Deutsches Institut für Bautechnik

Approval body for construction products and types of construction

Bautechnisches Prüfamt

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European Technical Assessment ETA-07/0085 of 24 April 2017

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	HOIZ
Product family to which the construction product belongs	Loose wood shavings as thermal insulation material
Manufacturer	Bau-Fritz GmbH & Co. KG seit 1896 Alpenweg 25 87746 Erkheim DEUTSCHLAND
Manufacturing plant	Bau-Fritz GmbH & Co. KG seit 1896 Alpenstraße 25 87746 Erkheim DEUTSCHLAND
This European Technical Assessment contains	6 pages including 1 annex which form an integral part of this assessment
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	European Assessment Document (EAD) 040138-00-1201

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Specific part

1 Technical description of the product

This European Technical Assessment applies to the thermal insulation material made of loose, free wood shavings with the designation:

"HOIZ".

The thermal insulation material consists of machine strands with the dimensions of up to a maximum of 50 mm x 25 mm x 2 mm. During the manufacturing process the wood shavings are provided with a fire protection equipment.

The European Technical Assessment has been issued for the product on the basis of agreed data/ information, deposited with Deutsches Institut für Bautechnik, which identifies the product that has been assessed. The European Technical Assessment applies only to products corresponding to this agreed data/information.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The thermal insulation material serves for the production of insulation layers, not exposed to compression loads.

The thermal insulation material can be used for the following intended uses:

- Space-filling insulation in closed cavities of walls in wood panel constructions and comparable cavities (e. g. in timber joist floors and between rafters)

The performances given in Section 3 are only valid if the thermal insulation product is installed according to the manufacture's installation instructions, used in compliance with the specifications and conditions given in Annex A and if it is protected from precipitation, wetting or weathering in built-in state and during transport, storage and installation.

As to the application of the thermal insulation material, the respective national regulations shall in addition be observed.

The design value of the thermal conductivity shall be laid down according to relevant national provisions.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the thermal insulation product of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

For sampling, conditioning and testing the provisions of the EAD No 040138-00-1201 "In-situ formed loose fill thermal and/or acoustic insulation products made of vegetable fibres" apply.

3.1 Mechanical resistance and stability (BWR 1)

Not applicable

3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire test acc. to EN ISO 11925-2:2010	Class E acc. to EN 13501-1:2007+A1:2009

3.3 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Resistance to the growth of mould test acc. to EAD "In-situ formed loose fill thermal and/or acoustic insulation products made of vegetable fibres", Annex B	Evaluation level 1 acc. to EN ISO 846:1997

3.4 Safety and accessibility in use (BWR 4)

Not applicable

3.5 Protection against noise (BWR 5)

Not applicable

3.6 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal conductivity at mean reference temperature of 10 °C test acc. to EN 12667:2001	Declared value for a moisture content of the insulation material at 23 °C and 50 % relative humidity: $\lambda_{D(23,50)}$ = 0,047 W/(m ·K)*
Conversion of humidity acc. to EN ISO 10456:2007+AC:2009 mass-related moisture content at 23 °C/50 % rel. humidity: mass-related moisture content at 23 °C/80 % rel. humidity: mass-related moisture conversion coefficient (dry to 23 °C/50 % rel. humidity): mass-related moisture conversion coefficient (23 °C/50 % rel. humidity to 23 °C/80 % rel. humidity): moisture conversion factor (dry to 23 °C/50 % rel. humidity): moisture conversion factor (23 °C/50 % rel. humidity to 23 °C/ 80 % rel. humidity):	 $u_{23,50}$ = 0,08 kg/kg $u_{23,80}$ = 0,15 kg/kg f_{u1} = 0,36 f_{u2} = 0,756 F_{m1} = 1,03 F_{m2} = 1,05
Water vapour diffusion resistance coefficient test acc. to EN 12086:2013, climate condition C	μ = 2
Corrosion developing capacity	No performance assessed
Short-term water absorption by partial immersion test acc. to EN 1609:2013, method A	≤ 14 kg/m²

Essential characteristic	Performance
Settlement	
Settling under impact excitation	≤ 5 % at a minimum density of 50 kg/m³ and a maximum thickness of 330 mm
Settling under vibration in wall cavity	SC 0 acc. to EN 15101-1:2013 (≤1 %) at a minimum density of 50 kg/m³ and a maximum thickness of 240 mm
Settling under defined climatic conditions	≤ 2 % bei (40±2) °C / (90±5) r.F. at a minimum density of 50 kg/m³
Critical moisture content	No performance assessed
Airflow resistance	No performance assessed
Hygroskopic sorption properties	No performance assessed

* The declared value is representative for at least 90 % of the production with a confidence level of 90 % and applies to the above-named density range. For the admissible deviation of an individual value of the thermal conductivity from the declared value the method described in EN 13172:2012, annex F, applies.

3.7 Sustainable use of natural resources (BWR 7)

For the sustainable use of natural resources no performance was investigated for this product.

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with EAD No. 040138-00-1201 the applicable European legal act is: 1999/91/EC.
The system to be applied is: 3

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 24 April 2017 by Deutsches Institut für Bautechnik

Prof. Gunter Hoppe
Head of Department

beglaubigt:
Stopp

ANNEX A

The performances of the thermal insulation product given in Section 3 are valid if the following will be considered concerning installation and use:

- At built-in state each single value of the density of the thermal insulation material is between at least 50 kg/m^3 and 90 kg/m^3 at the most. The density is determined by calculation as a quotient from the mass of the material brought in and the filled volume.
- When calculating the thermal resistance, the nominal thickness of the insulation layer is applied. The nominal thickness is the clear width of the filled cavity.
- The thermal insulation material is installed with not more than 18 % mass-related humidity, at which it is ensured that the thermal insulation material can dry up to its moisture equilibrium at built-in state.
- The thermal insulation material is placed manually or by machine into the cavity to be filled. The thermal insulation material is compacted sufficiently so that the given density range is reached. The executing company has to check the density.
- When applying the thermal insulation material in "VOLL-WERT-Konstruktionen"[1] the thermal insulation material is placed into the horizontal wood panels, top side open, and compacted dynamically. Immediately afterwards the planking on the room side shall be applied.
- To avoid settlements two "standing“ sheets of hardboard strips shall be installed in "VOLL-WERT-Konstruktionen"[1] and "Kernwand-Außenbauteilen"[1] in the thermal insulation material per bay, with the parting of the upper sheet placed approx. 150 mm away from the head rib. The second sheet should be placed in the lower third point of the wall element. Equivalent constructive measures to avoid settlements are permissible.
- If in the area of the thermal insulation material built-in illuminators, air conditioning systems or other heat generating installations are intended or available an alarming heat accumulation in the fire protection sense is avoided by constructive measures.
- In case of use as space-filling thermal insulation in closed cavities it is made sure by appropriate measures (e. g. control drillings) that the cavity is completely filled with the thermal insulation product. In case of vertical cavities with clear widths $\leq$ 12 cm the filling height shall not exceed 3.5 m.
- The thermal insulation products are only processed by companies trained by the manufacturer and stated in a list of the manufacturer which have adequate experience in installing the material.
- The executing company issue a certificate which contains the following information with reference to this European Technical Assessment for each application place:
  - Thermal insulation product made of loose, free wood shavings "HOIZ" according to European Technical Assessment ETA-07/0085
  - executing company
  - building project and building component
  - date of installation
  - installation thickness and density

[1] Constructions of the firm Bau-Fritz GmbH & Co., seit 1896; the constructions shall correspond to the information deposited with Deutsches Institut für Bautechnik.