Deutsches Institut für Bautechnik

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Approval body for construction products and types of construction

Bautechnisches Prüfamt

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European Technical Assessment ETA-12/0573 of 15 January 2021

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General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	"Rotkalk in-Board Climaprotect", "Rotkalk in-Board Laibung TecTem", "TecTem Insulation Board Indoor Climaprotect", "TecTem Laibungsplatte"
Product family to which the construction product belongs	Thermal insulation board made of expanded perlite, 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 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	EAD 040010-00-1201
This version replaces	ETA-12/0573 issued on 5 May 2020

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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 following designations:

- "TecTem Insulation Board Indoor Climaprotect" (type A or type B)
- "TecTem Laibungsplatte"
- "Rotkalk in-Board Climaprotect" (type A or type B)
- "Rotkalk in-Board Laibung TecTem"

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 single-sided or double-sided primer.

The thermal insulation boards are made with different dimensions:

"TecTem Insulation Board Indoor Climaprotect" type A	Nominal thickness:	30 mm
and "Rotkalk in-Board Climaprotect" type A	Nominal length:	625 mm
	Nominal width:	416 mm
"TecTem Insulation Board Indoor Climaprotect" type B	Nominal thickness:	25 mm
and "Rotkalk in-Board Climaprotect" type B	Nominal length:	625 mm
	Nominal width:	416 mm
"TecTem Laibungsplatte"	Nominal thickness:	25 mm
and "Rotkalk in-Board Laibung TecTem"	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.

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 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.

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	$5 \leq \mu \leq 6$ [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.	The product does not contain these dangerous substances actively used.[b]
Substance(s) classified as EU-cat. Muta. 1A/1B (H340), in accordance with Regulation (EC) No 1272/2008.	
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)	

[a] The most unfavorable value for the construction product work shall be applied each.
[b] Assessment based on a detailed manufacturer's product declaration.

3.3 Protection against noise (BWR 5)

Essential characteristic	Performance
Sound absorption	No performance assessed.

3.4 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal conductivity test acc. to EN 12667:2001, acc. to EN 13169:2012+A1:2015	Declared value of thermal conductivitya
"TecTem Insulation Board Indoor Climaprotect", type A "Rotkalk in-Board Climaprotect", type A	λD (23/50) = 0.050 W/(m·K)
"TecTem Insulation Board Indoor Climaprotect", type B "Rotkalk in-Board Climaprotect", type B	λD (23/50) = 0.055 W/(m·K)
"TecTem Laibungsplatte" "Rotkalk in-Board Laibung TecTem"	λD (23/50) = 0.055 W/(m·K)
Conversion of humidity acc. to EN ISO 10456:2007 + AC:2009	
The mass-related moisture content at 23 °C/50 % rel. humidity	u23/50 = 2.0 %
The mass-related moisture content at 23 °C/80 % rel. humidity	u23/80 = 3.0 %
The mass-related moisture conversion coefficient	fu = 0.80
Moisture conversion factor (dry to 23 °C/50 % rel. humidity)	Fm (dry – 23/50) = 1.02
Moisture conversion factor (23 °C/50 % rel. humidity to 23 °C/80 % rel. humidity)	Fm (23/50 – 23/80) = 1.01
Nominal length test acc. to EN 822:2013 dimensional deviation	625 mm ± 3 mm
Nominal width test acc. to EN 822:2013 dimensional deviation	309 mm and 416 mm ± 3 mm
Squareness test acc. to EN 824:2013 dimensional deviation	Sb ≤ 3 mm/m
Nominal thickness test acc. to EN 823:2013 (with a load of 250 Pa ± 5 Pa) dimensional deviation	25 mm and 30 mm ±1 mm
Flatness test acc. to EN 825:2013 dimensional deviation	3 mm
Water absorption	No performance assessed
Density test acc. to EN 1602:2013 "TecTem Insulation Board Indoor Climaprotect", type A "Rotkalk in-Board Climaprotect", type A	105 kg/m³ to 120 kg/m³
"TecTem Insulation Board Indoor Climaprotect", type B "Rotkalk in-Board Climaprotect", type B	130 kg/m³ to 150 kg/m³
"TecTem Laibungsplatte" "Rotkalk in-Board Laibung TecTem"	130 kg/m³ to 150 kg/m³

Essential characteristic	**Performance**
Bending strength test acc. to EN 12089:2013 "TecTem Insulation Board Indoor Climaprotect", type A "Rotkalk in-Board Climaprotect", type A "TecTem Insulation Board Indoor Climaprotect", type B "Rotkalk in-Board Climaprotect", type B "TecTem Laibungsplatte" "Rotkalk in-Board Laibung TecTem"	 ≥ 120 kPa ≥ 200 kPa ≥ 200 kPa
Compressive strength test acc. to EN 826:2013 "TecTem Insulation Board Indoor Climaprotect", type A "Rotkalk in-Board Climaprotect", type A "TecTem Insulation Board Indoor Climaprotect", type B "Rotkalk in-Board Climaprotect", type B "TecTem Laibungsplatte" "Rotkalk in-Board Laibung TecTem"	 ≥ 200 kPa (CS (10\Y) 200) ≥ 300 kPa (CS (10\Y) 300) ≥ 300 kPa (CS (10\Y) 300)
Deformation under specified load and temperature test acc. to EN 1605:2013 with test condition 3 (80 kPa, 60 °C, 168 h)	$\Delta \varepsilon \leq 5.0$ % (DLT(3)5 acc. to EN 13169:2012+A1:2015)
Dimensional stability test acc. to EN 1604:2013 (after 48 h storage at (23 ± 2)°C and (90 ± 5) % relative humidity) maximum relative changes in length, width and thickness direction	 ± 0.5 %
Dimensional stability test acc. to EN 1604:2013 (after 48 h storage at (70 ± 2)°C and (50 ± 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 "TecTem Insulation Board Indoor Climaprotect", type A "Rotkalk in-Board Climaprotect", type A "TecTem Insulation Board Indoor Climaprotect", type B "Rotkalk in-Board Climaprotect", type B "TecTem Laibungsplatte" "Rotkalk in-Board Laibung TecTem"	 ≥ 80 kPa ≥ 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 insulation boards at 23 °C and 50 % relative 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.

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.

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beglaubigt:
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