

ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	Knauf Gips KG
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-KNG-20260033-IBA1-EN
Issue date	06.03.2026
Valid to	05.03.2031

Knauf Fugenfüller leicht
Knauf Gips KG

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1. General Information

Knauf Gips KG

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-KNG-20260033-IBA1-EN

This declaration is based on the product category rules:

Mineral factory-made mortar, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

06.03.2026

Valid to

05.03.2031



Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)



Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

Knauf Fugenfüller leicht

Owner of the declaration

Knauf Gips KG
Am Bahnhof 7
97346 Iphofen
Germany

Declared product / declared unit

Knauf Fugenfüller leicht is a gypsum-based powder compound with mineral fillers and extenders tailored to its specific application areas, classified as Type 3B filler and fine filler according to *EN 13963*. The declared unit is 1kg.

Scope:

This EPD covers 100 % of manufacture of Knauf Fugenfüller leicht. This product is manufactured in Knauf plant Iphofen II (Germany). The life cycle assessment is based on production data for 2024. In order to enable the user of the EPD to calculate the LCA results for different packaging sizes, the EPD contains the respective calculation rules.

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR		
Independent verification of the declaration and data according to ISO 14025:2011		
☐	internally	☒ externally



Dr.-Ing. Wolfram Trinius,
(Independent verifier)

2. Product

2.1 Product description/Product definition

Knauf Fugenfüller leicht (English name: Knauf Joint Filler) is a gypsum-based powder compound with mineral fillers and extenders tailored to its specific application areas, type 3B filler and fine filler according to *EN 13963*.

For the placing on the market of the product in the European Union/European Free Trade Association (EU/EUFTA) (with the exception of Switzerland) *Regulation (EU) No.305/2011 (CPR)* applies. The product Knauf Fugenfüller leicht needs a declaration of performance taking into consideration *EN 13963:2005 Jointing materials for gypsum plasterboards - Definitions, requirements and test methods*.

2.2 Application

Knauf Fugenfüller leicht is a special gypsum-based synthetically enhanced filler for hand filling joints for hand filling joints of drywall systems. Knauf Fugenfüller leicht can be used for:

- Hand-filling with reinforcement strips, preferably Joint Cover Strip Kurt, for Knauf Boards with HRAK (semi-circular beveled edge), HRK (semi-circular edge), AFK (beveled edge), and AK (beveled edge)
- Applying Knauf Boards and Composite Boards using the thin-bed method
- Filling gaps in Knauf Boards
- Bonding and filling over gypsum wallboards
- Bonding stucco profiles

2.3 Technical Data

The technical datasheets can be downloaded from the website: <https://knauf.com>

Constructional data

Name	Value	Unit
Density	870	g/L

2.4 Delivery status

Knauf Fugenfüller leicht is delivered in 5kg bags, as well as 10kg and 25 kg sizes.

2.5 Base materials/Ancillary materials

Knauf Fugenfüller leicht consists of approx. 70% gypsum binder which comprises natural and FGD gypsum, calcium carbonate (>25%), and further additives (<5%).

This product at least one partial article contains substances listed in the candidate list (date: 27.06.2024) exceeding 0.1% by mass: no

This product at least one partial article contains other carcinogenic, mutagenic, reprotoxic substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 percentage by mass: no

Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the (EU) Ordinance on Biocide Products No. 528/2012): no

2.6 Manufacture

To produce Knauf Fugenfüller leicht, the natural gypsum and Flue Gas Desulphurization (FGD) gypsum is transported to Knauf plant for calcination, then ground and mix with auxiliaries. The manufacturing plant is certified according to *ISO 9001*.

2.7 Environment and health during manufacturing

The manufacturing plant is certified according to *ISO 45001* and *ISO 50001* and meets the standard of the *Federal Immission Control Act (BImSchG)*.

Natural gypsum and gypsum from the Flue Gas Desulphurization plants of coal-fired power stations is used. Production waste is recycled internally and fed back into the production of gypsum plaster.

2.8 Product processing/Installation

The application should follow the the instruction sheets provided under <https://knauf.com>.

Substrate Preparation

The substrate must be load-bearing, solid, and clean. Gypsum boards must be firmly mounted on a load-bearing substructure, dry, clean, and dust-free in the joint area.

Application

Sprinkle Knauf Fugenfüller leicht into clean, cold water up to just below the waterline (max. 2.5 kg in approx. 1.9 l of water). Mix with a trowel without any other additives until creamy and stiff.

Processing

- Tools: Screw-grip spatula / trowel / smoothing trowel.
 - Fill joints, insert reinforcement strips, preferably Knauf Joint Cover Strips Kurt, and press in with a spatula.
 - Before applying the next layer of filler, the previous layer must be hardened or dry.
 - Before applying the next layer of filler, the previous layer must be hardened or dry.
 - Also fill the fasteners.
 - Sand after complete drying, e.g., with Knauf Abranet Sanding Mesh.
 - Clean equipment/tools with water after use.
- Working time: Approx. 45 minutes until the material begins to harden.

Filling may only be carried out when no further major changes in the length of the Knauf boards are expected, e.g., due to changes in humidity or temperature. For mastic asphalt, cement, and flowing screed boards, fill only after the screed has been laid. Room and subsurface temperatures must not fall below +10°C. Please check the instructions in BVG leaflet No. 1 "Construction Site Conditions."

2.9 Packaging

Knauf Fugenfüller leicht is packaged in bags. The bags are composed by three layers of paper and one layer of PE film. The bags are placed on reusable wooden pallets. And finally one PE cover hood seals the stacked bags.

2.10 Condition of use

Knauf Fugenfüller leicht is a special gypsum-based synthetically enhanced filler for hand filling joints of drywall systems. There is no change in the chemical composition during use.

2.11 Environment and health during use

During installation dust formation, contact with skin and eyes should be avoided. There are no dangerous reactions with other substances known under normal conditions of use.

2.12 Reference service life

There was no reference service life determined according to ISO 15686-1. However, a reference service life of 50 years can be considered for gypsum joint compounds according to the *Guideline for Sustainable Building BBSR2017 code number 345.211*. There are no influences on the aging of Knauf Fugenfüller leicht during use following the established engineering practice. There are no influences on the aging of Knauf Fugenfüller leicht during use when following the established engineering practice.

2.13 Extraordinary effects

Fire

The reaction to fire of Knauf Fugenfüller leicht is classified as follows according to EN 13963:2005-05.

Fire protection

A1 = non-combustible

Name	Value
Building material class	A1

Water

Knauf Fugenfüller leicht has high water retention capacity. However, a permanent exposure to wet conditions or very high levels of relative humidity may lead to a decrease in strength.

Mechanical destruction

There is no mechanical strain during the service life of the building. Due to indoor use, there are no consequences for the environment because of unforeseen mechanical destruction.

2.14 Re-use phase

Once Knauf Fugenfüller leicht is applied, it is not suitable for re-use in an unchanged way. Prior to collection, Knauf Fugenfüller leicht should be separated from other used building materials and pruned of foreign matter, e.g., metals from the substructure already on site for easier recycling or disposal. Residuals material can be disposed of at a landfill.

2.15 Disposal

Knauf Fugenfüller leicht has to be disposed in compliance with the following waste codes of the *European Waste Catalogue EWC*:

10 01 05 - calcium-based reaction wastes from flue-gas desulphurisation in solid form

17 08 02 - gypsum-based construction materials other than those mentioned in 17 08 01

Both are non-hazardous wastes.

Due to low layer thickness, the separation from the substrate may be difficult. Therefore, the waste code from the substrate is defined and has to be chosen. The material itself is qualified for disposal in landfills with the German landfill class DK1 according to the *Landfill Ordinance*. However, national regulations for disposal have to be observed.

2.16 Further information

Further information about Knauf Fugenfüller leicht, e.g. the technical data sheet or the product safety information sheet are available at <http://knauf.com>.

3. LCA: Calculation rules

3.1 Declared Unit

The declared unit is 1kg of Knauf Fugenfüller leicht (powder product not mixed with water) with a gross density of 0,87g/cm³. This applies to modules A1-A3 (+A4). Since there is 0.1735kg water of crystallization added in module A5, the EPD applies to 1,1735 kg hydrated material in modules A5-C4.

Declared unit and mass reference

Name	Value	Unit
Declared unit	1	kg
Gross density	0.87	kg/m ³

3.2 System boundary

The EPD is a declaration cradle to gate with options, modules C1 to C4, and module D (A1-A3, C, D and additional modules A4 and A5).

This Environmental Product Declaration according to EN 15804+A2 contains:

- Provision of raw materials and transport to plant, production of fillers (A1-A3) including thermal energy for calcination (lignite and natural gas), as well as electricity (electricity grid mix DE)
- Transport to building site (A4)
- Installation at building site (A5) including the water mixing for usage
- Disassembly (C1)
- Transport to landfill site (C2)
- Landfilling at end of life (C4)
- Credits in D from incineration of packaging material in module A5

3.3 Estimates and assumptions

For modelling the life cycle of Knauf Fugenfüller leicht, the electricity grid mix for Germany has been chosen. Some raw materials were not available in the used LCA calculator. Some of them have been substituted with chemically similar substances. Transport to the building site (module A4) as well as transport from the building site to the landfill (module C2) is calculated with a standard distance of 100 km. These are not actual transport distances but shall facilitate the extrapolation to the 'real' distances on building level. It is assumed that wooden pallets are re-used 5 times and incinerated at their end of life.

3.4 Cut-off criteria

All raw materials for the manufacturing of Knauf Fugenfüller leicht, the required energy, water and the resulting emissions are considered in the life cycle assessment. That way, the recipe components with a share even smaller than 1% are included. Cut-off rules as required by EN 15804+A2 are respected. Transports within the manufacturing site of Knauf Fugenfüller leicht have been neglected due to the short distances and low expected environmental impacts resulting from those transports. Transport losses at the plant, e.g. formation of dust at conveyor belts as well as the supply and recovery of raw material packaging are not considered. The plant emission is not considered.

3.5 Background data

For modelling the BV Gips LCA tool, version 1.0 created by Sphera Solutions GmbH, IBU-BVG-202101-LT1-DE has been used.

3.6 Data quality

The LCA of Knauf is modelled by using the BV Gips LCA tool provided by Sphera. For some auxiliary raw materials no direct match was available in the LCA tool datasets. The sum of these substituted materials is smaller than 5% of mass. The substitution follows a conservative approach, ensuring that it has low impacts on the displayed results.

With respect to technological, geographic and time representativeness, the overall data quality is evaluated to be 'good'.

3.7 Period under review

The modelling is based on the annual production of Knauf Fugenfüller leicht in production year 2024.

3.8 Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product's lifespan: Global

3.9 Allocation

Allocations in the foreground data have only been applied for energy data which is monitored on an annual basis for the whole plant. The energy was allocated by taking production amounts into account.

3.10 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account. The used background database is GaBi ts (SP40).

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Biogenic carbon content in product	1.25E-06	kg C
Biogenic carbon content in accompanying packaging	0.0118	kg C

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO₂.

Production Stage (A1-A3)

Supply of raw materials (A1)

Knauf Fugenfüller leicht consists of gypsum binder, calcium carbonate and other auxiliaries. The gypsum binder comprises natural gypsum and The natural gypsum is mainly extracted from quarries in close vicinity to the manufacturing site, and FGD gypsum is purchased from the sites in Germany and Turkey. Furthermore, auxiliaries are added for an easier processing and a fine adjustment of properties of Knauf Fugenfüller leicht. These auxiliaries add up to less than 5%.

Transport of raw materials (A2)

Natural gypsum is extracted from mines close to the manufacturing sites of Knauf Fugenfüller leicht and the transport distance is short and trucks can be used. FGD gypsum is purchased from the coal fired power plants in Germany and Turkey, within Germany the truck is used for transport and FGD is transported to the plant from Turkey by ship in river. Further raw materials are supplied by trucks.

Manufacturing (A3)

The natural gypsum is calcinated within the plant. The FGD gypsum is crushed, calcinated and dried. After dosing, the gypsum binder is further mixing with calcium carbonate and other auxiliaries and sent to in-house packaging.

Transport to the building site (A4)

For transport, a standard distance of 100 km by truck is assumed. This declaration facilitates the extrapolation of the results in A4 to the real distance.

Name	Value	Unit
Transport distance	100	km
Capacity utilisation (including empty runs)	60	%
Gross density of products transported	0.87	kg/m ³

Installation into the building (A5)

Since Knauf Fugenfüller leicht is only installed by hand, the only consumption is the the water consumption for mixing. The packaging material, including defective reusable wooden pallets, packaging bags are incinerated. The credits from this process are reported in module D.

Name	Value	Unit
Water consumption	approx. 7.6E-04	m ³

Use phase (B1-B7)

Excluded since no environmental impacts/benefits are expected. A service life of 50 years can be considered for Knauf Fugenfüller leicht according to the Guideline for Sustainable Building BBSR2017.

End of life (C1-C4)

The demolition (C1) of Knauf Fugenfüller leicht from the building is considered to be done 100% manually. It is assumed that the deconstruction would take place without further processing of the waste.

For the transport (C2) from the demolition site to the landfill by truck, a distance of 100km was assumed in the calculation. Reuse, recovery and/or recycling potentials (D), relevant scenario information: Module D contains only credits for exported energy from incineration of packaging material.

Name	Value	Unit
Collected as mixed construction waste	1.1736	kg
Landfilling	1.1736	kg

5. LCA: Results

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction 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
X	X	X	X	X	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 kg

Parameter	Unit	A1-A3	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq	1.92E-01	2.29E-02	2.32E-02	1.46E-01	9.01E-03	4.54E-02	0	8.75E-03	0	1.52E-02	-1.96E-02
GWP-fossil	kg CO ₂ eq	2.46E-01	3.75E-02	2.22E-02	1.86E-01	8.62E-03	3.4E-03	0	8.36E-03	0	1.52E-02	-1.95E-02
GWP-biogenic	kg CO ₂ eq	-5.5E-02	-1.5E-02	1.03E-03	-4.11E-02	3.98E-04	4.2E-02	0	3.86E-04	0	1.5E-02	-4.58E-05
GWP-luluc	kg CO ₂ eq	7.16E-04	4.16E-04	5.29E-07	3E-04	2.05E-07	7.17E-07	0	1.99E-07	0	4.37E-05	-1.37E-05
ODP	kg CFC11 eq	4.02E-11	4.02E-11	2.35E-18	7.91E-14	9.1E-19	8.21E-18	0	8.83E-19	0	5.62E-17	-2.04E-16
AP	mol H ⁺ eq	4.36E-04	1.2E-04	2.22E-05	2.94E-04	8.62E-06	9.4E-06	0	8.37E-06	0	1.09E-04	-2.73E-05
EP-freshwater	kg P eq	3.34E-06	2.69E-06	4.76E-09	6.43E-07	1.84E-09	9.99E-09	0	1.79E-09	0	2.6E-08	-2.52E-08
EP-marine	kg N eq	1.86E-04	7.85E-05	7.08E-06	1E-04	2.74E-06	3.16E-06	0	2.66E-06	0	2.8E-05	-7.07E-06
EP-terrestrial	mol N eq	1.6E-03	4.66E-04	7.87E-05	1.06E-03	3.05E-05	4.35E-05	0	2.96E-05	0	3.08E-04	-7.57E-05
POCP	kg NMVOC eq	3.54E-04	6.8E-05	2E-05	2.66E-04	7.76E-06	8.47E-06	0	7.53E-06	0	8.48E-05	-2.03E-05
ADPE	kg Sb eq	6.57E-08	2.06E-08	6.66E-10	4.44E-08	2.58E-10	1.3E-10	0	2.51E-10	0	1.36E-09	-3.21E-09
ADPF	MJ	3.31E+00	6.98E-01	3.15E-01	2.3E+00	1.22E-01	1.43E-02	0	1.19E-01	0	1.99E-01	-3.31E-01
WDP	m ³ world eq deprived	2.65E-02	2.27E-02	4.35E-05	3.82E-03	1.69E-05	3.86E-02	0	1.64E-05	0	1.59E-03	-2.03E-03

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential)

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 kg

Parameter	Unit	A1-A3	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	1.26E+00	4.13E-01	9.93E-04	8.43E-01	3.85E-04	4.81E-01	0	3.74E-04	0	2.61E-02	-7.24E-02
PERM	MJ	4.79E-01	0	0	4.79E-01	0	-4.79E-01	0	0	0	0	0
PERT	MJ	1.74E+00	4.13E-01	9.93E-04	1.32E+00	3.85E-04	2.62E-03	0	3.74E-04	0	2.61E-02	-7.24E-02
PENRE	MJ	3.27E+00	6.98E-01	3.15E-01	2.26E+00	1.22E-01	5.34E-02	0	1.19E-01	0	1.99E-01	-3.31E-01
PENRM	MJ	3.91E-02	0	0	3.91E-02	0	-3.91E-02	0	0	0	0	0
PENRT	MJ	3.31E+00	6.98E-01	3.15E-01	2.3E+00	1.22E-01	1.43E-02	0	1.19E-01	0	1.99E-01	-3.31E-01
SM	kg	2.57E-01	2.57E-01	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0
FW	m ³	1.15E-03	6.2E-04	1.78E-06	5.26E-04	6.91E-07	9.01E-04	0	6.71E-07	0	5.02E-05	-8.38E-05

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA - WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 kg

Parameter	Unit	A1-A3	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	8.68E-07	8.63E-07	3.06E-11	4.64E-09	1.19E-11	1.59E-11	0	1.15E-11	0	3.03E-09	-1.32E-10
NHWD	kg	4.49E-03	2.86E-03	3.22E-05	1.6E-03	1.25E-05	1.07E-03	0	1.21E-05	0	1E+00	-1.53E-04
RWD	kg	1.37E-04	1.97E-05	3.39E-07	1.16E-04	1.31E-07	7.65E-07	0	1.27E-07	0	2.26E-06	-2.47E-05
CRU	kg	0	0	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	8.27E-02	0	0	0	0	0

EET	MJ	0	0	0	0	0	1.49E-01	0	0	0	0	0
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HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional:

1 kg

Parameter	Unit	A1-A3	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
PM	Disease incidence	1.02E-08	3.77E-09	1.17E-10	6.31E-09	4.53E-11	5.34E-11	0	4.4E-11	0	1.35E-09	-2.32E-10
IR	kBq U235 eq	1.44E-02	3.7E-03	4.84E-05	1.07E-02	1.88E-05	1.19E-04	0	1.82E-05	0	2.32E-04	-4.05E-03
ETP-fw	CTUe	1.14E+00	1.87E-01	2.23E-01	7.26E-01	8.66E-02	7.67E-03	0	8.4E-02	0	1.14E-01	-7.15E-02
HTP-c	CTUh	4.2E-11	9.79E-12	4.2E-12	2.8E-11	1.63E-12	4.4E-13	0	1.58E-12	0	1.68E-11	-3.09E-12
HTP-nc	CTUh	2.06E-09	6.19E-10	1.8E-10	1.26E-09	6.97E-11	2.18E-11	0	6.76E-11	0	1.86E-09	-1.15E-10
SQP	SQP	7.81E+00	1.78E+00	8.1E-04	6.03E+00	3.14E-04	3.79E-03	0	3.05E-04	0	4.15E-02	-5.2E-02

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer 1 – for the indicator “Potential Human exposure efficiency relative to U235”. This 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 or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators “abiotic depletion potential for non-fossil resources”, “abiotic depletion potential for fossil resources”, “water (user) deprivation potential, deprivation-weighted water consumption”, “potential comparative toxic unit for ecosystems”, “potential comparative toxic unit for humans – cancerogenic”, “Potential comparative toxic unit for humans - not cancerogenic”, “potential soil quality index”. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

This EPD was created using a software tool.

6. LCA: Interpretation

In general, the highest environmental impacts of Knauf Fugenfüller leicht comes from the product stage A1-A3 with the exception of Non-hazardous waste disposed (NHWD). For this indicator, module C4 - the disposal of the product at inert landfill leads to the highest overall contribution.

Within product stage module A1 and A3 have noticeable effects on many indicators. Module A1 dominates Ozone depletion potential (ODP) and Use of Secondary material (SM) with approx. 100%, and Hazardous waste disposed (HWD) with approx. 99%. Module A1 also has significantly effect on Eutrophication potential freshwater, marine and terrestrial. Module A3 contributes to the effect at Potential soil quality index (SQP) with 77%, Potential Human exposure efficiency relative to U235 with approx. 67%, and approx 64% for Abiotic depletion potential for non-fossil resources. Overall A2 has the

lowest effect among module A1-A3, with the exception of Formation potential of tropospheric ozone (POCP) (approx. 42%).

For module A5, it dominates the effect on Global Warming Potential - biogenic carbon (GWP-b), Water depletion potential (WDP), Exported electrical energy (EEE) and Exported thermal energy (EET).

The Non-hazardous waste disposed (NHWD) is dominated by disposal C4 with approx. 99%. This was expected since there is no recycling at the end of life but a complete landfilling.

Some small credits given in module D result from the incineration and recycling of packaging only. The disassembled product is landfilled after disassembly.

7. Requisite evidence

7.1 VOC emissions

According to the emission test from Eurofins Product Testing A/S, no hazardous substances are emitted above permissible thresholds during use Eurofins2021.

Knauf Fugenfüller leicht meets *AgBB (MVV TB/ABG) scheme, Italian CAM Edilizia, Belgian Regulation, EMICODE EC 1 PLUS, Indoor Air Comfort®, Indoor Air Comfort Gold®*.

Knauf Fugenfüller leicht meets the *French VOC Regulation with A+ classification* (very low emissions), *BREEAM International* (Exemplary level), and *EMICODE* with EC 1 PLUS verification (very low emission).

7.2 Leaching

Knauf Fugenfüller leicht contains no PBT/vPvB substances $\geq 0.1\%$, assessed according to REACH Annex XIII. The mixture does not contain any substances listed for endocrine-disrupting properties according to REACH Article 59(1), or it has been determined according to the criteria of Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 that it does not contain substances with endocrine-disrupting properties at a concentration of 0.1% or higher.

7.3 Radioactivity

According to Geh2012 and RP112 dose values and radon concentrations of gypsum-based building products are below 0.3 mSv/a. Thus, they can be used without restrictions.

8. References

Standards

EN 15804

EN 15804:2012+A1 2013, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

EN 15804

EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

ISO 14025

EN ISO 14025:2011, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

Further References

Title of the software/database

Title of the software/database. Addition to the title, version.
Place: Publisher, Date of publication [Access on access date].

IBU 2021

Institut Bauen und Umwelt e.V.: General Instructions for the EPD programme of Institut Bauen und Umwelt e.V., Version 2.0, Berlin: Institut Bauen und Umwelt e.V., 2021
www.ibu-epd.com

AgBB

Evaluation procedure for VOC emissions from building products, Committee for Health-related Evaluation of Building Products, 2023

BBSR2017

Service life of building components for life cycle analyses acc. to the Sustainable Building Assessment System (BNB) -- Nutzungsdauer von Bauteilen für Lebens-zyklusanalysen nach Bewertungssystem Nachhaltiges Bauen (BNB) 2017-02-24 vom Bundesinstitut für Bau-, Stadt-, Raumforschung (BBSR)

Bericht BfS

Natürliche Radioaktivität in Baumaterialien und die darausresultierende Strahlenexposition Fachbereich Strahlenschutz und Umwelt Gehrcke, K.; Hoffmann, B.; Schkade, U.; Schmidt, V.; Wichterle, K; Bundesamt für Strahlenschutz Salzgitter, November 2012 <http://nbn-resolving.de/urn:nbn:de:0221-201210099810>

BImSchG

Act on the Prevention of Harmful Effects on the Environment Caused by Air Pollution, Noise, Vibration and Similar Phenomena (Federal Immission Control Act - BImSchG), Publication 2013-05-2017 (BGBl. I p. 1274), last amended 2015-08-31 (BGBl. I p. 1474)

DepV2021

Verordnung über Deponien und Langzeitlager

(Deponieverordnung – DepV), German regulation on landfills, last amended and supplemented: 2021-07-09

EN 13963:2005-05

Jointing materials for gypsum plasterboards - Definitions, requirements and test methods

Eurofins2021

VOC Emission Test Report for Knauf Fugenfüller leicht by the institute 'Eurofins Product Testing A/S in Galten-Denmark; 2021-10-29

EWC

European Waste Catalogue, established by Decision 2000/532/EC of European Commission

ISO 15686-1

BS DD ISO/TS 15686-9:2010-01-31: Buildings and constructed assets -- Service life planning - Part 1: General principles and framework

ISO 45001

EN ISO 45001:2018: Occupational health and safety management systems – Requirements with guidance for use

ISO 50001

EN ISO 50001:2018: Energy management systems – Requirements with guidance for use

Regulation (EU) No 305/2011

Regulation (EU) No 305/2011 for construction products (CPR), Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonized conditions for the marketing of construction products

TRGS 900

Technical Rules for Hazardous Substances TRGS 900: Occupational Exposure Limits, Edition: January 2006, Federal Institute for Occupational Safety and Health (editor), last amended and supplemented: GMBI 201

LCA tool

BV Gips LCA tool, version 1.0 created by Sphera Solutions GmbH, IBU-BVG-202101-LT1-DE

Technical brochures Knauf

Downloadable under <https://knauf.com>

Declaration of Performance

VOC emission page: VOC17_ND.de VOC Emissionsmessung - Fugenfüller Leicht.PDF

Safety datasheet: SDB Fugenfüller Leicht DE.PDF

Product datasheet: K462.de Knauf Fugenfüller Leicht - Gips-Spachtelmasse für Trockenbau-Systeme.PDF

Performance declaration: LE Fugenfüller Leicht DE.PDF



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