

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-12/0179
of 20 September 2018

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General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

ISOWOOD plus

Product family
to which the construction product belongs

Thermal insulation material made of loose wood shavings

Manufacturer

holz & raum GmbH & Co. KG
Therecker Weg 18
57413 Finnentrop-Rönkhausen
DEUTSCHLAND

Manufacturing plant

Domat Sp.z.o.o.
ul. Szkolna 9
64-426 Lowyn
POLEN

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

EAD 040138-00-1201

This version replaces

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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 "ISOWOOD plus".

The wood shavings are produced from pinewood by mechanical crushing under addition of fire retardants and mould fungus retardants.

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 and shall be installed in dry conditions.

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

- Space-filling insulation in closed cavities of walls, roofs and ceilings of timber panel constructions and similar structures (e. g. in timber beam ceilings and between rafters)

The performances given in Section 3 are only valid if the thermal insulation product is installed according to the manufacturer'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 0 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: $\lambda_{D(23,50)} = 0,043 \text{ W}/(\text{m} \cdot \text{K})^*$
Conversion of humidity acc. to EN ISO 10456:2007+AC:2009	
mass-related moisture content at 23 °C/50 % rel. humidity:	$u_{23,50} = 0,07 \text{ kg/kg}$
mass-related moisture content at 23 °C/80 % rel. humidity:	$u_{23,80} = 0,10 \text{ kg/kg}$
mass-related moisture conversion coefficient (dry to 23 °C/50 % rel. humidity):	$f_{u1} = 0,45$
mass-related moisture conversion coefficient (23 °C/50 % rel. humidity to 23 °C/80 % rel. humidity):	$f_{u2} = 1,59$
moisture conversion factor (dry to 23 °C/50 % rel. humidity):	$F_{m1} = 1,03$
moisture conversion factor (23 °C/50 % rel. humidity to 23 °C/ 80 % rel. humidity):	$F_{m2} = 1,05$
Water vapour diffusion resistance coefficient test acc. to EN 12086:2013, climate condition C	$\mu = 1 \text{ bis } 4^{**}$
Corrosion developing capacity	No performance assessed
Water absorption short term water absorption by partial immersion test acc. to EN 1609:2013, method A	$\leq 19 \text{ kg/m}^3$
Settlement	
Settling under vibration in wall cavity	SC 0 acc. to EN 15101-1:2013 ($\leq 1 \%$) at a minimum density of 95 kg/m ³ and a maximum thickness of 240 mm
Settling under defined climatic conditions	$\leq 1 \%$ bei (40±2) °C / (90±5) r.F. at a minimum density of 95 kg/m ³
Critical moisture content	No performance assessed

Essential characteristic	Performance
Airflow resistance Test acc. to EN 29053:1993, Procedures A	No performance assessed
Hygroskopische 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.

** The most unfavourable value for the construction work shall be applied each.

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 20 September 2018 by Deutsches Institut für Bautechnik

Prof. Gunter Hoppe
Head of Department

beglaubigt:
Meyer

ISOWOOD plus

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 is between at least 95 kg/m³ and 105 kg/m³ 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 shall be applied. The nominal thickness is the clear width of the filled cavity.
- It is ensured that the thermal insulation material at built-in state can dry up to its moisture equilibrium.
- The thermal insulation material is placed in dry condition 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 prefabricated wall elements the thermal insulation material is placed into the horizontal elements with the topside open and compacted dynamically. Immediately afterwards the internal planking is applied.
- 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 ≤ 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 "ISOWOOD plus" according to European Technical Assessment ETA-12/0179
 - executing company
 - building project and building component
 - date of installation
 - installation thickness and density