <math>f_{m,k}</math> (transverse)</b>	N/mm <sup>2</sup>	2	DIN 1052
<b>Young's modulus (longitudinal)</b>	N/mm <sup>2</sup>	≥ 2800	DIN 1052
<b>Young's modulus (transverse)</b>	N/mm <sup>2</sup>	≥ 2200	DIN 1052

### ► Type DF Fire-resistant plasterboards (GKF)

Knauf DF (GKF) fire-resistant gypsum boards are used for internal fire-resistant constructions.

Properties	Unit	Value	Standard
<b>Type</b>	-	DF/GKF	EN 520/DIN 18180
<b>Fire-resistance</b>	-	A2-s1, d0 (B)	EN 520
<b>Vapor permeability (Dry)</b>		10	EN ISO 10456
<b>Vapor permeability (Humid)</b>		4	EN ISO 10456
<b>Thermal conductivity <math>\lambda</math></b>	W/m*K	0,21	EN ISO 10456
<b>Specific weight</b>	kg/m <sup>3</sup>	≥ 800	DIN 18180
<b>Weight (12,5 mm)</b>	kg/m <sup>2</sup>	≥ 10	DIN 18180
<b>Weight (15 mm)</b>	kg/m <sup>2</sup>	≥ 12	DIN 18180
<b>Weight (18 mm)</b>	kg/m <sup>2</sup>	≥ 14,4	DIN 18180
<b>Crushing strength <math>f_{c,90,k}</math></b>	N/mm <sup>2</sup>	≥ 3,5	DIN 1052
<b>Tensile strength <math>f_{m,k}</math> (longitudinal)-12,5 mm</b>	N/mm <sup>2</sup>	≥ 6,5	DIN 1052
<b>Tensile strength <math>f_{m,k}</math> (transverse)-12,5 mm</b>	N/mm <sup>2</sup>	≥ 2	DIN 1052
<b>Tensile strength <math>f_{m,k}</math> (longitudinal)-15 mm</b>	N/mm <sup>2</sup>	≥ 5,4	DIN 1052
<b>Tensile strength <math>f_{m,k}</math> (transverse)-15 mm</b>	N/mm <sup>2</sup>	≥ 1,8	DIN 1052
<b>Tensile strength <math>f_{m,k}</math> (longitudinal)-18 mm</b>	N/mm <sup>2</sup>	≥ 4,2	DIN 1052
<b>Tensile strength <math>f_{m,k}</math> (transverse)-18 mm</b>	N/mm <sup>2</sup>	≥ 1,5	DIN 1052
<b>Young's modulus (longitudinal)</b>	N/mm <sup>2</sup>	≥ 2800	DIN 1052
<b>Young's modulus (transverse)</b>	N/mm <sup>2</sup>	≥ 2200	DIN 1052

### ► Type H2 impregnated plasterboards (GKI)

Waterproof Knauf H2 (GKI) is used for constructions in internal sanitary spaces.

Properties	Unit	Value	Standard
Type	-	H2/GKI	EN 520/DIN 18180
Fire-resistance	-	A2-s1, d0 (B)	EN 520
Vapor permeability (Dry)		10	EN ISO 10456
Vapor permeability (Humid)		4	EN ISO 10456
Thermal conductivity $\lambda$	W/m*K	0,21	EN ISO 10456
Water absorption	%	$\leq 10$	EN 520
Specific weight	kg/m <sup>3</sup>	$\geq 680$	DIN 18180
Weight (12,5 mm)	kg/m <sup>2</sup>	$\geq 8,5$	DIN 18180
Crushing strength $f_{c,90,k}$	N/mm <sup>2</sup>	$\geq 3,5$	DIN 1052
Tensile strength $f_{m,k}$ (longitudinal)	N/mm <sup>2</sup>	$\geq 6,5$	DIN 1052
Tensile strength $f_{m,k}$ (transverse)	N/mm <sup>2</sup>	$\geq 2$	DIN 1052
Young's modulus (longitudinal)	N/mm <sup>2</sup>	$\geq 2800$	DIN 1052
Young's modulus (transverse)	N/mm <sup>2</sup>	$\geq 2200$	DIN 1052

### ► Type DFH2 fire-resistant & impregnated plasterboards (GKFI)

Knauf DFH2 (GKI) is used in internal sanitary spaces that require fire protection.

Properties	Unit	Value	Standard
Type	-	DFH2/GKFI	EN 520/DIN 18180
Fire-resistance	-	A2-s1, d0 (B)	EN 520
Vapor permeability (Dry)		10	EN ISO 10456
Vapor permeability (Humid)		4	EN ISO 10456
Thermal conductivity $\lambda$	W/m*K	0,23	EN ISO 10456
Water absorption	%	$\leq 10$	DIN 18180
Specific weight	kg/m <sup>3</sup>	$\geq 800$	DIN 18180
Weight (12,5 mm)	kg/m <sup>2</sup>	$\geq 12$	DIN 18180
Crushing strength $f_{c,90,k}$	N/mm <sup>2</sup>	$\geq 5,5$	DIN 1052
Tensile strength $f_{m,k}$ (longitudinal)	N/mm <sup>2</sup>	$\geq 5,4$	DIN 1052
Tensile strength $f_{m,k}$ (transverse)	N/mm <sup>2</sup>	$\geq 1,8$	DIN 1052
Young's modulus (longitudinal)	N/mm <sup>2</sup>	$\geq 2800$	DIN 1052
Young's modulus (transverse)	N/mm <sup>2</sup>	$\geq 2200$	DIN 1052

► **ULTRA BOARD® DFIR special fire-resistant pasteboard**

Knauf ULTRA BOARD® is a fire resistant plasterboard with increased core density, reinforced with polymers and glass fibers, increased surface hardness and bending strength.

Properties	Unit	Value	Standard
<b>Type</b>	-	DFIR	EN 520
<b>Fire-resistance</b>	-	A2-s1, d0 (B)	EN 520
<b>Vapor permeability (Dry)</b>		10	EN ISO 10456
<b>Vapor permeability (Humid)</b>		4	EN ISO 10456
<b>Thermal conductivity <math>\lambda</math></b>	W/m*K	0,25	EN ISO 12664
<b>Specific weight</b>	kg/m <sup>3</sup>	$\geq 1000$	
<b>Weight (15 mm)</b>	kg/m <sup>2</sup>	15	
<b>Tensile strength f m,k (longitudinal)</b>	N/mm <sup>2</sup>	$\geq 8$	EN 520
<b>Tensile strength f m,k (transverse)</b>	N/mm <sup>2</sup>	$\geq 3,3$	EN 520
<b>Surface hardness</b>	mm	$\leq 15$	EN 520

The composition of the products is presented in Table below:

Material	Percentage (%) by mass	Mass (kg) per declared unit
Gypsum	92-96	6,90-7,20
Paper	3-5	0,23-0,38
Other minerals & additives	<3	< 0,23

Packaging material	Mass (kg) per declared unit
Wooden pallets	7,33E-02
Polyethylene film	7,6E-05

No substance in the "Candidate List of Substances of Very High Concern (SVHC) for authorization" exceeds 0.1% wt in the final products.

► **System Boundaries**

Plasterboards System Boundaries Diagram

X= Included, MND= Module Not Declared																	
	Product stage			Construction stage		Use stage							End-of-life stage				Resource recovery stage
	Raw Materials Supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction and demolition	Transport	Waste processing for reuse, recovery and/or recycling	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X
Geography	GLO	GLO	GR														
Specific data used	>90%																
Variation-products	<10%																
Variation-sites	Not relevant																

**A1: Raw Material Supply**

The production starts with the material supply. This stage includes the mining and processing of raw materials, the generation of electricity and fuels required for the manufacturing stage. Gypsum (CaSO<sub>4</sub>·2H<sub>2</sub>O) is the main raw material while rest are materials such as starch, glass and other additives.

**A2: Transportation of raw materials to manufacturer**

Transport is relevant for delivery of raw materials from the supplier to the gate of manufacturing plant. The main material for the production, gypsum, is extracted and transported by trucks from owned quarries which are located 10 km from the manufacturing plant, while the rest are transported by trucks and vessels from different countries all over the world.

**A3: Manufacturing**

Manufacturing starts with the crushing and baking of raw gypsum in specially formed mills to form stucco (calcium sulphate hemihydrate). Baked gypsum is combined with other solid and liquid mixing materials and the produced slurry is transferred in a formatting table in order to obtain a certain width and edge configuration. The slurry ends up in a 250 m length conveyor belt and in the end of this route the plasterboard (after a drying process) takes its final structure.

**C1: De-construction, demolition**

The deconstruction and demolition of the product takes place with the demolition of the whole building. It is assumed that energy for the binder is minor compared to the other materials of the building, thus the environmental impact of this module is set to be zero.

**C2: Transportation of waste**

A distance of 100 km by lorry 16-32 tonnes from construction/demolition sites to disposal sites has been chosen as a conservative assumption.

**C3: Waste processing for reuse, recovery and/or recycling**

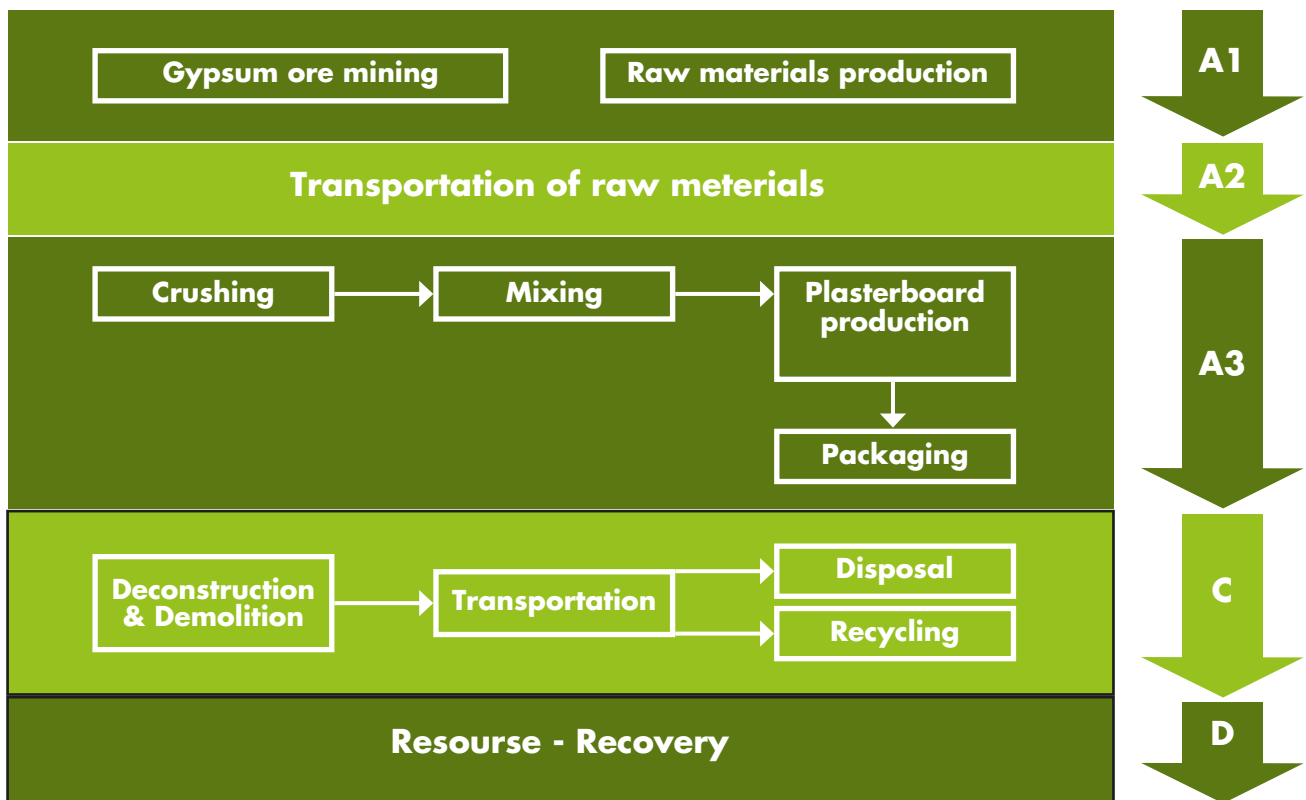
It is assumed that gypsum binder will be 100% landfilled after its life cycle, thus the environmental impact of this module is set to be zero.

**C4: Disposal**

As it is mentioned above, gypsum binder will be 100% landfilled after its life cycle.

**D: Reuse-Recovery-Recycling potential**

Since the product is 100% landfilled, the benefits and loads resulting from reuse and recycling is zero.





## ► LCA Information

**Declared unit:** The declared unit is 1 m<sup>2</sup> of plasterboards.

**Goal and Scope:** This EPD evaluates the environmental impacts of the production of 1 m<sup>2</sup> of plasterboards from Cradle to gate with module C1-C4 and D

**System Boundary:** The system boundaries are set to be cradle to gate (A1-A3) with modules C+D  
**Cut-off rules:** The cut-off criteria adopted is as stated in "EN 15804:2012+A2:2019". Where there is insufficient data for a unit process, the cut-off criteria are 1% of the total mass of input of that process. The total of neglected input flows per module is a maximum of 5% of energy usage and mass. The cut-off rule was used in cases of some additives used for the mixing of baked gypsum. The total mass is approximately 0,226%.

**Allocations:** Wherever possible, allocation was avoided by dividing the unit process to be allocated into two or more sub-processes and collecting the input and output data related to these sub-processes. Where allocation cannot be avoided, the inputs and outputs of the system were partitioned between its different products or functions in a way that reflects the underlying physical or economic relationships between them. In this case, the allocation concerns the electricity for lighting and the diesel consumption for other general utilities in the manufacturing plant and it is based on the mass of the final products.

### **Assumptions:**

**Transportation:** In modules A2 and C2, a EURO4 lorry 16-32 metric ton was utilized for road transportation and a bulk carrier for dry goods for sea transportation.

**Module C1:** It is assumed that energy used for the demolition of the plasterboard has minor significance, thus the environmental impact of this module is set to be zero.

**Module C2:** a conservative assumption of 100 km by lorry 16-32 metric ton was used.

**Module C3:** There is no provision for plasterboards' waste reuse and it is 100% landfilled.

**Module C4:** As it is said above, plasterboards' waste will be 100% landfilled.

**Data quality:** ISO 14044 was applied in terms of data collection and quality requirements. The impact of the production of raw materials recovered from Ecoinvent database v.3.8. The data concerning the modules A2 (Transportation) and A3 (Product manufacturing) were provided by Knauf and they were extracted from the company's SAP system and BDE. Regarding electricity mix, the latest (2020) national residual electricity mix as published in DAPEEP SA was utilized. The emission factor for natural gas is provided from National Inventory Report of 2020 for Greece. The end-of-life are based on the most representative scenarios for this product. Background data for these stages are retrieved from Ecoinvent v.3.8.

**Geographical Scope:** Worldwide

**Time representativeness:** Data obtained refer to the year 2021

**Software used:** OpenLCA v.1.10.3

► **Environmental Performance**

ENVIRONMENTAL IMPACTS	Unit	A1-A3	C1	C2	C3	C4	D
<b>GWP-total</b>	<b>kg CO2 eq</b>	2,27E+00	0,00E+00	1,23E-01	0,00E+00	9,74E-02	0,00E+00
<b>GWP-fossil</b>	<b>kg CO2 eq</b>	2,26E+00	0,00E+00	1,23E-01	0,00E+00	9,69E-02	0,00E+00
<b>GWP-biogenic</b>	<b>kg CO2 eq</b>	7,03E-03	0,00E+00	4,16E-05	0,00E+00	3,56E-04	0,00E+00
<b>GWP-luluc</b>	<b>kg CO2 eq</b>	7,22E-03	0,00E+00	4,19E-05	0,00E+00	1,00E-04	0,00E+00
<b>GWP-GHG<sup>1</sup></b>	<b>kg CO2 eq</b>	2,25E+00	0,00E+00	1,22E-01	0,00E+00	9,50E-02	0,00E+00
<b>ODP</b>	<b>kg CFC-11 eq</b>	4,56E-07	0,00E+00	2,82E-08	0,00E+00	2,51E-08	0,00E+00
<b>AP</b>	<b>mol H+ eq</b>	8,37E-03	0,00E+00	6,18E-04	0,00E+00	2,41E-01	0,00E+00
<b>EP-freshwater<sup>2</sup></b>	<b>kg PO4-3 eq</b>	1,75E-03	0,00E+00	2,56E-05	0,00E+00	6,57E-05	0,00E+00
<b>EP-freshwater<sup>2</sup></b>	<b>kg P eq</b>	5,71E-04	0,00E+00	8,36E-06	0,00E+00	2,14E-05	0,00E+00
<b>EP-marine</b>	<b>kg N eq</b>	1,70E-03	0,00E+00	2,16E-04	0,00E+00	2,53E-04	0,00E+00
<b>EP-terrestrial</b>	<b>mol N eq</b>	1,66E-02	0,00E+00	2,36E-03	0,00E+00	2,74E-03	0,00E+00
<b>POCP</b>	<b>kg NMVOC eq</b>	4,76E-03	0,00E+00	6,71E-04	0,00E+00	1,57E-02	0,00E+00
<b>ADPe<sup>3</sup></b>	<b>kg Sb eq</b>	9,08E-06	0,00E+00	4,48E-07	0,00E+00	3,08E-07	0,00E+00
<b>ADPf<sup>3</sup></b>	<b>MJ</b>	3,53E+01	0,00E+00	1,88E+00	0,00E+00	2,12E+00	0,00E+00
<b>WDP<sup>3</sup></b>	<b>m3 eq</b>	1,14E+00	0,00E+00	8,74E-03	0,00E+00	9,33E-02	0,00E+00

<sup>1</sup> GWP-GHG indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide emissions and uptake and biogenic carbon stored in the product, with characterization factors (CFs) based on IPCC (2013).

<sup>2</sup> Eutrophication aquatic freshwater shall be given in both kg PO4 eq and kg P eq.

<sup>3</sup> The results of these environmental impact indicators shall be used with care as the uncertainties of these results are high or as there is limited experienced with the indicator.

RESOURCE USE	Unit	A1-A3	C1	C2	C3	C4	D
<b>PERE</b>	<b>MJ</b>	1,07E+01	0,00E+00	2,54E-02	0,00E+00	7,08E-02	0,00E+00
<b>PERM</b>	<b>MJ</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
<b>PERT</b>	<b>MJ</b>	1,07E+01	0,00E+00	2,54E-02	0,00E+00	7,08E-02	0,00E+00
<b>PENRE</b>	<b>MJ</b>	3,53E+01	0,00E+00	1,88E+00	0,00E+00	2,12E+00	0,00E+00
<b>PENRM</b>	<b>MJ</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
<b>PENRT</b>	<b>MJ</b>	3,53E+01	0,00E+00	1,88E+00	0,00E+00	2,12E+00	0,00E+00
<b>SM</b>	<b>kg</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
<b>RSF</b>	<b>MJ</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
<b>NRSF</b>	<b>MJ</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
<b>FW</b>	<b>m3</b>	2,66E-02	0,00E+00	2,03E-04	0,00E+00	2,17E-03	0,00E+00

► **Environmental Performance**

OUTPUT FLOWS AND WASTE CATEGORIES	Unit	A1-A3	C1	C2	C3	C4	D
<b>HWD</b>	<b>kg</b>	1,04E-04	0,00E+00	4,90E-06	0,00E+00	3,06E-06	0,00E+00
<b>NHWD</b>	<b>kg</b>	1,67E-01	0,00E+00	9,02E-02	0,00E+00	7,56E+00	0,00E+00
<b>RWD</b>	<b>kg</b>	2,07E-04	0,00E+00	1,29E-05	0,00E+00	1,25E-05	0,00E+00
<b>CRU</b>	<b>kg</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
<b>MFR</b>	<b>kg</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
<b>MER</b>	<b>kg</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
<b>EE</b>	<b>MJ</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

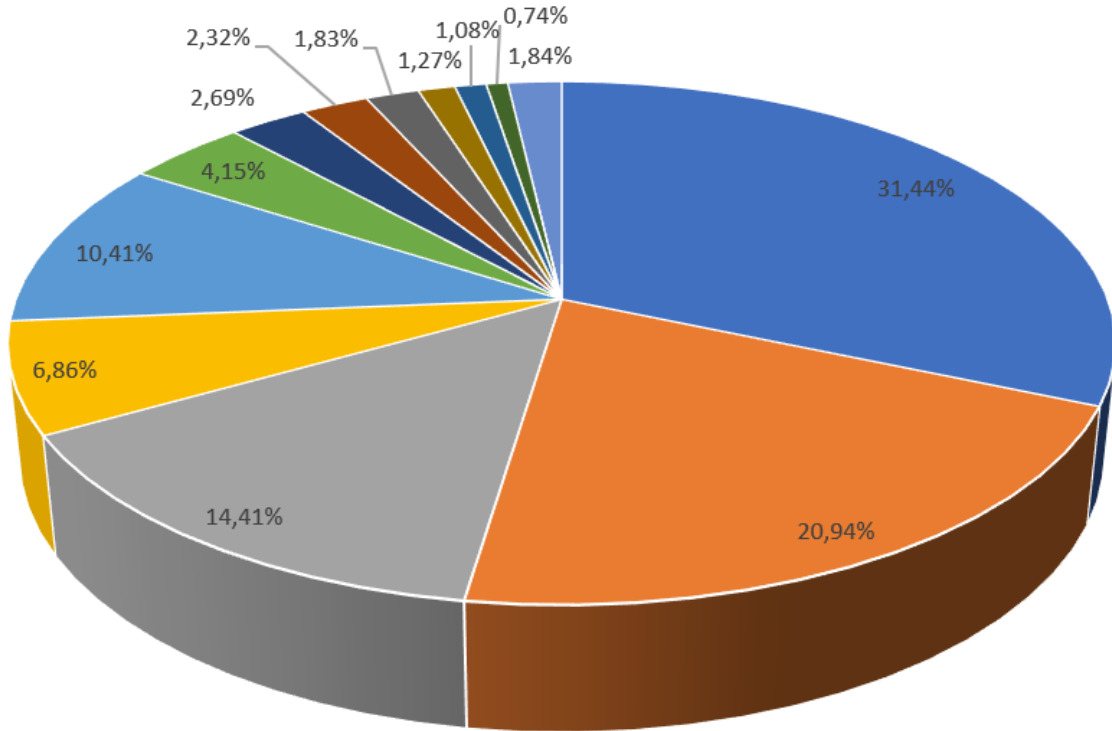
ADDITIONAL IMPACTS	Unit	A1-A3	C1	C2	C3	C4	D
<b>PM</b>	<b>Disease incidence</b>	6,14E-08	0,00E+00	8,89E-09	0,00E+00	1,96E-07	0,00E+00
<b>IRP<sup>4</sup></b>	<b>kBq U235 eq</b>	2,54E-01	0,00E+00	9,83E-03	0,00E+00	1,35E-02	0,00E+00
<b>ETP-FW</b>	<b>CTUe</b>	2,66E+01	0,00E+00	1,38E+00	0,00E+00	2,58E+00	0,00E+00
<b>HTP-c</b>	<b>CTUh</b>	6,91E-10	0,00E+00	5,11E-11	0,00E+00	2,47E-10	0,00E+00
<b>HTP-nc</b>	<b>CTUh</b>	1,68E-08	0,00E+00	1,46E-09	0,00E+00	1,19E-08	0,00E+00
<b>SQP</b>	<b>dimensionless</b>	5,71E+01	0,00E+00	1,26E+00	0,00E+00	2,11E+00	0,00E+00

<sup>4</sup> Ionizing radiation potential (IRP) impact category 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 materials is also not measured by this indicator.

► **Interpretation**

Plasterboard production - Global Warming Potential Contribution

Plasterboard production - Global Warming Potential Contribution



- Emissions from plasterboard production
- Emissions from gypsum crushing and baking
- Paper production
- LPG production
- Electricity
- Transportation
- Plasticiser production
- Heavy fuel oil production
- Emissions from gypsum ore mining
- Glass fibre production
- Vinyl acetate production
- Packaging
- Other

► **Additional information**

The EPD does not give information on release of dangerous substances to soil, water and indoor air because the horizontal standards on measurement of release of regulated dangerous substances from construction products using harmonized test methods according to the provisions of the respective technical committees for European product standards are not available.

## ► Programme related information



### Programme

The international EPD System [www.environdec.com](http://www.environdec.com)



### Website

[www.environdec.com](http://www.environdec.com)



### Address

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The CEN standard EN 15804 serves as the core Product Category Rules  
PCR 2019:14 Construction products (EN 15804:A2); Version 1.2.4 ; 2022-09-07  
PCR review was conducted by

The Technical Committee of the International EPD® System.

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

EPD process certification  EPD verification

Verification by:



Business Quality Verification P.C, Accredited by E.S.Y.D, Accreditation No. 1218  
144 Septemvriou 3rd Str., Athens 112 51

EPD owner



[www.knauf.gr](http://www.knauf.gr)

LCA Accountability



**ENVIROMETRICS**  
Business Consultants & Engineers

[www.envirometrics.gr](http://www.envirometrics.gr)

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

Yes  No

The EPD owner has the sole ownership, liability and responsibility of the EPD. EPDs within the same product category but registered in different EPD programmes, 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 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 equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

## ► References

**General Programme Instructions** of the International EPD® System. Version 4.0, 2021-03-29

**PCR 2019:14** v.1.2.4 Construction products. EPD System. Date 2022-09-07. Valid until 2024-12-20

**EN 15804:2012+A2:2019**, Sustainability of construction works - Environmental Product Declarations — Core rules for the product category of construction products

**ISO 14020:2000** Environmental labels and declarations — General principles

**ISO 14025:2006** Environmental labels and declarations - Type III environmental declarations — Principles and procedures

**ISO 14040:2006** Environmental management - Life cycle assessment-Principles and framework

**ISO 14044:2006** Environmental management - Life cycle assessment - Requirements and guidelines

**Ecoinvent / Ecoinvent Centre**, [www.Ecoinvent.org](http://www.Ecoinvent.org)

**Residual Energy Mix 2020** from Renewable Energy Sources Operator & Guarantees of Origin (DAPEEP SA)

► **List of abbreviations**

<b>LCA</b>	Life Cycle assessment
<b>EPD</b>	Environmental Product Declaration
<b>PCR</b>	Product category rules
<b>GLO</b>	Global
<b>RER</b>	Europe
<b>RoW</b>	Rest of the world
<b>GWP-total</b>	Global Warming Potential total
<b>GWP-fossil</b>	Global Warming Potential fossil
<b>GWP-biogenic</b>	Global Warming Potential biogenic
<b>GWP-luluc</b>	Global Warming Potential land use and land use change
<b>ODP</b>	Ozone Depletion Potential
<b>AP</b>	Acidification Potential
<b>EP-freshwater</b>	Eutrophication potential, fraction of nutrients reaching freshwater end compartment
<b>EP-marine</b>	Eutrophication Potential fraction of nutrients reaching marine end compartment
<b>EP-terrestrial</b>	Eutrophication potential, Accumulated Exceedance
<b>POCP</b>	Formation potential of tropospheric ozone photochemical oxidants
<b>ADPe</b>	Abiotic depletion potential for non-fossil resources
<b>ADPf</b>	Abiotic depletion potential for fossil resources
<b>WDP</b>	Water use
<b>PERE</b>	Use of renewable primary energy excluding resources used as raw materials
<b>PERM</b>	Use of renewable primary energy resources used as raw materials
<b>PERT</b>	Total use of renewable primary energy resources
<b>PENRE</b>	Use of non-renewable primary energy excluding resources used as raw materials
<b>PENRM</b>	Use of non-renewable primary energy resources used as raw materials
<b>PENRT</b>	Total use of non-renewable primary energy resources
<b>SM</b>	Use of secondary material
<b>RSF</b>	Use of renewable secondary fuels
<b>NRSF</b>	Use of non-renewable secondary fuels
<b>FW</b>	Use of net fresh water
<b>HWD</b>	Hazardous waste disposed
<b>NHWD</b>	Non-hazardous waste disposed
<b>RWD</b>	Radioactive waste disposed
<b>CRU</b>	Components for re-use
<b>MFR</b>	Materials for recycling
<b>MER</b>	Materials for energy recovery
<b>EE</b>	Exported Energy
<b>PM</b>	Particulate matter emissions
<b>IRP</b>	Ionizing radiation, human health
<b>ETP-FW</b>	Ecotoxicity, freshwater
<b>HTP-c</b>	Human toxicity, cancer
<b>HTP-nc</b>	Human toxicity, non-cancer
<b>SQP</b>	Land use related impacts/Soil quality

# ENVIRONMENTAL PRODUCT DECLARATION OF KNAUF PLASTERBOARDS

In accordance with ISO 14025 and EN 15804:2012+A2:2019

ΕΡΕΥΝΑ  
& ΑΝΑΠΤΥΞΗ

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