

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-15/0384**  
**of 18 February 2020**

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

"Masterclima"

Product family  
to which the construction product belongs

Thermal insulation board made of mineral material

Manufacturer

Etex Building Performance GmbH  
Scheifenkamp 16  
40878 Ratingen  
DEUTSCHLAND

Manufacturing plant

Promat S.p.A.  
Via Provinciale 10  
I-24040 Filago (BG)  
ITALIEN

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 040012-00-1201

This version replaces

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## Specific part

### 1 Technical description of the product

This European Technical Assessment applies to the factory-made thermal insulation boards made of calcium silicate and cellulose fibres with the designation "Masterclima", hereafter referred to as thermal insulation boards.

The thermal insulation boards are high-pressure steam cured (autoclaved).

The thermal insulation boards are not coated or laminated and are made with the following dimensions:

Nominal thicknesses: 20 mm to 100 mm

Nominal length: 500 mm, 750 mm, 1000 mm, 1200 mm or 1520 mm

Nominal widths: 500 mm, 750 mm or 1000 mm

Special dimensions deviating from the above nominal length and nominal widths are possible.

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 boards can be used for the following intended uses:

- Internal insulation of ceilings (underside) or roofs
- Internal insulation of floors or bedplates (on the top) below floor screed without protection against noise requirements
- Internal insulation of walls

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.

Concerning the application of the thermal insulation boards, 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.

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 insulation 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".

#### 3.1 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 acc. to EN 13501-1:2018 <sup>1</sup>

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

Essential characteristic	Performance
<b>Content and/or release of dangerous substances:</b>	The product does not contain or release dangerous substances according to EOTA TR034 (version October 2015).
<b>Water vapour diffusion resistance coefficient:</b> Test acc. to EN 12086:2013, climatic condition set A	$\mu = 2$ or $5^2$

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

Essential characteristic	Performance
<b>Thermal conductivity:</b> at mean reference temperature of 10 °C Test acc. to EN 12667:2001  "PROMASIL-1000", "Masterclima"	Declared value for a moisture content of the insulation boards at 23 °C and 50 % relative humidity:  $\lambda_{D(23,50)} = 0.073 \text{ W/(m} \cdot \text{K)}^*$
Conversion of humidity acc. to EN ISO 10456:2007 + AC:2009	
Mass-related moisture content at 23 °C/ 50 % rel. humidity:	$u_{23,50} = 0.007 \text{ kg/kg}$
Mass-related moisture content at 23 °C/ 80 % rel. humidity:	$u_{23,80} = 0.015 \text{ kg/kg}$
Mass-related moisture conversion coefficient: (dry to 23 °C/ 50 % rel. humidity):	$f_{u1} = 2.54$
Mass-related moisture conversion coefficient: (23 °C/ 50 % rel. humidity to 23 °C/ 80 % rel. humidity):	$f_{u2} = 4.69$
Moisture conversion factor (dry to 23 °C/ 50 % rel. humidity):	$F_{m1} = 1.02$
Moisture conversion factor (23 °C/ 50 % rel. humidity to 23 °C/ 80 % rel. humidity):	$F_{m2} = 1.04$

<sup>1</sup> The reaction to fire of class A1 according to EN 13501-1 is only proved if the thermal insulation boards are not supplementary provided with paints, coatings or the like.

<sup>2</sup> The most unfavorable value for the calculation of the construction product work shall be applied each.

<b>Dimensional deviations (individual values):</b>	maximum deviation:
Length and width: Test acc. EN 822:2013	$\pm 2$ mm class L(2) and W(2) acc. to EN 13163:2012 + A2:2016
Thickness: Test acc. EN 823:2013 (with a load of 250 Pa)	$\pm 2$ mm
Squareness in direction of length and width: in direction of thickness: Test acc. EN 824:2013	$S_b \leq 4$ mm/m $S_d \leq 2$ mm
Flatness in direction of length and width: Test acc. EN 825:2013	$S_{max} \leq 2$ mm
<b>Water absorption:</b>	No performance assessed.
<b>Density (each individual value):</b> Test acc. to EN 1602:2013	Density range: 270 kg/m <sup>3</sup> to 305 kg/m <sup>3</sup>
<b>Bending strength:</b>	No performance assessed.
<b>Compressive strength:</b> Test acc. to EN 826:2013	Mean value (individual values may fall below this value up to 10 %): 1000 kPa
<b>Dimensional stability at 70 °C:</b> Test acc. to EN 1604:2013 Conditioning: 48 h, at (70 ± 2) °C	Relative changes in length, width and thickness: $\leq 0.5\%$
<b>Dimensional stability at 23 °C and 90% relative humidity:</b> Test acc. to EN 1604:2013 Conditioning: 48 h, at (23 ± 2) °C and (90 ± 5) % relative humidity	Relative changes in length, width and thickness: $\leq 0.5\%$
<b>Tensile strength perpendicular to faces:</b>	No performance assessed.
<b>Point load:</b>	No performance assessed.
<b>Porosity:</b>	No performance assessed.

- \* 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. 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.

English translation prepared by DIBt

**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. 040012-00-1201, the applicable European legal act is: Decision 1999/91/EC of the European Commission.

The system to be applied is: 3

In addition, with regard to reaction to fire, the system to be applied is: 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 with Deutsches Institut für Bautechnik.

Issued in Berlin on 18 February 2020 by Deutsches Institut für Bautechnik

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*beglaubigt:*  
Jänsch