



Approval body for construction products and types of construction

#### **Bautechnisches Prüfamt**

An institution established by the Federal and Laender Governments



## European Technical Assessment

ETA-12/0573 of 5 May 2020

English translation prepared by DIBt - Original version in German language

#### **General Part**

Technical Assessment Body issuing the Deutsches Institut für Bautechnik **European Technical Assessment:** Trade name of the construction product TecTem® Insulation Board Indoor Climaprotect TecTem® Laibungsplatte Product family Thermal insulation board made of expanded perlite, to which the construction product belongs deviating from EN 13169 Manufacturer Knauf Performance Materials GmbH Kipperstraße 19 44147 Dortmund DEUTSCHLAND Manufacturing plant Knauf Performance Materials GmbH Kipperstraße 19 44147 Dortmund DEUTSCHLAND This European Technical Assessment 7 pages which form an integral part of this assessment contains This European Technical Assessment is EAD 040010-00-1201 issued in accordance with Regulation (EU) No 305/2011, on the basis of ETA-12/0573 issued on 13 October 2017 This version replaces

Deutsches Institut für Bautechnik Kolonnenstraße 30 B | 10829 Berlin | GERMANY | Phone: +49 30 78730-0 | Fax: +49 30 78730-320 | Email: dibt@dibt.de | www.dibt.de



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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 expanded perlite (EPB) with the designation:

"TecTem Insulation Board Indoor Climaprotect" type A or type B and "TecTem Laibungsplatte".

The thermal insulation boards deviate from the standard EN 13169 as they do not contain reinforcing fibres.

The thermal insulation boards are manufactured of expanded perlite by adding a binding agent and other additives. The surfaces of the thermal insulation boards can be coated with a singlesided or double-sided primer.

The thermal insulation boards are made with different dimensions:

"TecTem Insulation Board Indoor Climaprotect" type A:	Nominal thickness:	30 mm
	Nominal length:	625 mm
	Nominal width:	416 mm
"TecTem Insulation Board Indoor Climaprotect" type B:	Nominal thickness:	25 mm
	Nominal length:	625 mm
	Nominal width:	416 mm
"TecTem Laibungsplatte"	Nominal thickness:	25 mm
	Nominal length:	625 mm
	Nominal width:	309 mm

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.

# 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 walls
- Internal insulation of ceilings

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

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the insulation product of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, 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.

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#### 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 040010-00-1201 "Insulation product made of expanded perlite (EPB)" 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 acc. to EN 13501-1:2007 + A1:2009

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

Essential characteristic	Performance	
Water vapour transmission test acc. to EN 12086:2013	5 ≤ <i>µ</i> ≤ 6 ª	
Content, emission and/or release of dangerous substances		
Substance(s) classified as EU-cat. Carc. 1A/1B (H350, H350i), in accordance with Regulation (EC) No 1272/2008.		
Substance(s) classified as EU-cat. Muta. 1A/1B (H340), in accordance with Regulation (EC) No 1272/2008.	The product does not contain these dangerous substances actively used. <sup>b</sup>	
Substance(s) classified as EU-cat. Acute Tox. 1, 2 and/or 3 (H300, H301, H310, H311, H330, H331); substance(s) classified as EU-cat. Repr. 1A/1B (H360, H360F, H360D, H360FD); substance(s) classified as EU-cat. STOT SE 1 and/or STOT RE 1 (H370, H372), in accordance with Regulation (EC) No 1272/2008.		
Release scenarios regarding BWR 3: IA 2, I A3, S/W 3 (according to EOTA TR 034)		
<ul> <li><sup>a</sup> The most unfavorable value for the construction product work shall be applied each.</li> <li><sup>b</sup> Assessment based on a detailed manufacturer's product declaration.</li> </ul>		

#### 3.3 **Protection against noise (BWR 5)**

Essential characteristic	Performance
Sound absorption	No performance assessed.



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

Thermal conductivity test acc. to EN 12667:2001, acc. to EN 13169:2012+A1:2015Declared value of thermal conductivity °TacTem Insulation Board Indoor Climaprotect", Typ A "TecTem Insulation Board Indoor Climaprotect", Typ B $\lambda_0 (2350) = 0.055 W/(m \cdot K)$ $\lambda_D (2350) = 0.055 W/(m \cdot K)$ "TecTem Insulation Board Indoor Climaprotect", Typ B $\lambda_D (2350) = 0.055 W/(m \cdot K)$ $\lambda_D (2350) = 0.055 W/(m \cdot K)$ "TecTem Laibungsplatte" $\lambda_D (2350) = 0.055 W/(m \cdot K)$ Conversion of humidity acc. to EN ISO 10456::2007 + AC:2009 $u_{2050} = 2.0 \%$ The mass-related moisture content at 23 °C/80 % rel. humidity $u_{2050} = 2.0 \%$ The mass-related moisture content at 23 °C/80 % rel. humidity $u_{2050} = 3.0 \%$ Moisture conversion factor (23 °C/50 % rel. humidity) $F_m (aty-2350) = 1.02$ Moisture conversion factor (23 °C/50 % rel. humidity to 23 °C/80 % rel. humidity to 23 °C/80 % rel. humidity $F_m (aty-2360) = 1.01$ Nominal width test acc. to EN 822:2013 dimensional deviation $\pm 3 mm$ Squareness test acc. to EN 822:2013 dimensional deviation $\pm 3 mm$ Squareness test acc. to EN 822:2013 dimensional deviation $\pm 3 mm$ Nominal thickness test acc. to EN 82:2013 dimensional deviation $\pm 1 mm$ Flatness test acc. to EN 82:2013 dimensional deviation $3 mm$ Water absorptionNo performance assessedDensity test acc. to EN 82:2013 dimensional deviation $3 mm$ Water absorptionNo performance assessedDensity test acc. to EN 1602:2013 "TecTem Insulation Board Indoor Climaprotect", Typ A "TecTem Insula	Essential characteristic	Performance
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Flatness       3 mm         Flatness       3 mm         test acc. to EN 825:2013       3 mm         Water absorption       No performance assessed         Density       test acc. to EN 1602:2013         "TecTem Insulation Board Indoor Climaprotect", Typ A       105 kg/m³ to 120 kg/m³         "TecTem Insulation Board Indoor Climaprotect", Typ B       130 kg/m³ to 150 kg/m³		
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dimensional deviation3 mmWater absorptionNo performance assessedDensity test acc. to EN 1602:2013105 kg/m³ to 120 kg/m³"TecTem Insulation Board Indoor Climaprotect", Typ A "TecTem Insulation Board Indoor Climaprotect", Typ B105 kg/m³ to 150 kg/m³		
Water absorptionNo performance assessedDensity test acc. to EN 1602:2013		3 mm
test acc. to EN 1602:2013 "TecTem Insulation Board Indoor Climaprotect", Typ A "TecTem Insulation Board Indoor Climaprotect", Typ B 105 kg/m <sup>3</sup> to 120 kg/m <sup>3</sup> 130 kg/m <sup>3</sup> to 150 kg/m <sup>3</sup>		No performance assessed
test acc. to EN 1602:2013 "TecTem Insulation Board Indoor Climaprotect", Typ A "TecTem Insulation Board Indoor Climaprotect", Typ B 105 kg/m <sup>3</sup> to 120 kg/m <sup>3</sup> 130 kg/m <sup>3</sup> to 150 kg/m <sup>3</sup>	Density	
"TecTem Insulation Board Indoor Climaprotect", Typ B 130 kg/m <sup>3</sup> to 150 kg/m <sup>3</sup>		
"TecTem Insulation Board Indoor Climaprotect", Typ B 130 kg/m <sup>3</sup> to 150 kg/m <sup>3</sup>	"TecTem Insulation Board Indoor Climaprotect", Typ A	105 kg/m³ to 120 kg/m³
	"TecTem Insulation Board Indoor Climaprotect", Typ B	
	"TecTem Laibungsplatte"	130 kg/m <sup>3</sup> to 150 kg/m <sup>3</sup>



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Essential characteristic	Performance	
Bending strength		
test acc. to EN 12089:2013		
"TecTem Insulation Board Indoor Climaprotect", Typ A	≥ 120 kPa	
"TecTem Insulation Board Indoor Climaprotect", Typ B	≥ 200 kPa	
"TecTem Laibungsplatte"	≥ 200 kPa	
Compressive strength		
test acc. to EN 826:2013		
"TecTem Insulation Board Indoor Climaprotect", Typ A	≥ 200 kPa (CS (10\Y) 200)	
"TecTem Insulation Board Indoor Climaprotect", Typ B	≥ 300 kPa (CS (10\Y) 300)	
"TecTem Laibungsplatte"	≥ 300 kPa (CS (10\Y) 300)	
Deformation under specified load and temperature	<i>Δ</i> ε ≤ 5.0 %	
test acc. to EN 1605:2013	(DLT(3)5 acc. to	
with test condition 3 (80 kPa, 60 °C, 168 h)	EN 13169:2012+A1:2015)	
Dimensional stability test acc. to EN 1604:2013		
(after 48 h storage at $(23 \pm 2)^{\circ}$ C and $(90 \pm 5)$ % relative		
humidity)		
maximum relative changes in length, width and	± 0.5 %	
thickness direction	10.5 %	
Dimensional stability test acc. to EN 1604:2013		
(after 48 h storage at $(70 \pm 2)^{\circ}$ C and $(50 \pm 5)$ % relative		
humidity)		
maximum relative changes in length, width and		
thickness direction	± 0.5 %	
Tensile strength perpendicular to faces		
test acc. to EN 1607:2013	≥ 80 kPa	
"TecTem Insulation Board Indoor Climaprotect", Typ A "TecTem Insulation Board Indoor Climaprotect", Typ B	••••	
"TecTem Laibungsplatte"	≥ 120 kPa ≥ 120 kPa	
Compressive creep	No performance assessed	
Behavior under point load	No performance assessed	
a) Declared value of thermal conductivity for a moisture content of the in		
humidity; representative for at least 90 % of the production with a confidence level of 90 %. For the admissible deviation of an individual value of the thermal conductivity from the declared value the method described in EN 13172:2008, Annex F applies.		



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

In accordance with the European Assessment Document No 040010-00-1201 "Insulation product made of expanded perlite (EPB)" the legal basis is: Commission Decision 1999/91/EC.

The system to be applied is: system 3

In addition, the European legal basis for reaction to fire for products covered by this EAD is: Commission Decision 2001/596/EC.

The systems 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 with Deutsches Institut für Bautechnik.

Issued in Berlin on 5 May 2020 by Deutsches Institut für Bautechnik

Maja Tiemann Head of Department *beglaubigt:* Michael Getzlaff