



# ENVIRONMENTAL PRODUCT DECLARATION

## KNAUF gypsum plasterboard

Knauf White  
Knauf Green  
Knauf Red  
Knauf KTS  
Knauf Brown  
Knauf Hartplatte  
Knauf Formplatte  
Knauf Blue



Version

1.0

Publication date:

2019-11-29

Valid until:

2024-11-29

*In accordance with EN 15804+A1 and ISO 14025*

**Third party verifier:** Marcel Gómez Consultoría Ambiental



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

☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804.

### COMPANY INFORMATION

**Owner of the EPD:****KNAUF SIA**

Daugavas street 4  
Sauriesi, Stopinu novads.  
Latvija LV2118  
<http://www.Knauf.lv>

**Contact person**

Plant manager  
Arnis Ivanovs  
[Ivanovs.arnis@knauf.lv](mailto:Ivanovs.arnis@knauf.lv)

**Description of the organization:** KNAUF is multinational company headquarter at Iphofen in Germany, founded in 1932. It is one of the world's leading manufacturers of modern insulation materials, dry lining systems, plasters and accessories, thermal insulation composite systems, paints, floor screed, floor systems, and construction equipment and tools. KNAUF is organized in more than 86 countries in 220 different sites worldwide.

KNAUF in Latvia was founded in 1994 and account a cement plant and a gypsum board factory. They produce systems for walls and floors, cement for manual or mechanical application but also adhesives, silicones and household chemicals.

For additional information about KNAUF SIA in Latvia please visit the company web site at <http://www.Knauf.lv>.

**Product-related or management system-related certifications:** Declared products are manufactured in the KNAUF Sauriesi, Stopinu novads plant in Latvia. Company's management system of this plant is certified according to ISO 9001:2008, ISO 14001:2015, ISO 50001:2012 and OHSAS 18001:2007.

**Name and location of production site** KNAUF Sauriesi, Stopinu novads production plant in Latvia.



KNAUF Sauriesi, Stopinu novads production plant in Latvia

## PRODUCTS INFORMATION

### Product name:

This product family covers the following references:

- Knauf White
- Knauf Green
- Knauf Red
- Knauf KTS
- Knauf Brown
- Knauf Hartplatte
- Knauf Formplatte
- Knauf Blue

Impacts of all the declared products differ from more than 10% so results have been presented in separate tables.

**UN CPC code:** 37530 Articles of plaster or of compositions based on plaster

### Geographical scope:

- Manufactured in Latvia.
- Use in Baltic States (Estonia, Latvia, Lithuania).

### Product description:

The declared plasterboard consist of gypsum plasterboard with paper lining. They are used in several areas of interior and exterior construction. Products have different characteristics corresponding to different applications as cladding for floors, drywall systems with increased demands on sound insulation or fire protection in indoor use, but also for external wall construction systems.

### Physical characteristics and applications:

Reference products	Description			Technical characteristics		Application
Knauf products	Thick (mm)	Board weight (kg/m²)	Packaging (kg)	Thermal conductivity W/(m.K)	Water vapor diffusion resistance $\mu$	
Knauf White	12.5	≥ 8,5	0.13	0.21 (EN ISO 10456)	10/4 (EN ISO 10456)	Drywall systems without special requirements – Indoor use
Knauf Green	12.5	≥ 8,5	0.13	0.21 (EN ISO 10456)	10/4 (EN ISO 10456)	Drywall systems in rooms with moderately high humidity – Indoor use
Knauf Red	12.5	≥ 10.0	0.13	0.25 (EN ISO 10456)	10/4 (EN ISO 10456)	Drywall systems with enhanced fire protection - Indoor use
	15	≥ 12.0				
Knauf KTS	9.5	≥ 6.5	0.13	0.25 (EN ISO 10456)	15 (EN ISO 12572)	Thermal insulation materials from wind and cold air – external wall construction systems
Knauf Brown	12.5	≥ 12.0	0.13	0.25 (EN ISO 10456)	10/4 (EN ISO 10456)	For floors – indoor use
Knauf Hartplatte	12.5	≥ 11.0	0.13	0.25 (EN ISO 10456)	10/4 (EN ISO 10456)	Drywall systems with enhanced fire protection and mechanical resistance properties- Indoor use
Knauf Formplatte	6.5	≥ 5.5	0.13	0.25 (EN ISO 10456)	10/4 (EN ISO 10456)	Drywall systems with various curves shapes
Knauf Blue	12.5	≥ 12.9	0.13	0.25 (EN ISO 10456)	10/4 (EN ISO 10456)	Drywall systems with enhanced requirements for sound insulation and fire protection, in rooms with moderately high humidity – indoor use
	15	≥ 14.5		0.25 (EN ISO 10456)	10/4 (EN ISO 10456)	

According to norm EN520 B annex, for all the gypsumboards declared, plate reaction to fire has class A2-s1, d0.

## LCA : CALCULATION RULES

### DECLARED UNIT

Declared unit adopted for each declared products are: "To produce 1 m<sup>2</sup> of gypsum board".

### REFERENCE SERVICE LIFE

According to EN 15805+A1:2014, as is a "cradle-to-gate" EPD no RSL (Reference service life) can be declared. The RSL is unspecified.

### TIME REPRESENTATIVENESS

Data were collected by KNAUF from August 2019 to September 2019 and are representative of 2018 manufacturing technologies.

### DATABASE AND LCA SOFTWARE USED

Databases used are BDD CODDE-2018-11, ELDC version 3.2 and Ecoinvent 3.0.1 Allocation at the point of substitution. The software used is EIME V5.8.1.

Environmental indicators calculated according to EN 15804 (CEM baseline).

### DESCRIPTION OF SYSTEM BOUNDARIES

As gypsum plasterboard is an intermediate product, it is generally not possible to provide information about the environmental impacts of the products during the construction, the use and the end of life stages because they greatly depend on the gypsum board end used. Hence a cradle-to-gate LCA is preferred for the plasterboard: including A1 to A3 stages.

Hence, as is not relevant for this kind of product, life cycle stages from A4 to D have been excluded.

Energetic consumption and waste production have been allocated per m<sup>2</sup> of final product.

### CUT-OFF CRITERIA

Flows that can be excluded from the study because of the difficulty of attributing them to a particular reference flow are the following:

- The lighting, heating, sanitation and cleaning of facilities
- The transportation of employees and the staff catering facilities.
- The manufacture and maintenance of production tools and infrastructures
- Flows from R&D, administrative, management, and marketing poles.

The proportion of non-modelled elements is in compliance with the 1 % of renewable and non-renewable primary energy usage and the 1%-in-weight cut-off rule over the life-cycle considered. The total of neglected input flows per module, e.g. per module A1-A3 shall be a maximum of 5 % of energy usage and mass.

### ADDITIONAL ENVIRONMENTAL INFORMATION

#### About all the declared products:

- For the reinforcing glass fiber additives, the fiber size is bigger than 3 µm and their dust is lung-safe.
- Volatile Organic Compounds (VOC) levels of the declared products are very low (<0.2 mg/m<sup>2</sup>.h) according to EN15271:2007 classification as defined in EN ISO 16000-9:2006 and ISO 16000-3:2001 in finished panels
- The treatment of plate waste must be carried out in accordance with the requirements for construction waste treatment demands.

#### About the company:

- KNAUF is participant in the CO<sub>2</sub> emissions trading scheme
- The company is entitled to use the FSC trademark for the production and trade of packaging carton, technical carton and test line

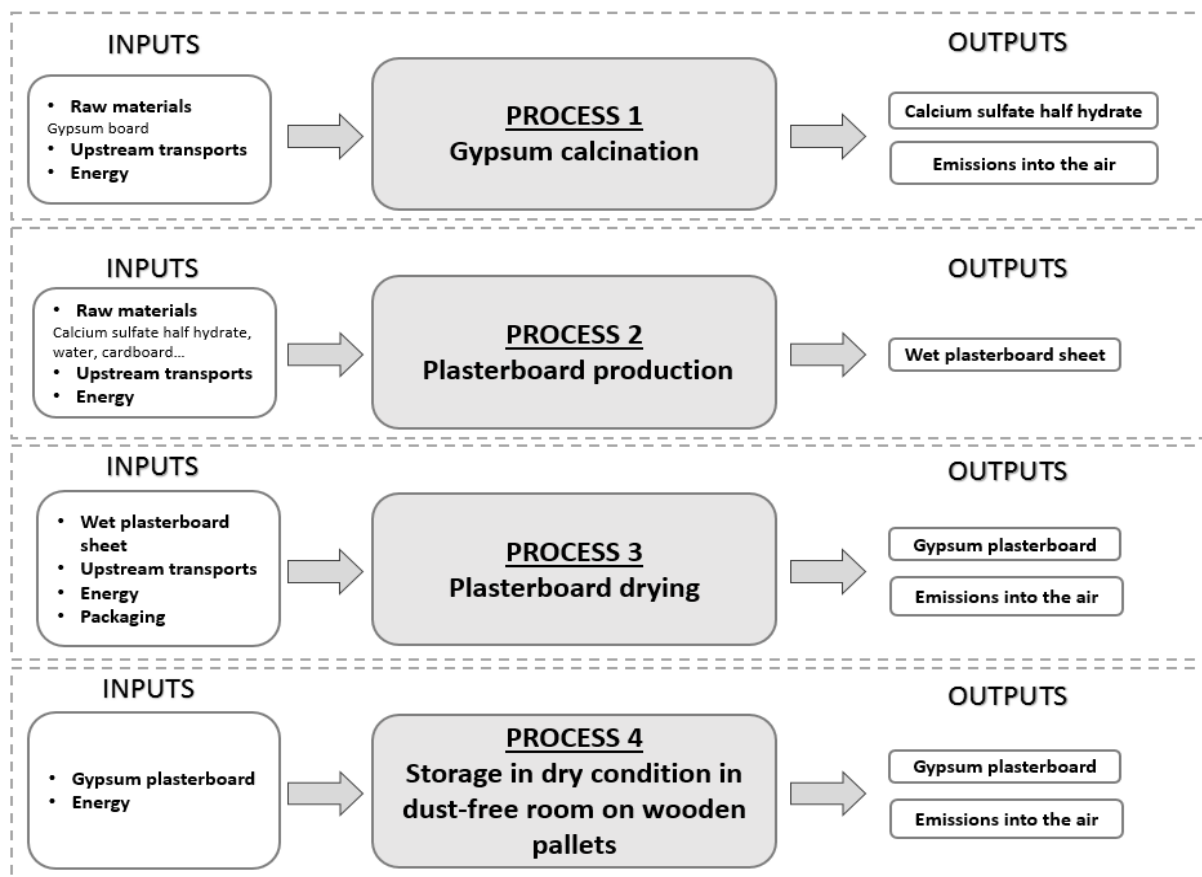


## CRADLE-TO-GATE SYSTEM BOUNDARIES DIAGRAM

Life Cycle Stages																
Building life-cycle information																Benefits and loads beyond the system boundary
Manufacturing stage			Construction process stage		Use stage							End of life stage				Other environmental information
Raw material supply	Transport	Manufacturing	Transport	Construction - installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction - demolition	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
✓			MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

- **A1 - Raw material supply:** extraction and processing of raw materials. Generation of electricity, steam and heat from primary energy resources, also including their extraction, refining and transport. This also includes energy needed for raw material supply and energy for manufacturing in core process.
- **A2 - Transportation:** external transportation to the manufacturing plant and internal transport
- **A3 - Manufacturing:**
  - The recycling process of any purchased recycled material and the transport from the recycling process to where the material is used.
  - Manufacturing of the construction product.
  - Packing materials etc. used.
  - Production of ancillary materials or pre-products;
  - Treatment of waste generated from the manufacturing processes. Processing up to the end-of-waste

## FLOW DIAGRAM OF PROUCT MANUFACTURING



## CONTENT DECLARATION

Product references	Constituent materials					
Knauf	Calcium sulfate half hydrate	Cardboard	Water	Glass fiber	Additive	Packaging
Knauf White	80%	4%	14%	1%	-	1%
Knauf Green	81%	4%	12%	1%	-	1%
Knauf Red 12.5	82%	3%	12%	1%	-	1%
Knauf Red 15	80%	2%	16%	1%	-	1%
Knauf KTS	81%	5%	10%	-	2%	2%
Knauf Brown	82%	3%	13%	1%	-	1%
Knauf Hartplatte	81%	4%	14%	1%	-	1%
Knauf Formplatte	79%	6%	12%	1%	-	2%
Knauf Blue 12.5	83%	3%	13%	1%	-	1%
Knauf Blue 15	84%	3%	11%	1%	-	1%

During the life cycle of the product any hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” has been used in a percentage higher than 0.1% of the weight of the product.

**Packaging**

Distribution packaging: a packaging is used to store gypsum plasterboard. It is composed of wood pallets, plastic film, metal corners and polypropylene strapping.

Consumer packaging: No packaging, delivered as bulk material

**Recycled material**

Provenience of recycled materials (pre-consumer or post-consumer) in the product: Each declared gypsum plasterboard in this EPD contain recycled gypsum board. 2% of the total amount of gypsum stone used as raw materials is recycled gypsum board.



## ENVIRONMENTAL PERFORMANCE

### KNAUF WHITE (1M<sup>2</sup>, THICKNESS 12.5MM)

Impacts of 1m<sup>2</sup> of Knauf White 12.5 mm thick.

### POTENTIAL ENVIRONMENTAL IMPACT

Indicator	Global Warming Power (GWP)	Depletion potential of the stratospheric ozone layer (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Formation potential of tropospheric ozone (POCP)	Abiotic depletion potential – Elements	Abiotic depletion potential – Fossil resources
	kg CO <sub>2</sub> -eq	kg CFC11-eq	kg SO <sub>2</sub> -eq	kg PO <sub>4</sub> <sup>3-</sup> -eq	kg C <sub>2</sub> H <sub>4</sub> -eq	kg Sb-eq	MJ
<b>A1-A3</b>	1,74E+00	3,80E-08	2,82E-03	7,88E-04	1,36E-04	1,44E-06	2,47E+01
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND

### USE OF RESSOURCES (PRIMARY ENERGETIC AND WATER RESSOURCES)

Indicator	Primary energy resources – Renewable			Primary energy resources – Non-renewable			Secondary material	Renewable secondary fuels	Non-renewable secondary fuels	Net use of fresh water
	Use as energy carrier	Used as raw materials	TOTAL	Use as energy carrier	Used as raw materials	TOTAL				
	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	kg	MJ, net calorific value	MJ, net calorific value	m <sup>3</sup>
<b>A1-A3</b>	8,17E+00	2,47E+00	1,06E+01	2,54E+01	2,68E-02	2,55E+01	3,40E-01	0,00E+00	0,00E+00	7,48E-03
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

## WASTE PRODUCTION AND OUTPUT FLOWS

### Waste production

Indicator	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
	kg	kg	kg
A1-A3	6,95E-04	1,47E-01	6,48E-05
A4-D	MND	MND	MND

### Output flows

Indicator	Components for reuse	Material for recycling	Materials for energy recovery	Exported energy
	kg	kg	kg	MJ
A1-A3	0,00E+00	0,00E+00	0,00E+00	0,00E+00
A4-D	MND	MND	MND	MND

## KNAUF GREEN (1M<sup>2</sup>, THICKNESS 12.5MM)

Impacts of 1m<sup>2</sup> of Knauf Green 12.5 mm thick.

### POTENTIAL ENVIRONMENTAL IMPACT

Indicator	Global Warming Power (GWP)	Depletion potential of the stratospheric ozone layer (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Formation potential of tropospheric ozone (POCP)	Abiotic depletion potential – Elements	Abiotic depletion potential – Fossil resources
	kg CO <sub>2</sub> -eq	kg CFC11-eq	kg SO <sub>2</sub> -eq	kg PO <sub>4</sub> <sup>3-</sup> -eq	kg C <sub>2</sub> H <sub>4</sub> -eq	kg Sb-eq	MJ
<b>A1-A3</b>	1,82E+00	4,32E-08	3,31E-03	8,84E-04	1,54E-04	1,73E-06	2,54E+01
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND

### USE OF RESSOURCES (PRIMARY ENERGETIC AND WATER RESSOURCES)

Indicator	Primary energy resources – Renewable			Primary energy resources – Non-renewable			Secondary material	Renewable secondary fuels	Non-renewable secondary fuels	Net use of fresh water
	Use as energy carrier	Used as raw materials	TOTAL	Use as energy carrier	Used as raw materials	TOTAL				
	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value				
<b>A1-A3</b>	8,26E+00	2,47E+00	1,07E+01	2,61E+01	2,68E-02	2,62E+01	3,40E-01	0,00E+00	0,00E+00	8,33E-03
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

### Waste production

Indicator	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
	kg	kg	kg
A1-A3	6,95E-04	1,52E-01	6,71E-05
A4-D	MND	MND	MND

### Output flows

Indicator	Components for reuse	Material for recycling	Materials for energy recovery	Exported energy
	kg	kg	kg	MJ
A1-A3	0,00E+00	0,00E+00	0,00E+00	0,00E+00
A4-D	MND	MND	MND	MND

## KNAUF RED 12.5 (1M<sup>2</sup>, THICKNESS 12.5MM)

Impacts of 1m<sup>2</sup> of Knauf Red 12.5 mm thick.

### POTENTIAL ENVIRONMENTAL IMPACT

Indicator	Global Warming Power (GWP)	Depletion potential of the stratospheric ozone layer (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Formation potential of tropospheric ozone (POCP)	Abiotic depletion potential – Elements	Abiotic depletion potential – Fossil resources
	kg CO <sub>2</sub> -eq	kg CFC11-eq	kg SO <sub>2</sub> -eq	kg PO <sub>4</sub> <sup>3-</sup> -eq	kg C <sub>2</sub> H <sub>4</sub> -eq	kg Sb-eq	MJ
<b>A1-A3</b>	1,93E+00	4,08E-08	3,10E-03	8,77E-04	1,49E-04	1,60E-06	2,74E+01
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND

### USE OF RESSOURCES (PRIMARY ENERGETIC AND WATER RESSOURCES)

Indicator <b>A1-A3</b>	Primary energy resources – Renewable			Primary energy resources – Non-renewable			Secondary material	Renewable secondary fuels	Non-renewable secondary fuels	Net use of fresh water
	Use as energy carrier	Used as raw materials	TOTAL	Use as energy carrier	Used as raw materials	TOTAL				
	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value				
	8,23E+00	2,47E+00	1,07E+01	2,82E+01	2,68E-02	2,82E+01				
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

### Waste production

Indicator	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
	kg	kg	kg
A1-A3	6,95E-04	1,67E-01	7,39E-05
A4-D	MND	MND	MND

### Output flows

Indicator	Components for reuse	Material for recycling	Materials for energy recovery	Exported energy
	kg	kg	kg	MJ
A1-A3	0,00E+00	0,00E+00	0,00E+00	0,00E+00
A4-D	MND	MND	MND	MND



## KNAUF RED 15 (1M<sup>2</sup>, THICKNESS 15MM)

Impacts of 1m<sup>2</sup> of Knauf Red 15 mm thick.

### POTENTIAL ENVIRONMENTAL IMPACT

Indicator	Global Warming Power (GWP)	Depletion potential of the stratospheric ozone layer (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Formation potential of tropospheric ozone (POCP)	Abiotic depletion potential – Elements	Abiotic depletion potential – Fossil resources
	kg CO <sub>2</sub> -eq	kg CFC11-eq	kg SO <sub>2</sub> -eq	kg PO <sub>4</sub> <sup>3-</sup> -eq	kg C <sub>2</sub> H <sub>4</sub> -eq	kg Sb-eq	MJ
<b>A1-A3</b>	2,40E+00	4,55E-08	3,54E-03	1,03E-03	1,75E-04	1,87E-06	3,44E+01
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND

### USE OF RESSOURCES (PRIMARY ENERGETIC AND WATER RESSOURCES)

Indicator	Primary energy resources – Renewable			Primary energy resources – Non-renewable			Secondary material	Renewable secondary fuels	Non-renewable secondary fuels	Net use of fresh water
	Use as energy carrier	Used as raw materials	TOTAL	Use as energy carrier	Used as raw materials	TOTAL				
	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	kg	MJ, net calorific value	MJ, net calorific value	m <sup>3</sup>
<b>A1-A3</b>	8,60E+00	2,47E+00	1,11E+01	3,53E+01	2,68E-02	3,53E+01	3,30E-01	0,00E+00	0,00E+00	4,54E-02
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

## WASTE PRODUCTION AND OUTPUT FLOWS

### Waste production

Indicator	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
	kg	kg	kg
A1-A3	7,60E-04	2,16E-01	9,53E-05
A4-D	MND	MND	MND

### Output flows

Indicator	Components for reuse	Material for recycling	Materials for energy recovery	Exported energy
	kg	kg	kg	MJ
A1-A3	0,00E+00	0,00E+00	0,00E+00	0,00E+00
A4-D	MND	MND	MND	MND

## KNAUF KTS (1M<sup>2</sup>, THICKNESS 12.5MM)

Impacts of 1m<sup>2</sup> of Knauf KTS 12.5 mm thick.

### POTENTIAL ENVIRONMENTAL IMPACT

Indicator	Global Warming Power (GWP)	Depletion potential of the stratospheric ozone layer (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Formation potential of tropospheric ozone (POCP)	Abiotic depletion potential – Elements	Abiotic depletion potential – Fossil resources
	kg CO <sub>2</sub> -eq	kg CFC11-eq	kg SO <sub>2</sub> -eq	kg PO <sub>4</sub> <sup>3-</sup> -eq	kg C <sub>2</sub> H <sub>4</sub> -eq	kg Sb-eq	MJ
<b>A1-A3</b>	1,63E+00	4,15E-08	3,16E-03	8,14E-04	1,45E-04	1,67E-06	2,25E+01
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND

### USE OF RESSOURCES (PRIMARY ENERGETIC AND WATER RESSOURCES)

Indicator	Primary energy resources – Renewable			Primary energy resources – Non-renewable			Secondary material	Renewable secondary fuels	Non-renewable secondary fuels	Net use of fresh water
	Use as energy carrier	Used as raw materials	TOTAL	Use as energy carrier	Used as raw materials	TOTAL				
	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value				
<b>A1-A3</b>	8,04E+00	2,47E+00	1,05E+01	2,32E+01	2,68E-02	2,32E+01	3,40E-01	0,00E+00	0,00E+00	7,06E-03
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

### Waste production

Indicator	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
	kg	kg	kg
A1-A3	6,95E-04	1,21E-01	5,24E-05
A4-D	MND	MND	MND

### Output flows

Indicator	Components for reuse	Material for recycling	Materials for energy recovery	Exported energy
	kg	kg	kg	MJ
A1-A3	0,00E+00	0,00E+00	0,00E+00	0,00E+00
A4-D	MND	MND	MND	MND

## KNAUF BROWN (1M<sup>2</sup>, THICKNESS 12.5MM)

Impacts of 1m<sup>2</sup> of Knauf Brown 12.5 mm thick.

### POTENTIAL ENVIRONMENTAL IMPACT

Indicator	Global Warming Power (GWP)	Depletion potential of the stratospheric ozone layer (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Formation potential of tropospheric ozone (POCP)	Abiotic depletion potential – Elements	Abiotic depletion potential – Fossil resources
	kg CO <sub>2</sub> -eq	kg CFC11-eq	kg SO <sub>2</sub> -eq	kg PO <sub>4</sub> <sup>3-</sup> -eq	kg C <sub>2</sub> H <sub>4</sub> -eq	kg Sb-eq	MJ
<b>A1-A3</b>	2,20E+00	4,10E-08	3,05E-03	9,37E-04	1,53E-04	1,50E-06	3,19E+01
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND

### USE OF RESSOURCES (PRIMARY ENERGETIC AND WATER RESSOURCES)

Indicator	Primary energy resources – Renewable			Primary energy resources – Non-renewable			Secondary material	Renewable secondary fuels	Non-renewable secondary fuels	Net use of fresh water
	Use as energy carrier	Used as raw materials	TOTAL	Use as energy carrier	Used as raw materials	TOTAL				
	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value				
<b>A1-A3</b>	9,59E+00	2,47E+00	1,21E+01	3,28E+01	2,68E-02	3,28E+01	4,00E-01	0,00E+00	0,00E+00	9,33E-03
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

### Waste production

Indicator	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
	kg	kg	kg
A1-A3	6,95E-04	2,07E-01	9,13E-05
A4-D	MND	MND	MND

### Output flows

Indicator	Components for reuse	Material for recycling	Materials for energy recovery	Exported energy
	kg	kg	kg	MJ
A1-A3	0,00E+00	0,00E+00	0,00E+00	0,00E+00
A4-D	MND	MND	MND	MND



## KNAUF HARTPLATTE (1M<sup>2</sup>, THICKNESS 12.5MM)

Impacts of 1m<sup>2</sup> of Knauf Hartplatte 12.5 mm thick.

### POTENTIAL ENVIRONMENTAL IMPACT

Indicator	Global Warming Power (GWP)	Depletion potential of the stratospheric ozone layer (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Formation potential of tropospheric ozone (POCP)	Abiotic depletion potential – Elements	Abiotic depletion potential – Fossil resources
	kg CO <sub>2</sub> -eq	kg CFC11-eq	kg SO <sub>2</sub> -eq	kg PO <sub>4</sub> <sup>3-</sup> -eq	kg C <sub>2</sub> H <sub>4</sub> -eq	kg Sb-eq	MJ
<b>A1-A3</b>	2,04E+00	4,04E-08	2,85E-03	8,66E-04	1,39E-04	1,44E-06	2,96E+01
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND

### USE OF RESSOURCES (PRIMARY ENERGETIC AND WATER RESSOURCES)

Indicator	Primary energy resources – Renewable			Primary energy resources – Non-renewable			Secondary material	Renewable secondary fuels	Non-renewable secondary fuels	Net use of fresh water
	Use as energy carrier	Used as raw materials	TOTAL	Use as energy carrier	Used as raw materials	TOTAL				
	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value				
<b>A1-A3</b>	1,01E+01	2,47E+00	1,25E+01	3,04E+01	2,68E-02	3,04E+01	4,40E-01	0,00E+00	0,00E+00	8,47E-03
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

### Waste production

Indicator	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
	kg	kg	kg
A1-A3	6,95E-04	1,85E-01	8,05E-05
A4-D	MND	MND	MND

### Output flows

Indicator	Components for reuse	Material for recycling	Materials for energy recovery	Exported energy
	kg	kg	kg	MJ
A1-A3	0,00E+00	0,00E+00	0,00E+00	0,00E+00
A4-D	MND	MND	MND	MND

## KNAUF FORMPLATTE (1M<sup>2</sup>, THICKNESS 12.5MM)

Impacts of 1m<sup>2</sup> of Knauf Formplatte 12.5 mm thick.

### POTENTIAL ENVIRONMENTAL IMPACT

Indicator	Global Warming Power (GWP)	Depletion potential of the stratospheric ozone layer (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Formation potential of tropospheric ozone (POCP)	Abiotic depletion potential – Elements	Abiotic depletion potential – Fossil resources
	kg CO <sub>2</sub> -eq	kg CFC11-eq	kg SO <sub>2</sub> -eq	kg PO <sub>4</sub> <sup>3-</sup> -eq	kg C <sub>2</sub> H <sub>4</sub> -eq	kg Sb-eq	MJ
<b>A1-A3</b>	1,23E+00	2,86E-08	1,91E-03	5,43E-04	9,31E-05	9,10E-07	1,76E+01
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND

### USE OF RESSOURCES (PRIMARY ENERGETIC AND WATER RESSOURCES)

Indicator	Primary energy resources – Renewable			Primary energy resources – Non-renewable			Secondary material	Renewable secondary fuels	Non-renewable secondary fuels	Net use of fresh water
	Use as energy carrier	Used as raw materials	TOTAL	Use as energy carrier	Used as raw materials	TOTAL				
	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value				
<b>A1-A3</b>	7,72E+00	2,47E+00	1,02E+01	1,82E+01	2,68E-02	1,83E+01	3,40E-01	0,00E+00	0,00E+00	4,89E-03
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

### Waste production

Indicator	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
	kg	kg	kg
A1-A3	6,94E-04	1,02E-01	4,36E-05
A4-D	MND	MND	MND

### Output flows

Indicator	Components for reuse	Material for recycling	Materials for energy recovery	Exported energy
	kg	kg	kg	MJ
A1-A3	0,00E+00	0,00E+00	0,00E+00	0,00E+00
A4-D	MND	MND	MND	MND

## KNAUF BLUE 12.5 (1M<sup>2</sup>, THICKNESS 12.5MM)

Impacts of 1m<sup>2</sup> of Knauf Blue 12.5 mm thick.

### POTENTIAL ENVIRONMENTAL IMPACT

Indicator	Global Warming Power (GWP)	Depletion potential of the stratospheric ozone layer (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Formation potential of tropospheric ozone (POCP)	Abiotic depletion potential – Elements	Abiotic depletion potential – Fossil resources
	kg CO <sub>2</sub> -eq	kg CFC11-eq	kg SO <sub>2</sub> -eq	kg PO <sub>4</sub> <sup>3-</sup> -eq	kg C <sub>2</sub> H <sub>4</sub> -eq	kg Sb-eq	MJ
<b>A1-A3</b>	2,29E+00	4,62E-08	3,55E-03	1,04E-03	1,73E-04	1,79E-06	3,28E+01
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND

### USE OF RESSOURCES (PRIMARY ENERGETIC AND WATER RESSOURCES)

Indicator	Primary energy resources – Renewable			Primary energy resources – Non-renewable			Secondary material	Renewable secondary fuels	Non-renewable secondary fuels	Net use of fresh water
	Use as energy carrier	Used as raw materials	TOTAL	Use as energy carrier	Used as raw materials	TOTAL				
	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	kg	MJ, net calorific value	MJ, net calorific value	m <sup>3</sup>
<b>A1-A3</b>	9,99E+00	2,47E+00	1,25E+01	3,37E+01	2,68E-02	3,37E+01	4,20E-01	0,00E+00	0,00E+00	9,58E-03
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

### Waste production

Indicator	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
	kg	kg	kg
A1-A3	6,95E-04	2,02E-01	8,86E-05
A4-D	MND	MND	MND

### Output flows

Indicator	Components for reuse	Material for recycling	Materials for energy recovery	Exported energy
	kg	kg	kg	MJ
A1-A3	0,00E+00	0,00E+00	0,00E+00	0,00E+00
A4-D	MND	MND	MND	MND



## KNAUF BLUE 15 (1M<sup>2</sup>, THICKNESS 15MM)

Impacts of 1m<sup>2</sup> of Knauf Blue 15 mm thick.

### POTENTIAL ENVIRONMENTAL IMPACT

Indicator	Global Warming Power (GWP)	Depletion potential of the stratospheric ozone layer (ODP)	Acidification potential (AP)	Eutrophication potential (EP)	Formation potential of tropospheric ozone (POCP)	Abiotic depletion potential – Elements	Abiotic depletion potential – Fossil resources
	kg CO <sub>2</sub> -eq	kg CFC11-eq	kg SO <sub>2</sub> -eq	kg PO <sub>4</sub> <sup>3-</sup> -eq	kg C <sub>2</sub> H <sub>4</sub> -eq	kg Sb-eq	MJ
<b>A1-A3</b>	2,66E+00	5,68E-08	4,53E-03	1,27E-03	2,15E-04	2,36E-06	3,75E+01
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND

### USE OF RESSOURCES (PRIMARY ENERGETIC AND WATER RESSOURCES)

Indicator	Primary energy resources – Renewable			Primary energy resources – Non-renewable			Secondary material	Renewable secondary fuels	Non-renewable secondary fuels	Net use of fresh water
	Use as energy carrier	Used as raw materials	TOTAL	Use as energy carrier	Used as raw materials	TOTAL				
	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	MJ, net calorific value	kg	MJ, net calorific value	MJ, net calorific value	m <sup>3</sup>
<b>A1-A3</b>	1,03E+01	2,47E+00	1,28E+01	3,85E+01	2,68E-02	3,85E+01	4,20E-01	0,00E+00	0,00E+00	1,25E-02
<b>A4-D</b>	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

### Waste production

Indicator	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
	kg	kg	kg
A1-A3	6,96E-04	2,42E-01	1,08E-04
A4-D	MND	MND	MND

### Output flows

Indicator	Components for reuse	Material for recycling	Materials for energy recovery	Exported energy
	kg	kg	kg	MJ
A1-A3	0,00E+00	0,00E+00	0,00E+00	0,00E+00
A4-D	MND	MND	MND	MND

## REFERENCES

**EIME software, Version 5.8.** – database : CODDE-2018-11 (updated November 2018)

**EIME v5 guides1 2:** for the modelling of the different processes

**NF EN 15804+A1:** Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction

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

**LCA report**

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*This declaration has been done in compliance with EN 15804+A1 and ISO 14025:2006. At the moment, this declaration is not registered in a programme operator.*

# KNAUF



L C I E

**LCA study made by:** LCIE Bureau Veritas CODDE department

**Project management:** provided by Bureau Veritas Latvia ([riga@lv.bureauveritas.com](mailto:riga@lv.bureauveritas.com))

Phone: +37167323246

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CODDE – Département du LCIE Bureau Veritas  
170 rue de Chatagnon – 38430 MOIRANS - +33 (0)4 76 07 36 46  
[codde.fr](http://codde.fr)