

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

ETA-14/0479  
of 7 January 2015

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Trade name of the construction product

Product family  
to which the construction product belongs

Manufacturer

Manufacturing plant

This European Technical Assessment  
contains

This European Technical Assessment is  
issued in accordance with Regulation (EU)  
No 305/2011, on the basis of

Deutsches Institut für Bautechnik

"Thermo-Jute Duo", "Thermo-Jute 100"

Insulation mats made of hemp and/or jute fibres

Thermo Natur GmbH & Co. KG  
Industriestraße 2  
86720 Nördlingen  
DEUTSCHLAND

Thermo Natur GmbH & Co. KG  
Industriestraße 2  
86720 Nördlingen  
DEUTSCHLAND

7 pages which form an integral part of this assessment

European Assessment Document (EAD) "Factory-made  
thermal and/or acoustic insulation products made of  
vegetable or animal fibres", No 040005-00-1201

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## Specific Part

### 1 Technical definition of the construction product

This European Technical Assessment applies to the insulation materials with the designations:

"Thermo-Jute Duo" (further trade names "Thermo-Jute MIX", "Thermo-Jute 75", "Thermo-Jute COMBI", "Dämm-Jute 75", "Iso-Jute 75", "Thermo-Dämm Jute 75", "Combi-Natur", "Combi-Jute", "Mabo Iso-Jute 75") made of hemp and jute fibres, as well as

"Thermo-Jute 100" (further trade names "Thermo-Jute REIN", "Thermo-Jute NATUR", "Thermo-Jute KLASSIK", "Thermo-Jute NATURELL", "Thermo-Jute ELEMENT", "Thermo-Jute FLEX", "Dämm-Jute 100", "Iso-Jute 100", "Thermo-Dämm Jute", "Natura", "Complete", "Tempura", "Burlap", "Pure", "Classic", "Classique", "Purus", "Mabo Jute Flex", "Dämm-Jute") made of jute fibres.

For distinction of the insulation materials in the following only the designations "Thermo-Jute Duo" and "Thermo-Jute 100" will be used.

The insulation materials contain polymeric binding fibres, which are thermally hardened during manufacture.

During the manufacturing process the products are provided with fire protection equipment.

The insulation materials are made in form of mats with the following dimensions:

Nominal thickness:	minimum 30 mm to 220 mm maximum
Nominal length:	1200 mm or 2400 mm
Nominal widths:	580 mm, 625 mm or 1000 mm

For nominal thicknesses of 30 mm to 80 mm the insulation materials are also made in form of rolls.

The insulation materials are not coated.

The European Technical Assessment has been issued for the products 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 (EAD)

The insulation materials not exposed to compression loads can be used as follows:

- cavity insulation of external and internal walls of timber frame constructions and similar structures
- internal insulation of external walls between supporting construction
- insulation between rafters and timber beams as well as in cavities of corresponding structures
- insulation on topmost storey ceilings which are not subjected to foot traffic, however, are accessible
- internal insulation of ceiling or roof, e.g. insulation beneath the loadbearing construction (e.g. rafters), suspended ceiling
- cavity insulation between flooring joist battens and similar substructures.

The performance according to section 3 only applies if the insulation materials are installed according to the manufacturer's installation instructions and if they are protected from precipitation, wetting or weathering in built-in state and during transport, storage and installation.

Concerning the application of the insulation materials also the respective national regulations shall be observed.

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

When calculating the thermal resistance, the nominal thickness of the insulation materials shall be applied.

### 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 040005-00-1201 "Factory-made thermal and/or acoustic insulation products made of vegetable or animal 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 13501-1:2010

#### 3.3 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Resistance to the growth of mould test acc. to EAD "Factory-made thermal and/or acoustic insulation products made of vegetable or animal fibres", annex B	Evaluation level 0 acc. to EN ISO 846:2013

#### 3.4 Safety and accessibility (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
<p>Thermal conductivity at a reference temperature of 10°C test acc. to EN 12667:2001</p> <p>"Thermo-Jute Duo"</p> <p>"Thermo-Jute 100"</p> <p>"Thermo-Jute Duo"</p> <p>"Thermo-Jute 100"</p>	<p>Declared values for a moisture content of the insulation material at 23 °C and 50 % relative humidity:</p> <p><math>\lambda_{D(23,50)} = 0.040 \text{ W/(m} \cdot \text{K)}</math> (Category 1')</p> <p><math>\lambda_{D(23,50)} = 0.038 \text{ W/(m} \cdot \text{K)}</math> (Category 1')</p> <p><math>\lambda_{D(23,50)} = 0.040 \text{ W/(m} \cdot \text{K)}</math> (Category 2'')</p> <p><math>\lambda_{D(23,50)} = 0.038 \text{ W/(m} \cdot \text{K)}</math> (Category 2'')</p>
<p>Conversion of humidity acc. to EN ISO 10456:2010</p> <p>the mass-related moisture content at 23 °C/50 % rel. humidity:</p> <p>"Thermo-Jute Duo"</p> <p>"Thermo-Jute 100"</p> <p>the mass-related moisture content at 23 °C/80 % rel. humidity:</p> <p>"Thermo-Jute Duo"</p> <p>"Thermo-Jute 100"</p> <p>the mass-related moisture conversion coefficient (dry to 23 °C/50 % rel. humidity):</p> <p>"Thermo-Jute Duo"</p> <p>"Thermo-Jute 100"</p> <p>the mass-related moisture conversion coefficient (23 °C/50 % rel. humidity to 23 °C/80 % rel. humidity):</p> <p>"Thermo-Jute Duo"</p> <p>"Thermo-Jute 100"</p> <p>moisture conversion factor (dry to 23 °C/ 50 % rel. humidity):</p> <p>"Thermo-Jute Duo"</p> <p>"Thermo-Jute 100"</p> <p>moisture conversion factor (23 °C/ 50 % rel. humidity to 23 °C/ 80 % rel. humidity) :</p> <p>"Thermo-Jute Duo"</p> <p>"Thermo-Jute 100"</p>	<p><math>u_{23,50} = 0.10 \text{ kg/kg}</math></p> <p><math>u_{23,50} = 0.10 \text{ kg/kg}</math></p> <p><math>u_{23,80} = 0.21 \text{ kg/kg}</math></p> <p><math>u_{23,80} = 0.22 \text{ kg/kg}</math></p> <p><math>f_{u1} = 0.32</math></p> <p><math>f_{u1} = 0.20</math></p> <p><math>f_{u2} = 0.07</math></p> <p><math>f_{u2} = 0.02</math></p> <p><math>F_{m1} = 1.03</math></p> <p><math>F_{m1} = 1.02</math></p> <p><math>F_{m2} = 1.01</math></p> <p><math>F_{m2} = 1.00</math></p>

Essential characteristic	Performance
Water vapour diffusion resistance coefficient test acc. to EN 12086:2013, climate condition 23–50/93	$\mu = 1$ to $2^{***}$
Short term water absorption by partial immersion  test acc. to EN 1609:2013, Verfahren A	$\leq 2.0 \text{ kg/m}^2$
Dimensional deviations:  Length and widths: test acc. to EN 822:2013  Thickness: test acc. to EN 823:2013  Squareness: test acc. to EN 824:2013  Flatness: test acc. to EN 825:2013	length: $\pm 2 \%$ widths: $\pm 1.5 \%$ –4 mm und +10 mm / +10 % <sup>a</sup> relates to class T3 acc. to EN 13171:2012  $S_b \leq 5 \text{ mm/m}$  $S_{max} \leq 6 \text{ mm}$
Density: test acc. to EN 1602:2013  "Thermo-Jute Duo"  "Thermo-Jute 100"	  $30 - 35 \text{ kg/m}^3$  $34 - 40 \text{ kg/m}^3$
Dimensional stability under specified temperature and humidity conditions: test acc. to EN 1604:2013 (48 h, 70 °C)  "Thermo-Jute Duo"  Deviation from length and width:  Deviation from thickness:  "Thermo-Jute 100"	  DS(70,-)3 acc. to EN 13171:2012 max. $\pm 1.5 \%$ max. $\pm 3.0 \%$  No performance determined.
Tensile strength parallel to faces: test acc. to EN 1608:2013	$\geq 30 \text{ kPa}$

\* The declared value of category 1 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 declared value of category 2 is based on a limit value, which must not be exceeded during the production and applies to the above-named density range. The limit value of thermal conductivity under dry conditions is for "Thermo-Jute Duo"  $\lambda_{10,dry} = 0.0379 \text{ W/(m} \cdot \text{K)}$  and for "Thermo-Jute 100"  $\lambda_{10,dry} = 0.0368 \text{ W/(m} \cdot \text{K)}$ .

\*\*\* The most unfavorable value for the construction shall be applied each.

<sup>a</sup> Whichever gives the smallest numerical tolerance.

### 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**

According to Decision of the Commission 1999/91/EC as amended by Decision of the Commission 2001/596/EC, the system 3 of assessment and verification of constancy of performance (see Annex V and Article 65 Paragraph 2 to Regulation (EU) No 305/2011) shall be applied.

**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 at Deutsches Institut für Bautechnik.

Issued in Berlin on 7 January 2015 by Deutsches Institut für Bautechnik

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Head of Department

*beglaubigt:*  
Kühnemund