

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

ETA-05/0179  
of 16 November 2015

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

System Dennert Typ A  
System Dennert Typ B  
System Dennert Typ C  
System Dennert Typ D

Product family  
to which the construction product belongs

Thermal insulating board made of mineral material

Manufacturer

Veit Dennert KG  
Baustoffbetriebe  
Hauptstraße 1  
96191 Viereth  
DEUTSCHLAND

Manufacturing plant

Poratec GmbH  
Industriestraße 13  
96120 Bischberg  
DEUTSCHLAND

This European Technical Assessment  
contains

7 pages 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)  
040012-00-1201 "THERMAL INSULATION BOARD  
MADE OF MINERAL MATERIAL"

This version replaces

ETA-05/0179 issued on 7 June 2013

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## Specific Part

### 1 Technical description of the product

This European Technical Assessment applies to the thermal insulating boards made of mineral material with the designations:

"System Dennert Typ A"

"System Dennert Typ B"

"System Dennert Typ C"

"System Dennert Typ D"

The thermal insulating boards are manufactured of quartz powder, calcium hydrate and cement by adding a foaming agent and are high-pressure steam cured (autoclaved).

The thermal insulating boards "System Dennert Typ A", "System Dennert Typ B", "System Dennert Typ C" and "System Dennert Typ D" differ as to the ratio of quartz powder, calcium hydrate and cement.

The thermal insulating boards are dyed, not coated and not laminated.

The boards are made with the following dimensions:

Nominal thicknesses: 40 mm to 200 mm ("System Dennert Typ D": 25 mm to 200 mm)

Nominal length: 250 mm to 650 mm

Nominal width: 200 mm to 400 mm

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 products 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 insulating boards can be used for the following intended uses:

- Internal insulation of walls
- Internal insulation of ceilings and roofs
- Internal insulation of floors below screeds in residential and office areas

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

This European Technical Assessment does not cover the use of the thermal insulating boards in thermal insulation systems. Separate European Technical Assessments are necessary for certain intended uses regarding this (e.g. when using in external thermal insulation composite systems).

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

Concerning the application of the thermal insulation boards, also the respective national regulations shall be observed.

Where the thermal insulation boards are fixed by using adhesives and/or anchors, only such adhesions or anchors shall be used, which are suitable for this purpose. The assessment of these fixings is not subject of this European Technical Assessment.



The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the thermal insulating boards 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 040012-00-1201, "Thermal insulation board made of mineral material" apply.

#### 3.1 Mechanical resistance and stability (BWR 1)

Not applicable

#### 3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
<b>Reaction to fire:</b> Test acc. to EN ISO 1182:2010 and EN ISO 1716:2010	Class A1 accordance to EN 13501-1:2007 + A1:2009

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

Essential characteristic	Performance
<b>Content and/or release of dangerous substances:</b>	The construction product does not contain or release dangerous substances according to EOTA TR 034 (version April 2014)
<b>Water vapour diffusion resistance coefficient:</b> Test according to EN 12086:2013 System Dennert Typ A System Dennert Typ B, System Dennert Typ C, System Dennert Typ D	$\mu = 3 - 6^1$ $\mu = 3 - 7^1$

#### 3.4 Safety and accessibility (BWR 4)

Not applicable

#### 3.5 Protection against noise (BWR 5)

Essential characteristic	Performance
<b>Sound absorption:</b>	No performance assessed.

<sup>1</sup> The most value for the construction product work shall be applied each

### 3.6 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
<p><b>Thermal conductivity:</b> at a meanreference temperature of 10 °C test acc. EN 12667:2001</p> <p>System Dennert Typ A</p> <p>System Dennert Typ B</p> <p>System Dennert Typ C</p> <p>System Dennert Typ D</p>	<p>Declared values for a moisture content of the insulating boards at 23 °C and 50 % relative humidity:</p> <p><math>\lambda_{D23/50} = 0.038 \text{ W/(m}\cdot\text{K)}</math></p> <p><math>\lambda_{D23/50} = 0.040 \text{ W/(m}\cdot\text{K)}</math></p> <p><math>\lambda_{D23/50} = 0.042 \text{ W/(m}\cdot\text{K)}</math></p> <p><math>\lambda_{D23/50} = 0.049 \text{ W/(m}\cdot\text{K)}</math> (categorie 2*)</p>
<p>Conversion of humidity accordance to EN ISO 10456:2007 + AC:2009</p> <p>The mass-related moisture content at 23 °C/80 % relativ humidity:</p> <p>Mass-related moisture conversion coefficient: (23 °C/50 % rel. humidity to 23 °C/80 % rel. humidity):</p> <p>Moisture conversion factor (23 °C/50 % rel. humidity to 23 °C/80 % rel. humidity):</p>	<p><math>u_{23/80} = 0,015 \text{ kg/kg}</math></p> <p><math>f_{u2} = 0.98</math></p> <p><math>F_{m2} = 1.01</math></p>
<p><b>Dimensional deviations (individual values):</b></p> <p>Length and width: Test acc. EN 822:2013</p> <p>Thickness: Test acc. EN 823:2013 (with a load of 250 Pa)</p> <p>Squareness in direction of length and width: Test acc. EN 824:2013</p> <p>Flatness:</p>	<p>maximum deviation:</p> <p><math>\pm 2 \text{ mm}</math> class L(2) and W(2) acc. to EN 13163:2012 + A1:2015</p> <p><math>\pm 2 \text{ mm}</math></p> <p><math>S_b \leq 6 \text{ mm/m}</math></p> <p>No performance assessed</p>
<p><b>Water absorbtion:</b></p>	<p>No performance assessed</p>

\* The declared value of category 2 is based on a limit value, which must not be exceeded during the production and applies to the named density range. The limit value of thermal conductivity is for "System Dennert Typ A"  $\lambda_{10,dry} = 0,038 \text{ W/(m}\cdot\text{K)}$ , "System Dennert Typ B"  $\lambda_{10,dry} = 0,040 \text{ W/(m}\cdot\text{K)}$ , "System Dennert Typ C"  $\lambda_{10,dry} = 0,042 \text{ W/(m}\cdot\text{K)}$  and "System Dennert Typ D"  $\lambda_{10,dry} = 0,049 \text{ W/(m}\cdot\text{K)}$ .

Essential characteristic	Performance
<b>Density, dry:</b> Test acc. to EN 1602:2013 Conditioning: 105 °C to constant mass System Dennert Typ A: System Dennert Typ B: System Dennert Typ C: System Dennert Typ D:	Density range (each individual values):  75 kg/m <sup>3</sup> to 100 kg/m <sup>3</sup> 85 kg/m <sup>3</sup> to 110 kg/m <sup>3</sup> 101 kg/m <sup>3</sup> to 130 kg/m <sup>3</sup> 131 kg/m <sup>3</sup> to 150 kg/m <sup>3</sup>
<b>Bending strength:</b>	No performance assessed
<b>Compressive strength (individual value):</b> Test acc. to EN 826:2013	Mean value of the compressive strength ≥ 150 kPa Individual values may fall below these value up to 10 %.
<b>Dimensional stability:</b> Test acc. to EN 1604:2013 Conditioning: 48 h, at (70 ± 2) °C and (90 ± 5) % relative humidity	Relative changes in length, width and thickness: max. ± 0.5 %
<b>Tensile strength perpendicular to faces:</b>	No performance assessed
<b>Point load:</b>	No performance assessed
<b>Porosity:</b>	No performance assessed

### 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 of 1999/91/EC as amended by Decision of the Commission of 2001/596/EG, the systems of assessment and verification of constancy of performance (see Annex V and Article 65 Paragraph 2 to Regulation (EU) No 305/2011) given in the following table applies.

Product	Intended use	System
System Dennert Typ A System Dennert Typ B System Dennert Typ C System Dennert Typ D	For uses subject to regulations on reaction to fire	1
	Any	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 at Deutsches Institut für Bautechnik.

Issued in Berlin on 16 November 2015 by Deutsches Institut für Bautechnik

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Head of Department

*beglaubigt:*  
Stopp