

The German Ecolabel

BLUE ANGEL



**Low-Emission Thermal Insulation Products
and Suspended Ceilings for Indoor Use**

DE-UZ 132

Basic Award Criteria

Edition July 2026

Version 1

The Environmental Label is supported by the following four institutions:



Federal Ministry
for the Environment, Climate Action,
Nature Conservation and Nuclear Safety

The Federal Ministry for the Environment is the owner of the label, defines the fundamental guidelines for the award of the Blue Angel ecolabel and appoints the Environmental Label Jury.



The German Environment Agency with its specialist department for "Ecodesign, Eco-Labeling and Environmentally friendly Procurement" acts as the office of the Blue Angel ecolabel. It develops the technical criteria including the required compliance verifications in cooperation with relevant interest groups.



The Environmental Label Jury is the independent, decision-making body for the Blue Angel and includes representatives from environmental and consumer associations, trade unions, industry, the trade, crafts, local authorities, academia, churches, young people and the German federal states.



RAL gGmbH is the awarding body for the environmental label. It examines the applications submitted by companies for the use of the Blue Angel ecolabel and concludes the "Contracts on the Use of the Environmental Label". It also monitors correct use of the ecolabel.

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This document is a translation of a German original. In case of dispute, the original document should be taken as authoritative.

1 Introduction

1.1 Preface

In cooperation with the Federal Ministry for the Environment, the German Environment Agency and considering the results of hearings held with relevant interest groups conducted by RAL gGmbH, the Environmental Label Jury has set up these criteria for the award of the ecolabel (Basic Award Criteria). RAL gGmbH has been tasked with awarding the ecolabel.

Upon application to RAL gGmbH and on the basis of a Contract on the Use of the Environmental Label to be concluded with RAL gGmbH, the permission to use the ecolabel may be granted to all products, provided that they comply with the requirements as specified hereinafter. The product must comply with all the legal requirements in the country in which it is to be marketed. The applicant shall declare that the product meets these conditions.

1.2 Background

Thermal insulation products and suspended ceilings make a significant contribution to saving energy and improving energy efficiency in buildings and other indoor spaces.

Pollutant emissions from thermal insulation products and suspended ceilings for use in buildings must be low in order to place the lowest possible burden on the environment and health. The environmental label is designed for the labelling of low-emission products.

In order to evaluate the emissions from thermal insulation products and suspended ceilings, the design of these Basic Award Criteria has been based on the evaluation procedure (AgBB scheme) developed by the Committee for Health-Related Evaluation of Building Products – a committee of experts from environmental and health authorities at a federal government and state level. Moreover, requirements are set on a circular economy concept and on environmental performance indicators to evaluate the environmental impacts of products over their entire life cycle, on the basis of Environmental Product Declarations (EPD).

Scientific knowledge regarding the dangers of plastics, their longevity in the environment, accumulation in organisms and the mobility of microplastics is not reflected adequately by indicators from life cycle assessments. To help reduce the environmental footprint of plastics, it is advisable to reduce plastic consumption across sectors and treat plastic waste as a valuable resource. By using recycled materials, the environmental impacts of plastics can be avoided. As a result, these Basic Award Criteria require that recycled materials are tested for harmful substances to be used in plastic-based insulation products in a manner that aligns with our planetary boundaries. As there are many materials available for insulation products for indoor use, this implementation offers a good opportunity to reduce primary plastic consumption, thereby supporting the express wish from consumers for options to reduce primary plastics in insulation.

The environmental label sets requirements on the substances and materials added during the manufacturing process as well as on the usage phase and the guarantee that used products will be reused or recycled in the future. The proper processing of the products to e.g. avoid thermal bridges is also important.

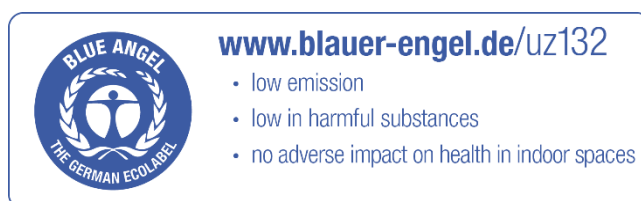
1.3 Objectives of the Environmental Label

The environmental label for “Low-Emission Thermal Insulation Products and Suspended Ceilings for Use in Buildings” may be awarded to products that – above and beyond the legal regulations:

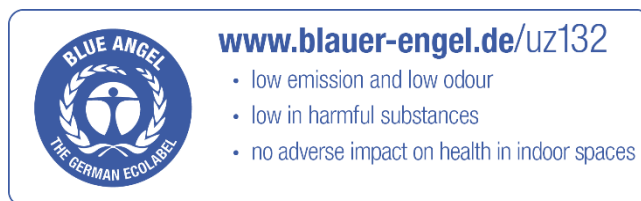
- are manufactured using substances and materials that place less burden on the environment,
- in particular, do not contain any critical ingredients,
- do not have an adverse impact on health in indoor spaces,
- do not contain any harmful substances that cause significant disruption within the circular economy.

Therefore, the following benefits for the environment and health are stated in the explanatory box:

- without an odour test:



- with an odour test:



1.4 Definitions

AgBB: Committee for Health-Related Evaluation of Building Products

Biocide: Biocides in the sense of these Basic Award Criteria are “substances” and “biocidal products” according to Article 3 of Regulation (EU) No. 528/2012 concerning the making available on the market and use of biocidal products.

Coating: Functional or decorative surface layer with a thickness of less than 3 mm, which is usually brushed, sprayed, poured or trowelled on, is not considered a separate insulation layer and does not contribute to the thermal resistance or sound absorption of the product.

CoC certification: Chain of custody – product supply chain

Constituent components: Constituent components are substances added to the product as such or as part of a mixture and remain there unchanged in order to achieve or influence certain product properties and those required as chemical reaction products for achieving the product properties. This does not apply to residual monomers that have been reduced to a minimum.

Constituents: Substances and mixtures contained in a formulation that help to optimise the manufacturing process and/or the properties of the product (raw and auxiliary materials) as well as parts, components or elements of the finished insulation product or suspended ceiling system.

Facing: A facing is a functional or decorative surface layer with a thickness of less than 3 mm, e.g. paper, plastic film, fabric or metal foil, which is not considered a separate thermal insulation layer and does not contribute to the thermal resistance of the product.

FSC: Forest Stewardship Council

Insulation material: Materials of the insulation products (e.g. mineral wool, wood fibre, etc.)

Insulation product: Term for the entire insulation product (including facings, coatings and fixings for suspended ceilings, if present as part of the system)

LCI: Lowest Concentration of Interest for a specific substance

MVV TB: Model Administrative Provisions – Technical Building Rules

PEFC: Programme for the Endorsement of Forest Certification

Post-consumer recycled materials: Post-consumer recycled materials are secondary raw materials from materials and products that are generated after being supplied to end users. This also includes construction waste (offcuts) and waste from dismantling and demolition activities. The distinction is made in accordance with DIN EN ISO 14021.

Post-industrial recycled materials Post-industrial recycled materials are derived from production and processing waste that is generated within industrial processes, has not been supplied to end users and is not reused in production following treatment.

Product group: A product group is a series of products within the limits of variability of the product parameters (set by the manufacturer or a technical specification) and, if applicable, of the use-related parameters with respect to which the specified safety-related properties remain unchanged (i.e. they do not deteriorate in terms of quality). With respect to the Blue Angel, the safety-related properties include the emission behaviour. A product group according to DIN 13172 includes products of identical material composition.

Product type (PT) 6: Preservatives for products during storage: Products used for the preservation of manufactured products, other than foodstuffs, feeding stuffs, cosmetics or medicinal products or medical devices by the control of microbial deterioration to ensure their shelf life.

Raw insulation: Unprocessed insulation product without coatings, facings, fixings or similar elements.

Reg.: Regulation

SVHC: Substance of very high concern

TSVOC: Sum of all concentrations of volatile organic compounds;

Sum of all individual substances $\geq 5 \mu\text{g}/\text{m}^3$ in the retention range > C16 – C22 according to the AgBB procedure

TVOCspez: Sum of all concentrations of volatile organic compounds in the retention range C6 – C16 according to the AgBB procedure. This corresponds to TVOC according to Section 10.6 8) of DIN EN 16516.

Waste wood: Industrial wood and used wood, insofar as it is considered waste in the sense of Section 3 (1) of the German Circular Economy Act

Waste wood category I: Natural or only mechanically processed waste wood that experienced only minor contamination from non-wood materials during use

Waste wood category II: Glued, painted, coated, varnished or otherwise treated waste wood, without any halogenated organic compounds in the coating and without wood preservatives

2 Scope

These Basic Award Criteria apply to the insulation products made from mineral and renewable raw materials defined in more detail below. In addition, plastic-based insulation products containing more than 75%¹ by mass of post-consumer recycled content (mechanical or solvent-based recycling [dissolution]) may, upon application, be included within the scope of the applications listed below, subject to appropriate testing for hazardous substances and, where applicable, further criteria, following approval by the Environmental Label Jury.

- Thermal insulation products for buildings manufactured in the factory or at the point of use for the fields of application:
 - ♦ WI – interior insulation of walls
 - ♦ WH – insulation of timber frame and timber panel constructions
 - ♦ WTR – insulation of partition walls
 - ♦ DI – interior insulation of the ceiling (on the underside) or roof
 - ♦ DZ – intermediate rafter insulation
 - ♦ DEO – interior insulation of the ceiling or base plate (on the upper side) without sound-proofing requirements
 - ♦ DES – interior insulation of the ceiling or base plate (on the upper side) with sound-proofing requirements)

specified in DIN 4108-10, in accordance with the following technical specifications: DIN EN 13162 to 13171, DIN EN 16069, DIN EN 14063², DIN EN 14064, DIN EN 14315, DIN EN 14316, DIN EN 14317, DIN EN 14318, DIN EN 15101, DIN EN 16809, EAD 040005-00-1201, EAD 040011-01-1201, EAD 040012-00-1201, EAD 040037-00-1201, EAD 040057-01-1201, EAD-040138-01-1201, EAD 040146-00-1201, EAD 040313-00-1201, EAD 040456-00-1201,

¹ A calculated allocation of recycled content on the basis of mass balance methods is not permitted

² The standards for thermal insulation product manufactured at the point of use generally consist of two standardised components, which are not listed here individually for the sake of clarity.

EAD 040461-00-1201, EAD 040685-00-1201, EAD 040729-00-1201, EAD 040949-00-1201, EAD 041125-00-1201, EAD 041389-00-1201 or EAD 041561-00-1201

- Suspended ceiling kits with integrated thermal or sound insulation in accordance with DIN EN 13964 (where sound insulation performance is claimed, only sound absorption class A [DIN EN ISO 11654] is permitted)
- Thermal insulation products for building equipment according to DIN EN 14303 to 14309, DIN EN 14313, DIN EN 14314, DIN EN 14319, DIN 14320, DIN EN 15501, DIN EN 15599, DIN EN 15600 that are manufactured in the factory or at the point of use

The insulation products named above must comply with the technical building rules in the Model Administrative Provisions – Technical Building Rules (Muster-Verwaltungsvorschrift Technische Baubestimmungen - MVV TB) or the corresponding rules for their implementation in the German federal states.

These Basic Award Criteria also apply to

- insulation products according to MED/3.13: “Non-combustible materials” and the lamination of the insulation products according to MED/3.18a: “Surface materials and floor coverings with low flame-spread characteristics — decorative veneers” from Directive 2014/90/EU on marine equipment, amended by the relevant Commission Implementing Regulation (most recently 2020/1170), whose conformity is labelled.

Thermal insulation products manufactured in the factory or at the point of use in accordance with the relevant general building authority approval using directories “23 Baustoffe und Bauarten für den Wärmeschutz” (Building materials and construction methods for thermal insulation) and “43 Feuerungsanlagen” (Furnaces), although only those products intended for the specialist areas of thermal insulation or impact sound insulation products and when their use for interior insulation is listed as a field of application according to the approval certificate, may be approved after prior examination by the German Environment Agency.

The Environmental Label Jury may include other applications for thermal insulation products and suspended ceilings within the scope of the Basic Award Criteria on the recommendation of the German Environment Agency.

The term “insulation product” will be used below for all products.

3 Requirements

3.1 Manufacture

3.1.1 General substance requirements

Observance of European and German chemical law, as well as standard rules for the sector, is a prerequisite at the time of application and throughout the period of use of the environmental label (e.g. REACH Regulation Annex XVII, POP Regulation Annex I).

Insulation products and their constituents (e.g. binders or coatings) may not contain or release any substances with the following properties as a constituent component:

- a) Substances identified as "substances of very high concern" and have been incorporated into the list drawn up in accordance with REACH Regulation (EC/1907/2006) Article 59, Paragraph 1 (so-called "list of candidates")³.
- b) Substances that, according to the CLP Regulation (EC/1272/2008), have been classified in the following hazard categories or which meet the criteria for such classification⁴:
 - Carcinogenic in categories Carc. 1A or Carc. 1B
 - Germ cell mutagenic in categories Muta. 1A or Muta. 1B
 - Reprotoxic (teratogenic) in categories Repr. 1A or Repr. 1B
 - Endocrine disruptors with a negative effect on human health in categories ED HH 1 or ED HH 2
 - Acutely toxic (poisonous) in categories Acute Tox. 1, Acute Tox. 2 or Acute Tox. 3
 - Specific target organ toxicity in categories STOT SE 1 or STOT RE 1
 - Sensitising substances in categories Resp. Sens. 1 (A/B)
 - Sensitising substances in categories Skin Sens. 1 (A/B)
 - Persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) characteristics
 - Persistent, mobile and toxic (PMT) or very persistent, very mobile (vPvM) characteristics
 - Endocrine disruptors with a negative effect on the environment in categories ED ENV 1 or ED ENV 2
 - Hazardous to water in categories Aquatic Acute 1, Aquatic Chronic 1 or Aquatic Chronic 2, Aquatic Chronic 3
 - Hazardous to the ozone layer in category Ozone 1
- c) Substances that are classified in TRGS 905⁵ as:
 - Carcinogenic (K1A, K1B)
 - Mutagenic (M1A M1B)
 - Reprotoxic (RF1A, RF1B, RD1A, RD1B)

The hazard statements (H and EUH Phrases) that correspond to the hazard categories can be found in the table in Appendix B.

In the case of non-constituent components (e.g. residual monomers and impurities), any substances of very high concern (SVHC) may not exceed $\geq 0.10\%$ by mass in all product constituents. In addition, any recycled materials added to the product may not contain SVHC $\geq 0.10\%$

³ The version of the list of candidates at the time of application is valid ([List of candidates – ECHA](#)). The label holder is obligated to take into account current developments on the list of candidates. If an ingredient is newly added to the list of candidates during the term of the Basic Award Criteria, the label holder must submit an informal notification to RAL gGmbH within two months, stating the name of the substance, its CAS or EC number and possible substitutes. A deadline for substituting this ingredient will then be defined in consultation with the German Environment Agency.

⁴ The classifications in the CLP Regulation at the time of application are valid. (For guidance: [ECHA CHEM](#). The information stated in the safety data sheet is definitive.) The label holder is obligated to take into account current developments on the list of classifications. If a substance is classified with one of the named hazard categories during the term of the Basic Award Criteria, the licence holder must submit an informal notification to RAL gGmbH within two months, stating the name of the substance, its CAS or EC number and the new hazard category. A deadline for substituting this ingredient will then be defined in consultation with the German Environment Agency.

⁵ Directory of carcinogenic, mutagenic or teratogenic substances from the Committee for Hazardous Substances (AGS): [TRGS 905](#).

by mass. If the SVHC contained in the recycled material are degraded during production, suitable verification of the degradation is to be submitted in consultation with RAL gGmbH.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit the declarations from the manufacturers/suppliers (Annex 2a) and safety data sheets (no older than two years) for all of the substances and mixtures used, e.g. binders and coating materials. If the substances used are reclassified or the Basic Award Criteria are extended, the current safety data sheets must be submitted.

If relevant information is not already available or post-consumer recycled materials are used, the applicant shall submit a test report according to DIN 51012:2025-03 "Screening of substances of very high concern (SVHC) - General principles" (or comparable) to verify that the SVHC content in the product and its constituents is < 0.10% by mass, with additional analytical verification where necessary. The verification of degradation of a SVHC during manufacturing must be coordinated with RAL gGmbH.

3.1.2 Special requirements for specific substances

3.1.2.1 Halogens

No halogenated organic compounds⁶ shall be used in the manufacture of the insulation products (e.g. as a blowing agent, binding agent, flame retardant, anti-soiling coatings or processing aid).

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit corresponding declarations from the manufacturers/suppliers (Annex 2a). If the applicant cannot declare compliance with the requirement (this is the case, for example, when post-consumer recycled materials such as wastepaper, plastics, etc., are used), the contents of the halogens fluorine, chlorine and bromine must be determined by means of combustion analysis in accordance with DIN EN 14582 and the proportion of tolerable impurities may not exceed 1 g/kg. Flame retardants

3.1.2.2 Flame retardants

The insulation products shall not contain any flame retardants classified as persistent, bioaccumulative and toxic (PBT) substances or as very persistent and very bioaccumulative (vPvB) substances according to the criteria of the REACH Regulation, Annex XIII, or identified as SVHC, Annex XIV. If flame retardants are used, they must be named by the applicant (name, CAS no).

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit corresponding declarations from the manufacturers/suppliers (Annex 2a).

⁶ An exemption applies to the biocides in the list of "approved in-can preservatives" according to Paragraph 3.1.2.4

3.1.2.3 Plasticisers

Constituents that contain plasticising substances from the group of phthalates or the group of organophosphates or other comparable substances with a high boiling point as a plasticiser according to VdL Guideline 01 shall not be added to the insulation product.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 or submit corresponding declarations from the manufacturers/suppliers (Annex 2a). For insulation products to which constituents have been added that are not of mineral or renewable origin (e.g. binders, [plastic] coatings, facings), the applicant shall submit a test report according to EN ISO 16181-1:2021 as verification of phthalates (substances listed in Table A.1, Annex A of the standard). The content of phthalate impurities in the constituent shall not exceed 0.1% by mass.

3.1.2.4 Biocides

No biocides shall be added to the insulation products. An exemption applies to biocides in the list of "[approved in-can preservatives](#)" that are exclusively used for the in-can preservation of aqueous constituents of the insulation products (PT 6)⁷.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit corresponding declarations from the manufacturers/suppliers (Annex 2a).

3.1.3 Special requirements on insulation products and suspended ceilings

3.1.3.1 Information on the composition and raw and auxiliary materials

Insulation products of mineral origin and insulation products made from renewable raw materials are permitted⁸.

The complete composition must be stated for the insulation products named in the application. This comprises in particular:

- Composition of the insulation product,
- The insulation material,
- Binders used,
- If applicable, any facings, coatings or surface treatments (e.g. paints, films, nonwovens),
- Plastic content of the final product (mass fraction) in mineral and renewable raw material insulation products
- If applicable, recycled material content (post-industrial and post-consumer recycled material),
- If applicable, all other constituents that have not previously been mentioned.

⁷ https://www.blauer-engel.de/sites/default/files/2026-03/Liste_der_zulaessigen_Topfkonserver_V2_2026-03.pdf

⁸ Mass fraction of mineral insulation material 90% or mass fraction of renewable raw materials 80% - The combination of both origins is possible and, in this case, should also be 85% in total.

All of the raw and auxiliary materials contained in the product must be listed in full. This information must be provided in each case, stating the concentration ranges (as in the EPD).

The use of other insulation materials is only possible following a prior review of the individual case and the consent of the German Environment Agency (UBA) and the Environmental Label Jury. In the event of an approval, new requirements on this insulation product may be included.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 or submit corresponding information on the structure and on raw and auxiliary materials (Annex 3). If the complete list of raw and auxiliary materials is already included in an Environmental Product Declaration (EPD) in accordance with DIN EN 15804 (or an equivalent standard), a separate statement is not required. In this case, the corresponding EPD must be submitted as verification.

3.1.3.2 Mineral wool

Insulation products made of mineral wool shall only be used if they comply with the requirements of the RAL Quality Mark for "products made of mineral wool" from the Gütegemeinschaft Mineralwolle e.V.⁹ Mineral fibres can have temporary, short-term effects on the skin. Therefore, insulation products made of mineral wool must include information about the processing of the material on the packaging or the enclosed instruction leaflet, e.g. in the form of pictograms or notices.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit corresponding verifications from the manufacturers/suppliers (Annex 4a). Furthermore, the applicant shall submit the text printed on the packaging or the enclosed instruction leaflet (Annex 4b).

3.1.3.3 Other mineral insulation products

Observance of the requirements of European and German radiation protection law is required at the time of application and throughout the period of use of the environmental label.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1. For thermal insulation material made from acidic igneous rocks (in accordance with Annex 9 StrlSchG) such as perlite, vermiculite, expanded clay, etc., the applicant shall enclose a suitable test report¹⁰ (determination of the specific activity of radium-226, thorium-232 and potassium-40). If the applicant is

⁹ The Quality Mark Statutes and the Quality and Testing Regulations of Gütegemeinschaft Mineralwolle e.V. and other information can be found on the website of Gütegemeinschaft Mineralwolle e.V.: <https://www.ral-mineralwolle.de/home.html>.

¹⁰ Testing can be undertaken both on the insulation material and on the end product

not subject to a testing obligation, they must enclose suitable verification of this (e.g. with a determination of the silica concentration).

3.1.3.4 Insulation products based on wood, cork, bamboo and cellulose (paper)

The manufacturer must ensure that all of the wood, cork and bamboo used in the product and all of the virgin fibres used in the cellulose (paper) are sourced from legally managed forests. The use of protected tree and plant species on the Red List from the International Union for Conservation of Nature (IUCN: CR, EN or VU) and the Washington Agreement on the Protection of Species (CITES: I, II, III) is prohibited and the manufacturer must comply with the European Regulation on the Protection of Species (EC) No. 338/97.

The use of wastepaper (where the requirements under 3.1.1 and 3.1.2 are complied with) and waste wood is permitted, whereby the waste wood must comply with the requirements in the German Waste Wood Ordinance¹¹ and be exclusively sourced from waste wood categories A I and A II.

In addition, at least 85% of the virgin wood, cork and bamboo used in the product must come from certified sources that can verify that they are managed in an ecological and socially responsible manner. The following requirements apply to the remaining 15%:

- ♦ A due diligence system (DDS)

and

- ♦ Source: Low-risk country according to the EU Deforestation Regulation (EUDR) Country Classification List - European Commission.

Compliance verification

The applicant shall declare the legality of the wood sources in accordance with the EUDR in Annex 1. In addition, the applicant shall submit the following verifications on the use of wood, cork and bamboo¹²:

[1] *A record of the woods including waste wood used each year¹³ (Annex 6a) for the product named in the application that shows the proportion of certified virgin wood, cork and bamboo and the proportion of waste wood including the waste wood class.*

[2] *The following certificates for sustainable forestry and the chain of custody (CoC) will be accepted:*

- ♦ Forest Stewardship Council (FSC),
- ♦ Programme for the Endorsement of Forest Certification (PEFC)
- ♦ Naturland e. V.

¹¹ Manufacturers based outside of Germany can submit comparable verifications to those required in the German Waste Wood Ordinance. <https://www.gesetze-im-internet.de/altholz/>

¹² Wood sourced from countries in the tropics is subject to a more in-depth examination of its legality (countries located between the Tropics of Cancer and Capricorn)

¹³ The record of the woods used should include information on the supplier, type of wood-based material, tree species/type of wood, country of origin/cultivation area, quantity in t or m³, an example delivery note with the certification number and the proportion in % and other verifications for non-certified wood as a supplement.

- ♦ Holz von Hier
- ♦ Comparable certificates and individual verifications¹⁴.

The manufacturing site¹⁵ must have a valid CoC certification.

If the manufacturing site does not have a chain of custody (CoC) certification, the applicant shall submit confirmation of compliance with the wood requirement from an environmental verifier approved for this scope (NACE 16.21) by the German Society for the Accreditation and Registration of Environmental Verifiers (DAU) in accordance with the Environmental Audit Act or from an FSC or PEFC certifier accredited by the German Accreditation Body (DAkkS).

[3] *Up-to-date verifications shall be submitted every two years after the contract has been awarded (periodic test).*

3.1.3.5 Other insulation products made from renewable raw materials

Supplementary information must be submitted for insulation products made from renewable raw materials that are not based on wood, cork, bamboo or cellulose (currently approved: straw, hemp fibres or shives, and seagrass).

The applicant must state the source or region of origin of the raw materials used. In addition, the cultivation method of the plant raw materials used must be stated. Compliance with the respective applicable EU plant protection directives ¹⁶ is required.

Other renewable raw materials can be included following a prior review of the individual case and the consent of the German Environment Agency (UBA). In the event of an approval, new requirements on this insulation material may be included.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit corresponding information on the source, cultivation method, etc. (Annex 7).

3.1.4 Requirements for coatings

[1] Dyes and pigments containing lead, cadmium or chromium VI compounds shall not be used. Process-related and technically unavoidable (natural or production-related) impurities may be contained in the dye/pigment up to a maximum of 100 mg/kg (cadmium or chromium(VI) compounds) or 200 mg/kg (lead compounds).

[2] Coatings containing alkylphenol ethoxylates (APEO) and/or their derivatives shall not be added.

¹⁴ The applicant must verify compliance with the criteria defined by the FSC or PEFC for the relevant country of origin. As with the federal decree for the purchase of wood products, verification of comparability must be confirmed by the Thünen Institute or the BfN.

¹⁵ Manufacturing site of the wood-based material (fibres or panel)

¹⁶ [Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides \(Text with EEA relevance\)](#); If the cultivation regions are outside the EU, RAL gGmbH must be contacted in advance to coordinate how to proceed.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit corresponding declarations from the manufacturers/suppliers (Annex 2a).

3.2 Use

3.2.1 Indoor air quality

Based on the "Health-related Evaluation Procedure for Volatile Organic Compounds Emissions (VOC and SVOC) from Building Products"¹⁷ developed by the Committee for Health-Related Evaluation of Building Products, products named in Paragraph 2 must not exceed the emission values in Table 1 in the test chamber.

Table 1: Emissions values

Volatile organic compounds	Requirements: Final value in the test chamber according to EN 16516 after 28 days¹⁸
Total organic compounds within the retention range C6 – C16 (TVOCspez) according to AgBB without acetic acid	$\leq 0.4 \text{ mg/m}^3$
Total organic compounds within the retention range > C16 – C22 (TSVOC) according to AgBB	$\leq 0.02 \text{ mg/m}^3$
Acetic acid according to VDI 4301 Sheet 7	$\leq 0.140 \text{ mg/m}^3$
Carcinogenic substances according to the AgBB	$< 0.001 \text{ mg/m}^3$ for each single value
Total VOC without LCI according to AgBB	$\leq 0.05 \text{ mg/m}^3$
R-value according to AgBB	≤ 1.0
Formaldehyde	$\leq 0.060 \text{ mg/m}^3$
Acetaldehyde	$\leq 0.120 \text{ mg/m}^3$

The taking, storage and transport of the insulation product samples and the production and preparation of the test specimens must be completed in accordance with the guidelines in Chapter 5 of DIN EN 16516. The load for the test chamber measurement should be selected based on the field of application stated by the manufacturer:

- $1.0 \text{ m}^2/\text{m}^3$ for walls;
- $0.4 \text{ m}^2/\text{m}^3$ for floors or ceilings;
- $0.4 \text{ m}^2/\text{m}^3$ insulation products for technical building equipment and building technology;
- $0.8 \text{ m}^2/\text{m}^3$ for floors and ceilings;
- $1.0 \text{ m}^2/\text{m}^3$ for walls and floors or ceilings;
- $1.0 \text{ m}^2/\text{m}^3$ for walls, floors and ceilings (maximum loading of the test chamber 30%);
- $1.0 \text{ m}^2/\text{m}^3$ for marine insulation products.

¹⁷ See the currently valid version at:
<https://www.umweltbundesamt.de/themen/gesundheit/kommissionen-arbeitsgruppen/ausschuss-zur-gesundheitlichen-bewertung-von#gesundheitsliche-bewertung-der-emissionen-von-fluchtigen-organischen-verbindungen-aus-bauprodukten>

¹⁸ Every test result must be expressed with at most two significant figures, for values under $10 \text{ } \mu\text{g}/\text{m}^3$ only with one significant figure. Examples of this: — 0.495 and 0.504 are both expressed as 0.50

Only the surface facing into the interior of the chamber is taken into account for the loading factor. All open edges and the rear (alternatively, the test sample can be fixed to the chamber wall) must be sealed using an inert material, e.g. low-emitting tape or aluminium foil. Emissions from any coverings around the edge of the test sample must be determined before the start of the test and documented internally at the laboratory. In the case of thermal insulation panels, the largest available insulation thickness should be selected (worst case).

In the case of insulation products in the form of bulk material, a test bath that is open at the top should be filled with the material to a height of at least 200 mm horizontally to the bulk density specified by the manufacturer.

The emissions are measured in accordance with DIN EN 16516. The test may be terminated earlier (at the earliest on the 7th day after loading) if the permissible final emission values for the 28th day are reached prematurely and no increase in the concentration of any of the identified substances has been observed in comparison to the measurement on the 3rd day.

In the case of untreated mineral insulation products (e.g. perlite), the test may be terminated early after 3 days if no emissions can be verified.

The optional odour emission test according to Paragraph 3.2.2 should be carried out in combination with the test for indoor air quality.

Compliance verification

Following prior agreement with RAL gGmbH, the applicant shall submit one or more test reports according to the requirements in Table 1 based on DIN EN 16516 and VDI 4301 Sheet 7 (must not be more than 24 months old) for each product group that includes information on the field of application for the product and verifies compliance with this requirement. If the LCI list applicable in accordance with the AgBB criteria has been updated after carrying out the test, the applicant shall submit an evaluation based on the current LCI list. If the product is manufactured at different manufacturing sites, the applicant shall guarantee and declare that the requirements stated above have also been complied with at all of the manufacturing sites.

The test report according to DIN EN 16516 must be produced by a testing laboratory accredited for this test. Testing laboratories are considered to be qualified if they have been designated by the European Commission as a notified body for tests according to EN 16516 and are listed in the [NANDO database](#) or have been accredited as a conformity assessment body according to ISO/IEC 17025 for the relevant test by a EA/IAF-recognised international accreditation body or have successfully participated in proficiency tests (round robin tests) using the relevant testing method from an accredited provider of proficiency tests according to DIN EN ISO/IEC 17043 ([List of recognised testing institutes](#)).

The test to determine the quality of the indoor air must be repeated every two years after the awarding of the contract. The recurring test must be coordinated with RAL gGmbH before it is commissioned and the results submitted after testing without being asked to do so. A change in formulation must be submitted to RAL gGmbH and, if applicable, another test must be carried out at the request of RAL gGmbH.

3.2.2 Odour (optional)

Testing of the odour characteristics shall be carried out in accordance with DIN ISO 16000-28 together with the emission test. The tested products must not display an odour intensity of more than 7 pi after 28 days. If the test result is 8 pi, it is permitted to carry out another test on the next day. It is possible to terminate the test early after 7 days if the requirement on odour intensity has already been fulfilled. Products that pass the odour test may be described as low odour.

Compliance verification

Following consultation with RAL gGmbH, the applicant shall submit one or more test reports in accordance with DIN ISO 16000-28 in combination with VDI 4302 Sheet 1 for the initial test for a representative product/product group. A recurring test of the odour characteristics must be carried out at the request of RAL gGmbH in the context of the repeat of the emission test and the results of the test report submitted.

3.3 Environmental lifecycle indicators

3.3.1 Product-specific Environmental Product Declaration | EPD

A manufacturer-specific EPD in accordance with DIN EN 15804, which is valid at the time of application, must be submitted for the product¹⁹. The EPD can be created manually, with the aid of an LCA tool or an EPD tool²⁰. The EPD or the EPD tool must be verified by a Programme Operator recognised by the ECO Platform²¹.

Compliance verification

The applicant shall state the reference to the EPD in Annex 1. If there is a long waiting time for the completion of EPDs, the reference may be submitted at a later date. In this case, the applicant shall submit a confirmation from the EPD Programme Operator to verify receipt of the EPD application. If an EPD tool has been used to generate the EPDs, the reference demonstrating verification of the tool by the Programme Operator shall be submitted. Verification that the EPD Programme Operator is recognised by the ECO Platform must also be submitted.

3.3.2 Use of renewable energies in the manufacture of insulation products

The proportion of renewable energies in the process energy used during the production stage (modules A1 to A3 of the EPD) must be stated as a percentage. The values for PERE (use of renewable primary energy excluding renewable primary energy resources used as raw materials) and PENRE (use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials) can be found in the table 'Results of the LCA indicators to describe resource use' in the EPD. The proportion of renewable energy is calculated with the formula $PERE/(PERE+PENRE)$.

¹⁹ The product name must be stated in the EPD.

²⁰ [Tool Verification Guidelines](#)

²¹ <https://www.eco-platform.org/the-eco-epd-programs.html>

When submitting an application, an informal energy transition pathway must be submitted, which shows the previously calculated proportion of renewable energies and indicates by how much and with what specific measures the proportion of renewable energies in the process energy will increase in the production stage until the end of the term of the Basic Award Criteria. This should also show how the process can be operated completely with renewable energies by 2045 at the latest. The implementation of the energy transition pathway is not examined by RAL gGmbH.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1, state the proportion of renewable energies in the process energy in the production stage in Annex 1-P and submit a document with the description of their energy transition pathway. If the EPD is not yet available when the application is submitted, the proportion of renewable energies is submitted at a later time together with the EPD as soon as it is available, without being asked to do so.

3.3.3 Contribution to the greenhouse effect | Global Warming Potential (GWP)

The GWP-total for the manufacturing and disposal phases (modules A1 to A3 and C1, C3, C4) for the product must be calculated and stated for an insulated area of 1 m² with a thermal resistance (R-value) of the insulation layer of 1 m²·K/W. In the case of a sound-absorbing suspended ceiling, the GWP-total of the system must be calculated as stated above for a covered area with the functional unit (FU) of 1 m² and with the sound absorption class A (DIN EN ISO 11654).

Case 1: If the GWP is stated in the EPD in kg CO₂ eq. per kg of insulation product, the GWP reference value (GWP reference) is calculated as follows.

$$\text{GWP reference} = \text{GWP}(\text{kg}) \cdot \rho \cdot \lambda \cdot 1 \text{ m}^2 \cdot \text{K/W}$$

The following information is required for the calculation.

- GWP(kg) is the GWP for modules A1 to A3 and C1 to C4 in kg CO₂ eq./kg of insulation product in accordance with EPD
- ρ (rho) is the bulk density of the insulation product in kg/m³
- λ (lambda)²² is the thermal conductivity of the insulation product in W/(m · K)
- 1 m²·K/W is the reference R-value

Case 2: If the GWP is stated in the EPD in kg CO₂ eq. per m³ of insulation product, the GWP reference value (GWP reference) is calculated as follows.

$$\text{GWP reference} = \text{GWP}(\text{m}^3) \cdot \lambda \cdot 1 \text{ m}^2 \cdot \text{K/W}$$

The following information is required for the calculation.

- GWP(m³) is the GWP for modules A1 to A3 and C1 to C4 in kg CO₂ eq./m³ of insulation product in accordance with EPD
- λ (lambda) is the thermal conductivity of the insulation product in W/(m · K)
- 1 m²·K/W is the reference R-value

²² Declared value

Case 3: If the GWP is stated in the EPD in kg CO₂ eq. per m² of insulation product, the GWP reference value (GWP reference) is calculated as follows.

$$\text{GWP reference} = \text{GWP}(\text{m}^2) \cdot \lambda \cdot 1 \text{ m}^2 \cdot \text{K/W} / \text{dEPD}$$

- GWP(m²) is the GWP for modules A1 to A3 and C1 to C4 in kg CO₂ eq./m³ of insulation product in accordance with EPD
- λ (lambda) is the thermal conductivity of the insulation product in W/(m · K)
- 1 m²·K/W is the reference R-value
- dEPD = reference thickness of the EPD [m]

Permitted maximum values of the GWP reference for thermal insulation product:

- for insulation products (all insulation materials): $\leq 6.0 \text{ kg CO}_2 \text{ eq. per m}^2$ (where $R = 1 \text{ m}^2 \cdot \text{K/W}$)²³
- for suspended ceilings in the system: $\leq 10.0 \text{ kg CO}_2 \text{ eq. per m}^2$ (where $R = 1 \text{ m}^2 \cdot \text{K/W}$ or sound absorption class A)

For combinations of different categories of insulation materials, the maximum value of the material that significantly determines the thermal conductivity applies.

If a product is intended for both thermal and sound insulation, both reference values must lie under the respective maximum values.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and declare the GWP reference value (the GWP for the manufacturing and disposal phase, sum of the GWP information for modules A1 to A3 and C1 to C4 of the EPD, of the product for a 1 m² reference application with an R-value of 1 m²·K/W) in Annex 1-P and confirm compliance with the respective applicable permitted material value for the GWP reference. If the EPD is not yet available when the application is submitted, the GWP reference value is submitted at a later time together with the EPD as soon as it is available, without being asked to do so.

3.4 Circular economy concept

The residual materials generated in the production process are returned to the production process²⁴. To guarantee the future reuse or recycling of used products as part of a circular economy, the following applies in Germany and in other countries in which the product is marketed:

- Dismantling instructions are to be provided, which describe for those carrying out the work how to handle the product in the event that constructions typical of the product are dismantled in the future. It should be explained how the separation of the product by material type (> 95%) can be achieved using the current state of the art.
- A concept is to be provided for the product end-of-life, which
 - ♦ describes the anticipated take-back channels (e.g. regional collection centres, decentralised collection systems, cooperation with existing take-back systems or specialised

²³ High-performance insulation products with a thermal conductivity of $< 0.020 \text{ [W/mK]}$ are excluded from this requirement (no maximum value requirement)

²⁴ This can also take place in another factory or at another company.

third-party providers) for the return of construction site offcuts and demolition material from the product by material type, and

- ♦ states at least one reuse or recycling procedure for all constituents of the product according to the current state of the art and provides information about current recovery channels.

Provided that the product has been dismantled according to the dismantling instructions, the applicant guarantees in the documents provided on the sale of the products that they will cover the costs of the take-back channel for their used product, as set out in the product end-of-life concept (waste treatment), for a period at least 50 years. Alternatively, take-back channels that lead to higher-quality recycling may also be offered. Customers may only be required to contribute to the logistics costs of the take-back channel to the extent that would be customary on the market for the delivery of the product at the time of its return. The link to the product end-of-life concept must be included in the documents for customers, along with information about take-back options.

Compliance verification

The applicant shall confirm compliance with the requirement in Annex 1, enclose the dismantling instructions and the product end-of-life concept with the application and publish both on their website, together with the options for later return and the product information according to Section 3.5. The link to the website must be provided in Annex 1. For international locations, the product end-of-life concept must be submitted in English and, if applicable, in the national language and published in the same manner on the manufacturer's international website. The circular economy concept must be reviewed at least every two years to ensure it remains up to date and must be dated accordingly.

3.5 Information for consumers and product declaration

The manufacturer must clearly declare the following information on the product packaging or on a label:

- Identification of the manufacturer or supplier company;
- Product name, material designation,
- Field of application,
- Traceability information (e.g. batch number),
- CE marking or general building authority approval or construction technique permit
- Number of the Declaration of Performance (DoP) with permalink / the declaration code of the declaration of performance and conformity,
- Specification of the intended field of application by means of the application abbreviations according to DIN 4108-10

This information must be provided to both private and commercial customers.

The product information must be provided at least digitally via a link or QR code with a reference to the Blue Angel (e.g. product information for the Blue Angel), either

- via a QR code,
- via a link on the manufacturer's website to the product-specific website, or
- an equivalent link (1-click version between packaging and product-specific website),

on which the following information must be provided:

- Specification of the product standard or other underlying technical specifications,
- Link to the Environmental Product Declaration (EPD),
- Technical data sheet incl. declared value (λ_D) and also the design value (λ_U) for thermal conductivity; for sound-absorbing suspended ceilings, sound absorption class A is stated instead,
- Indication that exclusively indoor use is certified by the Blue Angel,
- Statement of the calculated GWP reference value (Global Warming Potential) in accordance with 3.3.3,
- Statement of the proportion of renewable energies in the manufacture of the product,
- Statement of the proportion of recycled materials (if present; separated according to post-industrial recycled materials/post-consumer recycled materials),
- Declaration that the content of substances of very high concern (SVHC according to REACH) is $\leq 0.10\%$ by mass,
- Proportion of plastic in the product,
- Information on sound insulation, where this is claimed,
- Installation instructions and information that promote low-emission processing and set out protective measures for the user,
- In the case of insulation made of bulk materials, the installation must be carried out by a specialist company,
- Information on the disposal of packaging and product residues (e.g. return and recycling possibilities).

Additional product information from other chapters that are listed here for completeness:

- For insulation products containing mineral wool, pictograms in accordance with 3.1.3.2.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1 and submit the corresponding product information and links (e.g. technical data sheets). The applicant shall submit a product list to RAL gGmbH (Annex 1-P).

3.6 Advertising claims

Advertising claims must not contain any unverified or misleading information. In addition, advertising claims must correspond to the instructions ²⁵of the European Commission to implement Directive (EU) 2024/825 as regards empowering consumers for the green transition (EmpCo Directive).

Products that have passed the optional odour test may be advertised as "low odour".

²⁵ [European Commission](#)

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1.

3.7 Outlook

During the next term of validity of the Basic Award Criteria, the aims, based on the information provided in the term that is currently beginning, are to set minimum recycled material content targets for all materials, to limit the plastic content (including binders) in all materials and to adjust the maximum permissible GWP reference values for thermal insulation products.

4 Applicants and Parties Involved

Manufacturers of final products according to Paragraph 2 shall be eligible for application.

Parties involved in the award process are:

- RAL gGmbH to award the Blue Angel Environmental Label,
- the federal state being home to the applicant's manufacturing site,
- Umweltbundesamt (German Environmental Agency) which after the signing of the contract receives all data and documents submitted in applications for the Blue Angel in order to be able to further develop the Basic Award Criteria.

5 Use of the Environmental Label

The use of the Environmental Label by the applicant is governed by a contract on the use of the Environmental Label concluded with RAL gGmbH.

Within the scope of such contract, the applicant undertakes to comply with the requirements under Paragraph 3 while using the Environmental Label.

Contracts on the Use of the Environmental Label are concluded to fix the terms for the certification of products under Paragraph 2. Such contracts shall run until December 31, 2030.

They shall be extended by periods of one year each, unless terminated in writing by March 31, 2030 or March 31 of the respective year of extension.

After the expiry of the contract, the Environmental Label may neither be used for labelling nor for advertising purposes. This regulation shall not affect products being still in the market.

The applicant (manufacturer) shall be entitled to apply to RAL gGmbH for an extension of the right to use the ecolabel on the product entitled to the label if it is to be marketed under another brand/trade name and/or other marketing organisations.

The Contract on the Use of the Environmental Label shall specify:

- Applicant (manufacturer)
- Brand/trade name, product description
- Distributor (label user), i.e. the above-mentioned marketing organisations.

Appendix A Quoted laws and standards, literature

Biocidal Products Regulation: Regulation (EU) No. 528/2012 concerning the making available on the market and use of biocidal products.

CLP Regulation: Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures, in short: CLP (Classification, Labelling and Packing).

DIN 4108-10: Thermal insulation and energy economy in buildings - Part 10: Application-related requirements for thermal insulation materials

DIN EN 13162: Thermal insulation products for buildings - Factory made mineral wool (MW) products - Specification; German version EN 13162:2012+A1:2015

DIN EN 13163: Thermal insulation products for buildings - Factory made expanded polystyrene (EPS) products - Specification; German version EN 13163:2012+A2:2016

DIN EN 13164: Thermal insulation products for buildings - Factory made extruded polystyrene foam (XPS) products - Specification; German version EN 13164:2012+A1:2015

DIN EN 13165: Thermal insulation products for buildings - Factory made rigid polyurethane foam (PU) products - Specification; German version EN 13165:2012+A2:2016

DIN EN 13166: Thermal insulation products for buildings - Factory made phenolic foam (PF) products - Specification; German version EN 13166:2012+A2:2016

DIN EN 13167: Thermal insulation products for buildings - Factory made cellular glass (CG) products - Specification; German version EN 13167:2012+A1:2015

DIN EN 13168: Thermal insulation products for buildings - Factory made wood wool (WW) products - Specification; German version EN 13168:2012+A1:2015

DIN EN 13169: Thermal insulation products for buildings - Factory made expanded perlite board (EPB) products - Specification; German version EN 13169:2012+A1:2015

DIN EN 13170: Thermal insulation products for buildings - Factory made products of expanded cork (ICB) - Specification; German version EN 13170:2012+A1:2015

DIN EN 13171: Thermal insulation products for buildings - Factory made wood fibre (WF) products - Specification; German version EN 13171:2012+A1:2015

DIN EN 13964: Suspended ceilings - Requirements and test methods; German version EN 13964:2014

DIN EN 14063: Thermal insulation materials and products - In-situ formed expanded clay lightweight aggregate products (LWA) - Part 1: Specification for the loose-fill products before installation; German version EN 14063-1:2004

DIN EN 14063: Thermal insulation products for buildings - In-situ formed expanded clay light-weight aggregate products - Part 2: Specification for the installed products; German version EN 14063-2:2013

DIN EN 14064-1: Thermal insulation products for buildings - In-situ formed loose-fill mineral wool (MW) products - Part 1: Specification for the loose-fill products before installation; German version EN 14064-1:2018

DIN EN 14064-2: Thermal insulation products for buildings - In-situ formed loose-fill mineral wool (MW) products - Part 2: Specification for the installed products; German version EN 14064-2:2010

DIN EN 14303: Thermal insulation products for building equipment and industrial installations - Factory made mineral wool (MW) products - Specification; German version EN 14303:2015

DIN EN 14304: Thermal insulation products for building equipment and industrial installations - Factory made flexible elastomeric foam (FEF) products - Specification; German version EN 14304:2015

DIN EN 14305: Thermal insulation products for building equipment and industrial installations - Factory made cellular glass (CG) products - Specification; German version EN 14305:2015

DIN EN 14306: Thermal insulation products for building equipment and industrial installations - Factory made calcium silicate (CS) products - Specification; German version EN 14306:2015

DIN EN 14307: Thermal insulation products for building equipment and industrial installations - Factory made extruded polystyrene foam (XPS) products - Specification; German version EN 14307:2015

DIN EN 14308: Thermal insulation products for building equipment and industrial installations - Factory made rigid polyurethane foam (PUR) and polyisocyanurate foam (PIR) products - Specification; German version EN 14308:2015

DIN EN 14309: Thermal insulation products for building equipment and industrial installations - Factory made products of expanded polystyrene (EPS) - Specification; German version EN 14309:2015

DIN EN 14313: Thermal insulation products for building equipment and industrial installations - Factory made polyethylene foam (PEF) products - Specification; German version EN 14313:2015

DIN EN 14314: Thermal insulation products for building equipment and industrial installations - Factory made phenolic foam (PF) products - Specification; German version EN 14314:2015

DIN EN 14315: Thermal insulating products for buildings - In-situ formed sprayed rigid polyurethane (PUR) and polyisocyanurate (PIR) foam products - Part 1: Specification for the rigid foam spray system before installation; German version EN 14315-1:2013

DIN EN 14316-1: Thermal insulation products for buildings - In-situ thermal insulation formed from expanded perlite (EP) products - Part 1: Specification for bonded and loose-fill products before installation; German version EN 14316-1:2004

DIN EN 14316-2: Thermal insulating products for buildings - In-situ thermal insulation formed from expanded perlite (EP) products - Part 2: Specification for the installed products; German version EN 14316-2:2007

DIN EN 14317-1: Thermal insulation products for buildings - In-situ thermal insulation formed from exfoliated vermiculite (EV) products - Part 1: Specification for bonded and loose-fill products before installation; German version EN 14317-1:2004

DIN EN 14317-2: Thermal insulation products for buildings - In-situ thermal insulation formed from exfoliated vermiculite (EV) products - Part 2: Specification for the installed products; German version EN 14317-2:2007

DIN EN 14318-1: Thermal insulating products for buildings - In-situ formed dispensed rigid polyurethane (PUR) and polyisocyanurate (PIR) foam products - Part 1: Specification for the rigid foam dispensed system before installation; German version EN 14318-1:2013

DIN EN 14318-2: Thermal insulating products for buildings - In-situ formed dispensed rigid polyurethane (PUR) and polyisocyanurate (PIR) foam products - Part 2: Specification for the installed insulation products; German version EN 14318-2:2013

DIN EN 14319-1: Thermal insulating products for building equipment and industrial installations - In-situ formed dispensed rigid polyurethane (PUR) and polyisocyanurate (PIR) foam products - Part 1: Specification for the rigid foam dispensed system before installation; German version EN 14319-1:2013

DIN EN 14319-2: Thermal insulating products for building equipment and industrial installations - In-situ formed dispensed rigid polyurethane (PUR) and polyisocyanurate foam (PIR) products - Part 2: Specification for the installed insulation products; German version EN 14319-2:2013

DIN EN 14320-1: Thermal insulating products for building equipment and industrial installations - In-situ formed sprayed rigid polyurethane (PUR) and polyisocyanurate (PIR) foam products - Part 1: Specification for the rigid foam spray system before installation; German version EN 14320-1:2013

DIN EN 15101-1: Thermal insulation products for buildings - In-situ formed loose fill cellulose (LFCI) products - Part 1: Specification for the products before installation; German version EN 15101-1:2013+A1:2019

DIN EN 15101-2: Thermal insulation products for buildings - In-situ formed loose fill cellulose (LFCI) products - Part 2: Specification for the installed products; German version EN 15101-2:2013

DIN EN 15501: Thermal insulation products for building equipment and industrial installations - Factory made expanded perlite (EP) and exfoliated vermiculite (EV) products - Specification; German version EN 15501:2015

DIN EN 15599-1: Thermal insulation products for building equipment and industrial installations - In-situ thermal insulation formed from expanded perlite (EP) products - Part 1: Specification for bonded and loose-fill products before installation; German version EN 15599-1:2010

DIN EN 15599-2: Thermal insulation products for building equipment and industrial installations - In-situ thermal insulation formed from expanded perlite (EP) products - Part 2: Specification for the installed products; German version EN 15599-2:2010

DIN EN 15600-1: Thermal insulation products for building equipment and industrial installations - In-situ thermal insulation formed from exfoliated vermiculite (EV) products - Part 1: Specification for bonded and loose-fill products before installation; German version EN 15600-1:2010

DIN EN 15600-2: Thermal insulation products for building equipment and industrial installations - In-situ thermal insulation formed from exfoliated vermiculite (EV) products - Part 2: Specification for the installed products; German version EN 15600-2:2010

DIN EN 15804: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products; German version EN 15804:2012+A2:2019 + AC:2021

DIN EN 16069: Thermal insulation products for buildings - Factory made products of polyethylene foam (PEF) - Specification; German version EN 16069:2012+A1:2015

DIN EN 16516: Construction products: Assessment of release of dangerous substances - Determination of emissions into indoor air; German version EN 16516:2017+A1:2020

DIN EN 16809-1: Thermal insulation products of buildings - In-situ formed products from loose-fill expanded polystyrene (EPS) beads and bonded expanded polystyrene beads - Part 1: Specification for the bonded and loose-fill products before installation; German version EN 16809-1:2019

DIN EN 16809-2: Thermal insulation products of buildings - In-situ formed products from loose-fill expanded polystyrene (EPS) beads and bonded expanded polystyrene beads - Part 2: Specification for the bonded and loose-fill products after installation; German version EN 16809-2:2017

DIN EN ISO 10456: Building materials and products - Hygrothermal properties - Tabulated design values and procedures for determining declared and design thermal values (ISO 10456:2007 + Cor. 1:2009); German version EN ISO 10456:2007 + AC:2009

DIN EN ISO 11654: Acoustics - Sound absorbers for use in buildings - Rating of sound absorption (ISO 11654:1997); German version EN ISO 11654:1997

DIN EN ISO 14021: Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) (ISO 14021:2016); German and English version EN ISO 14021:2016

DIN EN ISO 16181-1: Footwear - Critical substances potentially present in footwear and footwear components - Part 1: Determination of phthalate with solvent extraction (ISO 16181-1:2021); German version EN ISO 16181-1:2021

DIN EN ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2017); German and English version prEN ISO/IEC 17025:2017

DIN EN ISO/IEC 17043/A11: Conformity assessment - General requirements for the competence of proficiency testing providers (ISO/IEC 17043:2023); German and English version EN ISO/IEC 17043:2023/A11:2024

DIN ISO 16000: Indoor air - Part 28: Determination of odour emissions from building products using test chambers (ISO 16000-28:2020)

EAD 040005-00-1201: Factory-made thermal and/or acoustic insulation products made of vegetable or animal fibres. Decision 2016/C 054/14.

EAD 040011-01-1201: Vacuum insulation panels with factory-applied protection layers. Decision (EU) 2025/871.

EAD 040012-00-1201: Thermal insulation board made of mineral material. 2018/C 281/04.

EAD 040037-00-1201: Low lambda composite boards made of mineral wool fibres and aerogel additives. 2017/C 118/04.

EAD 040057-01-1201: Thermal insulation boards made of microporous silica. Decision (EU) 2024/1944.

EAD 040138-01-1201: In-situ formed loose fill thermal and/or acoustic insulation products made of vegetable fibres. Decision 2018/C 417/07.

EAD 040146-00-1201: Thermal insulation for buildings made of straw bales. Decision (EU) 2023/1473.

EAD 040313-00-1201: In-situ formed loose fill thermal and/or acoustic insulation product made of granulated expanded cork. Decision 2017/C 118/04.

EAD 040456-00-1201: In-situ formed loose fill thermal and/or acoustic insulation material made of animal fibres. Decision 2017/C 343/06.

EAD 040461-00-1201: Thermal insulation product made of loose fill expanded perlite (EP). Decision 2018/C 281/04.

EAD 040685-00-1201: Factory-made insulation mats made of glass fibres and amorphous silica. Decision (EU) 2024/237.

EAD 040729-00-1201: Thermal insulation made of loose mineral wool. Decision (EU) 2020/962.

EAD 040949-00-1201: Mineraally-bonded boards made of wood chips. Decision (EU) 2025/871.

EAD 041125-00-1201: In-situ loose fill thermal and/or acoustic insulation products made of vegetable fibres to be used in floor constructions without additional load-bearing structures. Decision (EU) 2023/424.

EAD 041389-00-1201: Boards made of agglomerated natural cork for thermal and acoustic insulation. Decision (EU) 2020/962.

EAD 041561-00-1201: In-situ formed thermal insulation made of mineral-based foam. Decision (EU) 2022/0381.

Gesetz zur Förderung der Kreislaufwirtschaft und Sicherung der umweltverträglichen Bewirtschaftung von Abfällen (Act to Promote the Circular Economy and Safeguard the Environmentally-Compatible Management of Waste) (Circular Economy Act – Kreislaufwirtschaftsgesetz – KrWG).

Model Administrative Provisions – Technical Building Rules (MVV TB) 2025/1: Current edition 2025/1; Official Communications 2025/3 (edition dated 20 May 2025, including corrections of printing errors dated 29 July 2025 and 22 October 2025).

POP Regulation: Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants (recast)

REACH Regulation: Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), in short: REACH.

Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 on marine equipment and repealing Council Directive 96/98/EC

Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information, in short: EmpCo Directive.

StrlSchG. Act on Protection against the Harmful Effects of Ionising Radiation (Radiation Protection Act) of 27 June 2017 (Federal Law Gazette I, p. 1966), last amended by Article 4 of the Act of 23 October 2024 (Federal Law Gazette I, No. 324).

VDI 4301 Sheet 7: 2018-10: Measurement of indoor air pollution - Measurement of carboxylic acids.

VDI 4302 Sheet 1: 2015-04: Sensory testing of indoor air and determination of odour emissions from building products - Fundamentals

Appendix B Assignment of the hazard statements to the hazard categories according to chemical law

The following table assigns the hazard statements (H Phrases) to the hazard categories defined in the Regulation on classification, labelling and packaging of substances and mixtures (CLP Regulation (EC) No 1272/2009).

Hazard categories	Hazard statements	
	H Phrases	Wording
Carcinogenic substances		
Carc. 1A Carc. 1B	H350	May cause cancer
Carc. 1A Carc. 1B	H350i	May cause cancer if inhaled
Germ cell mutagenic substances		
Muta. 1A Muta. 1B	H340	May cause genetic defects
Reprotoxic substances		
Repr. 1A Repr. 1B	H360	May damage fertility or the unborn child
Repr. 1A Repr. 1B	H360D	May damage the unborn child
Repr. 1A Repr. 1B	H360F	May damage fertility
Repr. 1A Repr. 1B	H360FD	May damage fertility May damage the unborn child
Repr. 1A Repr. 1B	H360Df	May damage the unborn child Suspected of damaging fertility
Repr. 1A Repr. 1B	H360Fd	May damage fertility Suspected of damaging the unborn child
Endocrine disruptors (Human)		
ED HH 1	EUH380	May cause endocrine disruption in humans
ED HH 2	EUH381	Suspected of causing endocrine disruption in humans
Acute toxicity substances		
Acute Tox. 1 Acute Tox. 2	H300	Fatal if swallowed
Acute Tox. 3	H301	Toxic if swallowed
Acute Tox. 1 Acute Tox. 2	H310	Fatal in contact with skin
Acute Tox. 3	H311	Toxic in contact with skin
Acute Tox. 1 Acute Tox. 2	H330	Fatal if inhaled
Acute Tox. 3	H331	Toxic if inhaled

Hazard categories	Hazard statements	
	H Phrases	Wording
Substances with specific target organ toxicity		
STOT SE 1	H370	Causes damage to organs
STOT RE 1	H372	Causes damage to organs through prolonged or repeated exposure
Sensitizing substances		
Resp. Sens. 1 Resp. Sens. 1A Resp. Sens. 1B	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin Sens. 1 Skin Sens. 1A Skin Sens. 1B	H317	May cause an allergic skin reaction
(Very) persistent), (very) bioaccumulative and toxic substances		
PBT	EUH440	Accumulates in the environment and living organisms including in humans
vPvB	EUH441	Strongly accumulates in the environment and living organisms including in humans
(Very) persistent), (very) mobile and toxic substances		
PMT	EUH450	Can cause long-lasting and diffuse contamination of water resources
vPvM	EUH451	Can cause very long-lasting and diffuse contamination of water resources
Endocrine disruptors (Environment)		
ED ENV 1	EUH430	May cause endocrine disruption in the environment
ED ENV 2	EUH431	Suspected of causing endocrine disruption in the environment
Water-hazardous substances		
Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 1	H410	Very toxic to aquatic life with long-lasting effects.
Aquatic Chronic 2	H411	Toxic to aquatic organisms with long-lasting effects.
Aquatic Chronic 3	H412	Harmful aquatic organisms with long lasting effects.
Other environmental hazards		
Ozone 1	H420	Harms public health and the environment by destroying ozone in the upper atmosphere.

Appendix C Wood certification

- A valid certification number from the raw material supplier and an example delivery note that includes a corresponding statement on the certification of the material must be submitted.
- Verification of the chain of custody (CoC): A valid certification number for the manufacturing site must be submitted.
- If the manufacturer does not have CoC certification: Confirmation of compliance with the wood requirement from an environmental verifier approved for this scope (NACE 16.21) by the German Society for the Accreditation and Registration of Environmental Verifiers (DAU) in accordance with the Environmental Audit Act or from an FSC or PEFC certifier accredited by the German Accreditation Body (DAkkS).
- If the product is sold with a PEFC/FSC or Naturland label: Information on the label/mark must be submitted.
- Accepted proportions of virgin wood, using selected certificates as an example

	Proportions of certified virgin wood
FSC 100%	100%
FSC Mix XX%	XX% (e.g. FSC Mix 70% = 70% of the wood is certified)
FSC Mix Credit	70%
XX% PEFC	XX% (e.g. 80% PEFC = 80% of the wood is certified)
Naturland	100%
Holz von Hier	100%