

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

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European Technical Assessment

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General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

'Pura prime Mineraldämmplatte'
'Pura Mineraldämmplatte'
'Pura smart Mineraldämmplatte'
'Pura dur Mineraldämmplatte'

Product family
to which the construction product belongs

Thermal insulation board made of mineral material

Manufacturer

redstone GmbH & Co. KG
Haferwende 1
28357 Bremen
DEUTSCHLAND

Manufacturing plant

WERK 2

This European Technical Assessment
contains

6 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

EAD 040012-01-1201

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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:

'Pura prime Mineraleämmplatte'

'Pura Mineraleämmplatte'

'Pura smart Mineraleämmplatte'

'Pura dur Mineraleämmplatte'

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 'Pura prime Mineraleämmplatte', 'Pura Mineraleämmplatte', 'Pura smart Mineraleämmplatte' and 'Pura dur Mineraleämmplatte' 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 ('Pura dur Mineraleämmplatte': 25 to 200 mm)

Nominal length: 250 mm to 650 mm

Nominal width: 200 mm to 400 mm

Soffit panels and insulation wedges sawn out of the above mentioned thermal insulation boards are also covered by this European Technical Assessment.

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 040012-01-1201, 'Thermal insulation board made of mineral material' apply.

3.1 Safety in case of fire (BWR 2)

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

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Content and/or release of dangerous substances:	The product does not contain or release dangerous substances according to EOTA TR 034 (version April 2014)
Water vapour diffusion resistance coefficient: Test according to EN 12086:2013, climate condition A	
Pura prime Minerale Dämmplatte	$\mu = 3 / 6^2$
Pura Minerale Dämmplatte, Pura smart Minerale Dämmplatte, Pura dur Minerale Dämmplatte	$\mu = 3 / 7^2$

3.3 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal conductivity: at a mean reference temperature of 10 °C test acc. EN 12667:2001	Declared values for a moisture content of the insulating boards at 23 °C and 50 % relative humidity ³ :
Pura prime Minerale Dämmplatte	$\lambda_{D23/50} = 0.038 \text{ W/(m}\cdot\text{K)}$
Pura Minerale Dämmplatte	$\lambda_{D23/50} = 0.040 \text{ W/(m}\cdot\text{K)}$
Pura smart Minerale Dämmplatte	$\lambda_{D23/50} = 0.042 \text{ W/(m}\cdot\text{K)}$
Pura dur Minerale Dämmplatte	$\lambda_{D23/50} = 0.049 \text{ W/(m}\cdot\text{K)}$

¹ The reaction to fire of class A1 according to EN 13501-1 is only proven if the thermal insulation boards are not subsequently provided with paints, coatings or similar.

² Depending on the calculation case of a building structure, the less favorable value should be applied

³ The declared value is representative for at least 90 % of the production with a confidence level of 90 % and applies to the density range given in this section 3.3.

Conversion of humidity accordance to EN ISO 10456:2007 + AC:2009	
The mass-related moisture content at 23°C/80 % relative humidity:	$u_{23/80} = 0.015 \text{ kg/kg}$
Mass-related moisture conversion coefficient: (23°C/50 % rel. humidity to 23 °C/80 % rel. humidity):	$f_{u2} = 0.98$
Moisture conversion factor (23°C/50 % rel. humidity to 23°C/80 % rel. humidity):	$F_{m2} = 1.01$
Dimensional deviations (individual values):	maximum deviation:
Length and width: Test acc. EN 822:2013	$\pm 2 \text{ mm}$ class L(2) and W(2) acc. to EN 13163:2012 + A1:2015
Thickness: Test acc. EN 823:2013 (with a load of 250 Pa)	$\pm 2 \text{ mm}$
Squareness in direction of length and width: Test acc. EN 824:2013	$S_b \leq 6 \text{ mm/m}$
Flatness:	No performance assessed
Water absorbtion:	No performance assessed
Density, dry: Test acc. to EN 1602:2013 Conditioning: 105 °C to constant mass	Density range (each individual values):
Pura prime Mineraleämmplatte:	75 kg/m^3 to 100 kg/m^3
Pura Mineraleämmplatte:	85 kg/m^3 to 110 kg/m^3
Pura smart Mineraleämmplatte:	101 kg/m^3 to 130 kg/m^3
Pura dur Mineraleämmplatte:	131 kg/m^3 to 150 kg/m^3
Bending strength:	No performance assessed
Compressive strength (individual value): Test acc. to EN 826:2013	Mean value of the compressive strength $\geq 150 \text{ kPa}$ Individual values may fall below these value up to 10 %.
Dimensional stability: Test acc. to EN 1604:2013 Conditioning: 48 h, at $(70 \pm 2) \text{ °C}$ and $(90 \pm 5) \%$ relative humidity	Relative changes in length, width and thickness: Maximum value $\pm 0.5 \%$
Tensile strength perpendicular to faces:	No performance assessed
Point load:	No performance assessed
Porosity:	No performance assessed

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

In accordance with the European Assessment Document EAD No. 040012-01-1201 the applicable European legal act is: Decision 1999/91/EC as amended by Decision 2001/596/EC of the European Commission

The system to be applied is: System 3

In addition, with regard to reaction to fire, the system to be applied is: System 1

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.

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