ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	Knauf Ceiling Solutions GmbH & Co. KG
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-KNA-20240025-IBI1-EN
Issue date	12.03.2024
Valid to	11.03.2029

Classic Max

Knauf Ceiling Solutions GmbH & Co. KG

Institut Bauen und Umwelt e.V.

ECO PLATFORM EPD VERIFIED

www.ibu-epd.com | https://epd-online.com

1. General Information

Knauf Ceiling Solutions GmbH & Co. KG

Programme holder

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

Declaration number

EPD-KNA-20240025-IBI1-EN

This declaration is based on the product category rules:

Mineral panels, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

12.03.2024

Valid to

11.03.2029

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

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

Classic Max

Owner of the declaration

Knauf Ceiling Solutions GmbH & Co. KG
Elsenthal 15
94481 Grafenau
Germany

Declared product / declared unit

1 m² Classic Max mineral ceiling tiles with a surface weight of 3.76 kg/m².

Scope:

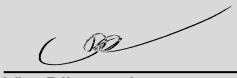
This document refers to 1 m² Classic Max mineral ceiling tiles with a surface weight of 3.76 kg/m², manufactured at the production facility in Wujiang, China.

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



Vito D'Incognito,
(Independent verifier)

2. Product

2.1 Product description/Product definition

The ceiling tiles are manufactured using a wet-felt process and consist of biosoluble mineral wool, perlite, clay and starch. In addition, the visible side of the mineral tile is painted with dispersion paint. The back side is primed with dispersion paint.

The mineral tiles are available in different formats and edge finishes.

This EPD applies to the following products:
Classic Max

For the use and application of the product, the respective national provisions at the place of use apply, in Germany for example the building codes of the federal states and the corresponding national specifications.

2.2 Application

Mineral tiles (wet-felt) are typically used as lay-in for suspended ceiling constructions. They are primarily used as optical cladding, but also for sound absorption and sound insulation, for fire resistance and against fire spreading, for cleanrooms and high hygiene requirements.

2.3 Technical Data

Construction data

Name	Value	Unit
Noise reduction coefficient acc. ISO 354 and ASTM C 423-01	0.70	
Airborne Sound Attenuation acc. ISO 10848 and ASTM E1414	30	dB
Formaldehyde after 52 h	< 0.005	mg/m³
TVOC after 72 h	0.065	mg/(m²*h)

Performance data of the product with respect to its characteristics in accordance with the relevant technical provision (no CE-marking).

2.4 Delivery status

The EPD refers to panels with a thickness of 17mm which can have variable length and width dimensions.

2.5 Base materials/Ancillary materials

Mineral tile composition:

Name	Value	Unit
Mineral wool	43	%
Perlite	18	%
Clay	0	%
Paper	8	%
Starch	5	%
Brokes/dust (internally looped production waste)	26	%

In addition, the visible side of the mineral tile is painted with dispersion paint. The back side is primed with a dispersion paint.
The recycled content is not less than 51 %.

This product/article/at least one partial article contains substances listed in the *ECHA-candidate list* (date: 25.06.2020) exceeding 0.1 percentage by mass: No.

This product/article/at least one partial article contains other carcinogenic, mutagenic, reprotoxic (CMR) 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.

In-can preservatives are used in the production process; however, they are not part of the products and are therefore not within the scope of the *Ordinance on Biocide Products*.

2.6 Manufacture

The mineral tiles are produced in the traditional wet process (wet-felt). The raw materials are mixed with water to form a homogeneous suspension, which is pumped onto a belt conveyor (Fourdrinier). The water is removed mechanically (gravity and vacuum) and by evaporation in the drying oven. As far as possible, the process water is reused. It is treated accordingly and fed back into the process water circuit. Production waste and dust are reused in the process in the sense of an internal cycle. The manufacturing plant is certified according to *ISO 9001*, *ISO 14001* and *ISO 45001*.

2.7 Environment and health during manufacturing

- The manufacturing plant is certified according to *ISO 9001, ISO 14001 and ISO 45001.*
- The production has a closed water cycle.
- Production generates almost no waste, resulting blanks, dust and rejects are reused.
- Not subject to declaration according to *REACH*.

2.8 Product processing/Installation

There are no recognised systemic hazards associated with the installation of ceiling tiles. It is recommended that materials are handled in a manner that minimises dust generation. Workers should wear appropriate personal protective equipment. Equipment such as gloves, goggles and dust masks are recommended to minimise exposure to dust and prevent skin irritation.

2.9 Packaging

The panels are packaged in cardboard boxes and sealed with transparent polyethylene film. These packages lie on chemically untreated wooden pallets. The pallets are wrapped with polyethylene stretch film. Foil, paper and wood can be recycled in the usual ways.

2.10 Condition of use

When handled properly, the mechanical and structural-physical properties of the mineral tile remain intact throughout its entire service life. Direct contact with water should be avoided due to the water-soluble binding agent starch.

2.11 Environment and health during use

When properly installed, no dust/particles are released during the use phase. For the substance groups formaldehyde, volatile organic compounds (VOCs) and total volatile organic compounds (TVOCs), the limits according to *GB/T 17657-2013* and *HJ 571-2010* are complied with.

2.12 Reference service life

The service life of the mineral tiles (wet-felted) is up to 50 years, depending on the area of use, exposure and state of maintenance. Within the framework of the conditions of use, no

ageing effects are to be expected apart from visual discolouration caused by air circulation.

2.13 Extraordinary effects

Fire

The declared products are classified in the fire reaction class 0 according to *BS 476* Part 6.

Name	Value
Building material class acc. ASTM E84	Class A
Building material class acc. BS 476 Part 6&7	Class 0

Water

In the case of prolonged contact with water, the starch binder dissolves, which can lead to a loss of structure, and if the soluble components are discharged into the sewage treatment plant, they are biodegradable, increasing the chemical oxygen demand (COD) and biological oxygen demand (BOD).

Mechanical destruction

The mineral slabs (wet-felt) can be broken by hand and also damaged superficially, which can result in minor dust formation.

2.14 Re-use phase

If the panels are removed properly, they can be reinstalled. In case of minor damage, the slabs can be reused as cut-to-size tiles. Mineral tiles can be returned to the manufacturing process if they are of the correct type and have sufficient material quality; they can be recycled up to 100 %.

2.15 Disposal

The waste code number of production residues for mineral tiles according to the *AVV*, *German List of Wastes Ordinance* is 10 11 03, the waste code number for construction site waste (offcuts) is 17 06 04. If the tiles are not recycled as described in 2.14., they are disposed of in a landfill.

2.16 Further information

Further information at www.knaufceilingsolutions.com

3. LCA: Calculation rules

3.1 Declared Unit

This EPD refers to a declared unit of 1 m² Classic Max mineral ceiling tiles with a surface weight of 3.76 kg/m².

Declared Unit

Name	Value	Unit
Declared unit	1	m^2
Grammage (with coating)	3.76	kg/m^2
Layer thickness	0.017	m
Boardmill density (raw board, without coating)	210	kg/m^3

The ceiling tiles are produced at the Knauf Ceiling Solutions production site in Wujiang, China.
Various types of mineral ceiling tiles are produced at the site.

3.2 System boundary

The life cycle assessment of Classic Max mineral ceiling tiles includes a cradle-to-gate analysis of the products' environmental impacts with modules (A1–A3, C, D). Subsequent life cycle phases are part of the analysis:

Module A1–A3 | Production stage

The production stage includes the upstream burdens of raw material supply, their transports and the manufacturing plant of Knauf Ceiling Solutions located in Wujiang (China). Mineral ceiling tiles are produced in the wet-felt process. Main raw material inputs, therefore, refer to mineral wool, perlite, clay and starch. The production site is supplied with electricity from the Chinese power grid and thermal energy from natural gas.

Module C1 | Deconstruction and demolition

Disassembly of the product is done either manually or using smaller tools. Referring energy demand is considered to be negligible.

Modul C2 | Transport to disposal

The transport to the disposal of the material is estimated declaring a 50 km radius to the landfill. In reality, this scenario may vary depending on the actual location of deconstruction and referring waste treatment.

Module C3 | Waste processing

The declared scenario assumes landfilling of the product. Referring environmental impacts are accounted for in module C4.

Module C4 | Disposal

Module C4 refers to the emissions from the disposal of the acoustic board mineral ceiling tiles. The chosen scenario, therefore, includes the environmental burdens of landfilling the product.

Module D | Benefits and loads beyond the system boundary

The declared scenario assumes landfilling of the product. Referring environmental impacts are accounted for in module C4.

3.3 Estimates and assumptions

Assumptions and approximations are applied in case of a lack of representative data. All assumptions and approximations are documented precisely and represent a best-guess representation of reality. In case of uncertainty, a conservative approach is chosen.

This study builds on Chinese background data as far as supported by the available databases. Nevertheless, some upstream supply chains of used raw materials were approximated via European data, due to a lack of geographically adapted datasets.

3.4 Cut-off criteria

The LCA model covers all available input and output flows, which can be represented based on robust data. Data gaps are filled with conservative assumptions from average data (when available) or with generic data and are documented accordingly. Only data with a contribution lower than 1 % were cut off. Thus, no data were neglected, of which a substantial impact is to be expected. All relevant data were collected comprehensively. Cut-off material and energy flows were chosen carefully based on their expected quantitative contribution as well as potential environmental impacts. Thus, it can be assumed that the sum of all neglected input flows does not account for more than 5 % of the total material, water and energy flows.

3.5 Background data

This study uses generic background data for the evaluation of upstream environmental impacts from *GaBi* databases (*GaBi* 10; 2022.2).

3.6 Data quality

Data collection is based on product-specific questionnaires. It follows an iterative process of clarifying questions via e-mail, telephone calls or in personal/web meetings. Intensive discussions between Knauf Ceiling Solutions and Daxner & Merl result in an accurate mapping of product-related material and energy flows. This leads to a high quality of foreground data collected. Data collection relies on a consistent process according to *ISO 14044*.

The technological, geographical and time-related representativeness of the database was kept in mind when selecting background data. Whenever specific data were missing, either generic datasets or representative average data were used instead. The implemented *GaBi* background datasets refer to the latest versions available (not more than ten years old) and are carefully chosen.

3.7 Period under review

Foreground data were collected in the 2021 production year, and the data are based on the volumes produced on an annual basis.

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: China

3.9 Allocation

All information for the allocation of given material and energy flows is based on site-related evaluations. The calculation of specific input quantities for the raw board production is based on the respective recipe. In addition, product-specific application rates (e.g. backcoat, primer, etc.) were available. Total annual energy consumption and waste flows are allocated based on the production share of the product.

For in the production used waste paper, the system boundary is set after sorting. It is assumed that the end-of-waste status has been reached. The system boundary for secondary raw materials defined in *EN 15804* applies.

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 *GaBi* background database was used to calculate the LCA (*GaBi* 10; 2022.2).

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

The biogenic carbon content quantifies the amount of biogenic carbon in the declared product.

Information on the description of the biogenic carbon content at the factory gate

Name	Value	Unit
Biogenic carbon content in product	0.26	kg C
Biogenic carbon content in accompanying packaging	0.015	kg C

The carbon stored in the packaging was taken into account as "CO_2-neutral". Thus the storage effect of the carbon bound in the packaging is not included in the calculation but is considered as emitted immediately.

Installation in building (A5)

The End-of-Life of the product packaging materials is not declared in module A5.

Name	Value	Unit
Packaging (cardboard)	0.009	kg/m²
Packaging (PE-film)	0.035	kg/m²

End-of-Life (C1–C4)

Name	Value	Unit
Collected separately	3.76	kg
Landfilling	3.76	kg

5. LCA: Results

The following table contains the LCA results for a declared unit of 1 m² Classic Max mineral ceiling tiles with a surface weight of 3.76 kg/m².

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	MND	MND	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 m² Classic Max ceiling tiles (3.76 kg/m²)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Global Warming Potential total (GWP-total)	kg CO_2 eq	1.84E+01	0	1.18E-02	0	1E+00	0
Global Warming Potential fossil fuels (GWP-fossil)	kg CO_2 eq	1.93E+01	0	1.13E-02	0	5.61E-02	0
Global Warming Potential biogenic (GWP-biogenic)	kg CO_2 eq	-9.32E-01	0	4.99E-04	0	9.46E-01	0
Global Warming Potential luluc (GWP-luluc)	kg CO_2 eq	1.33E-02	0	2.94E-07	0	1.04E-04	0
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC11 eq	1.34E-10	0	1.11E-15	0	1.32E-13	0
Acidification potential of land and water (AP)	mol H^+ eq	6.24E-02	0	3.79E-05	0	3.98E-04	0
Eutrophication potential aquatic freshwater (EP-freshwater)	kg P eq	4.22E-05	0	1.42E-09	0	9.51E-08	0
Eutrophication potential aquatic marine (EP-marine)	kg N eq	1.36E-02	0	1.72E-05	0	1.02E-04	0
Eutrophication potential terrestrial (EP-terrestrial)	mol N eq	1.6E-01	0	1.89E-04	0	1.12E-03	0
Formation potential of tropospheric ozone photochemical oxidants (POCP)	kg NMVOC eq	4.42E-02	0	3.42E-05	0	3.09E-04	0
Abiotic depletion potential for non fossil resources (ADPE)	kg Sb eq	2.8E-04	0	4.57E-10	0	5.75E-09	0
Abiotic depletion potential for fossil resources (ADPF)	MJ	2.97E+02	0	1.56E-01	0	7.35E-01	0
Water use (WDP)	m^3 world eq deprived	5.59E+00	0	9.6E-05	0	6.15E-03	0

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 m² Classic Max ceiling tiles (3.76 kg/m²)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Renewable primary energy as energy carrier (PERE)	MJ	1.11E+02	0	8.44E-04	0	1.1E-01	0
Renewable primary energy resources as material utilization (PERM)	MJ	1.11E+01	0	0	0	0	0
Total use of renewable primary energy resources (PERT)	MJ	1.22E+02	0	8.44E-04	0	1.1E-01	0
Non renewable primary energy as energy carrier (PENRE)	MJ	2.97E+02	0	1.56E-01	0	7.36E-01	0
Non renewable primary energy as material utilization (PENRM)	MJ	3.91E-01	0	0	0	0	0
Total use of non renewable primary energy resources (PENRT)	MJ	2.97E+02	0	1.56E-01	0	7.36E-01	0
Use of secondary material (SM)	kg	1.36E-01	0	0	0	0	0
Use of renewable secondary fuels (RSF)	MJ	0	0	0	0	0	0
Use of non renewable secondary fuels (NRSF)	MJ	0	0	0	0	0	0
Use of net fresh water (FW)	m^3	1.85E-01	0	2.42E-06	0	1.87E-04	0

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 m² Classic Max ceiling tiles (3.76 kg/m²)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed (HWD)	kg	1.54E-06	0	3.91E-13	0	3.78E-11	0
Non hazardous waste disposed (NHWD)	kg	3.72E+00	0	6.47E-06	0	3.76E+00	0
Radioactive waste disposed (RWD)	kg	1.21E-02	0	8.78E-08	0	8.17E-06	0
Components for re-use (CRU)	kg	0	0	0	0	0	0
Materials for recycling (MFR)	kg	0	0	0	0	0	0
Materials for energy recovery (MER)	kg	0	0	0	0	0	0
Exported electrical energy (EEE)	MJ	0	0	0	0	0	0
Exported thermal energy (EET)	MJ	0	0	0	0	0	0

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 m² Classic Max ceiling tiles (3.76 kg/m²)

Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Incidence of disease due to PM emissions (PM)	Disease	6.3E-07	0	2.04E-10	0	4.9E-09	0

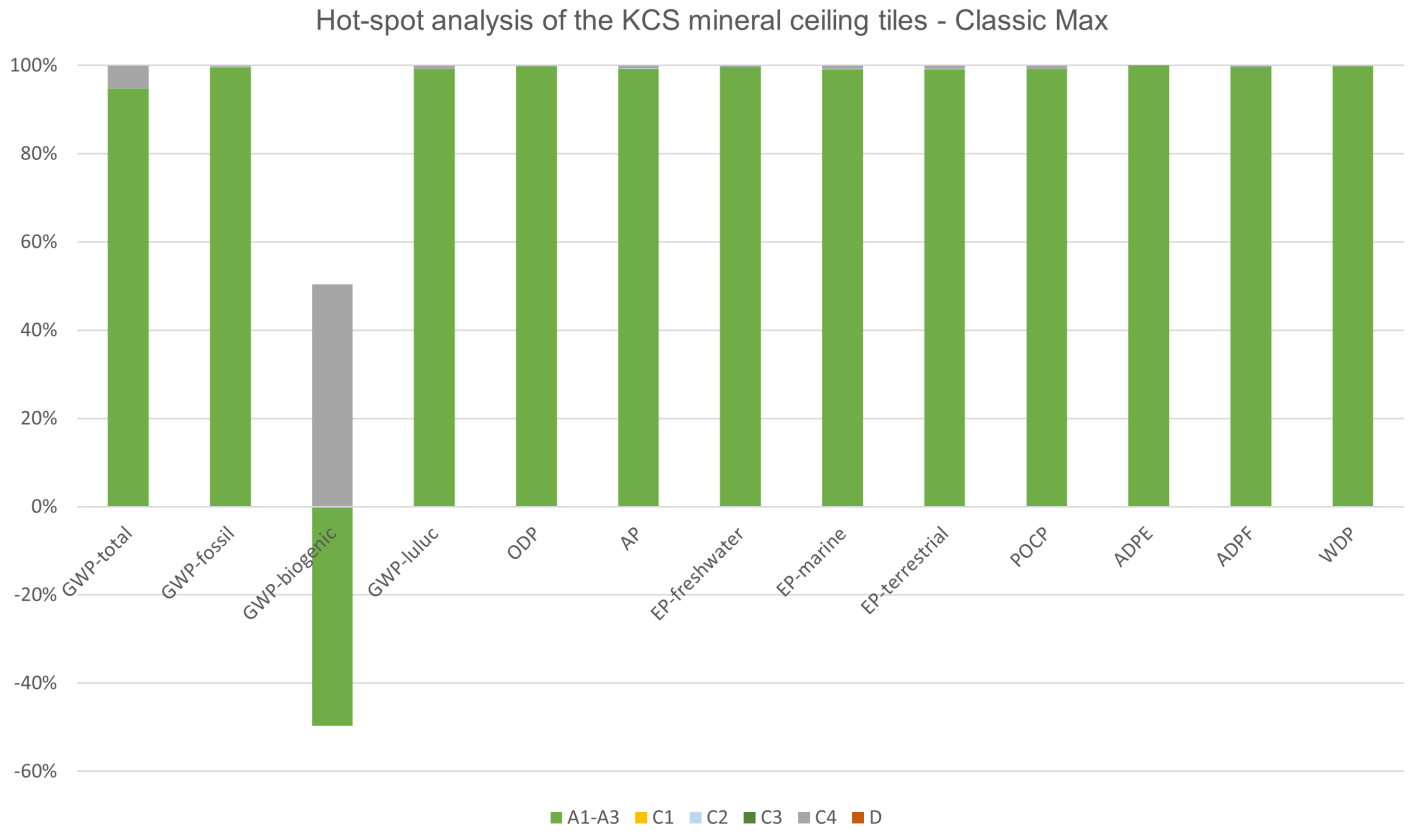
	incidence						
Human exposure efficiency relative to U235 (IR)	kBq U235 eq	1.98E+00	0	5.82E-06	0	9.07E-04	0
Comparative toxic unit for ecosystems (ETP-fw)	CTUe	9.63E+01	0	1.85E-01	0	4.12E-01	0
Comparative toxic unit for humans (carcinogenic) (HTP-c)	CTUh	7.67E-08	0	2.97E-12	0	6.28E-11	0
Comparative toxic unit for humans (noncarcinogenic) (HTP-nc)	CTUh	8.61E-06	0	1.03E-10	0	6.96E-09	0
Soil quality index (SQP)	SQP	4.79E+02	0	4.6E-04	0	1.53E-01	0

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.

6. LCA: Interpretation

The following interpretation contains a summary of the LCA results referenced to a declared unit of 1 m² Classic Max mineral ceiling tiles.



The comparison of the product's life cycle phases shows a clear dominance of the production phase (modules A1–A3) in all environmental impact categories. The potential environmental impacts from transport to disposal (module C2) and the End of Life of the products due to landfilling (module C4) have a minor contribution.

The upstream supply chain of the raw board plays a dominant role in all categories.

7. Requisite evidence

7.1 Radioactivity
Not applicable for these products.

7.2 Biopersistence
The mineral wool used for the production of the panels is biosoluble.
Measuring point: *Fraunhofer Institute for Toxicology and Experimental Medicine*
Certificate number: 02G15015 (5 September 2016)
Test substance: Slag Wool 'Arm SW15'

7.3 VOC Emissions
Measuring point: *China National Fiberglass Product Quality Inspection & Testing Center*

Test report: VOC emissions test report
Report No: 23102129
Testing periode: 8.10.2023-8.11.2023
Test basis: GB/T 25998-2020 & HJ 571-2010

Test Results

Name	Value	Unit
TVOC after 72h	0.065	mg/(m²*h)
Formaldehyde after 52h	< 0.005	mg/m³

8. References

Standards

ASTM E84
ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials.

BS 476
BS 476-6:1989+A1:2009. Fire tests on building materials and structures. Method of test for fire propagation for products.
BS 476-7:1997. Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame of products.

DIN 18177
DIN 18177:2020-12, Wet-felt factory-produced mineral panels.

EN 15804
DIN EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.

GB/T 25998
GB/T 25998, Mineral wool decorating and acoustic ceilings.

HJ 571-2010
HJ 571-2010, Technical requirement for environmental labelling products – Wood-based panels and finishing products.

ISO 354
DIN EN ISO 354:2003-12, Acoustics – Measurement of sound absorption in reverberant rooms.

ISO 9001
DIN EN ISO 9001:2015-11, Quality management systems – Requirements.

ISO 10848
DIN EN ISO 10848-2:2006-08, Acoustics – Measurement of airborne and impact sound transmission between adjacent rooms in test stands – Part 2: Application to lightweight components where the connection has a minor influence.

ISO 14001
DIN EN ISO 14001:2015-11, Environmental management systems – Requirements with guidance for use.

ISO 14025
DIN EN ISO 14025:2011-10, Environmental labels and declarations – Type III environmental declarations – Principles and procedures.

ISO 14044
DIN EN ISO 14044:2006-10, Environmental management – Life cycle assessment – Requirements and guidelines.

ISO 45001
DIN ISO 45001:2018-06, Occupational health and safety management systems – Requirements with guidance for use.

ASTM C 423-01
ASTM C423-01:2001-07, Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

ASTM E1414
ASTM E1414/E1414M-21a, Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum.

Further References

AVV, German List of Wastes Ordinance
Regulation on the European Waste List. Waste Catalogue Ordinance (German designation: Abfallverzeichnisverordnung – AVV) of 10 December 2001 (Federal Law Gazette I p. 3379), last amended by Article 1 of the Ordinance of 30 June 2020 (Federal Law Gazette I p. 3005).

Chemicals Prohibition Ordinance
Chemicals Prohibition Ordinance (German designation: Chemikalien-Verbotsverordnung – ChemVerbotsV) of 20 January 2017 (Federal Law Gazette I p. 94; 2018 I p. 1389), last amended by Article 300 of the Ordinance of 19 June 2020 (Federal Law Gazette I p. 1328).

China National Fiberglass Product Quality Inspection & Testing Center
Test report: VOC emission test
Report No: 23102129

ECHA-candidate list
List of substances of very high concern (SVHC) for authorisation (ECHA Candidate List), 25.06.2020, published under Article 59(10) of REACH. Helsinki: European Chemicals Agency.

Fraunhofer Institute for Toxicology and Experimental Medicine
Certificate number: 02G15015 (5 September 2016); Test substance: Slag Wool 'Arm SW15'.

GaBi
GaBi 10, Software-System and Database for Life Cycle Engineering. DB 2022.2. Sphera, 1992–2022. Available at: https://gabi.sphera.com/support/gabi/

IBU 2021
Institut Bauen und Umwelt e.V.: General instructions for the EPD programme of Institut Bauen und Umwelt e.V. (IBU). Version 2.0, Berlin: Institut Bauen und Umwelt e.V., 2021. www.ibuepd.com

Ordinance on Biocide Products
Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products.

Ordinance on Hazardous Substances
Ordinance on Hazardous Substances, of 26 November 2010 (Federal Law Gazette I p. 1643, 1644), last amended by Article 148 of the Law of 29 March 2017 (Federal Law Gazette I p. 626).

PCR Part A
Product category rules for building-related products and services. Part A: Calculation rules for the life cycle assessment and requirements on the project report according to EN15804+A2:2019. Version 1.3, Berlin: Institut Bauen und Umwelt e.V. (Hrsg.), 2022.

PCR: Mineral panels
Institut Bauen und Umwelt e.V. (IBU), 2023. Product Category Rules for Building-Related Products and Services. Part B: Requirements on the EPD for Mineral panels. Version v2, 31.05.2023.

REACH
Regulation (EC) No 1907/2006 of the European Parliament and Council from 18 December 2006, Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Publisher

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

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com

Programme holder

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

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com

Author of the Life Cycle Assessment

Daxner & Merl GmbH
Lindengasse 39/8
1070 Wien
Austria

+43 676 849477826
office@daxner-merl.com
www.daxner-merl.com

Owner of the Declaration

Knauf Ceiling Solutions GmbH & Co. KG
Elsenthal 15
94481 Grafenau
Germany

0049 8552 422 0
info@knaufamf.com
www.knaufceilingsolutions.com