Deutsches Institut für Bautechnik

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Bautechnisches Prüfamt

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European Technical Assessment ETA-10/0193 of 12 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 055 Historic", "TecTem Insulation Board Indoor Historic"
Product family to which the construction product belongs	Thermal insulation boards 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	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 040010-00-1201
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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 designations "Rotkalk in-Board 055 Historic" and "TecTem Insulation Board Indoor Historic", hereafter referred to as thermal insulation boards.

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 the following dimensions:

Nominal thicknesses:	60 mm to 150 mm
Nominal length:	500 mm to 1250 mm
Nominal widths:	400 mm to 1250 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 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 040010-00-12.01, "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 und EN ISO 1716:2010	Class A1 accordance to EN 13501-1: 2007+A1:2009

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Water vapour diffusion resistance coefficient 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 absorbtion	No performance assessed

3.4 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal conductivity at a reference temperature of 10 °C Test acc. EN 12667:2001, in accordance EN 13169:2012+A1:2015	Declared value of thermal conductivity, for a moisture content of the insulating boards at 23 °C/50 % relative humidity $\lambda_{D23/50}$ = 0.055 W/(m · K) *
Conversion of humidity accordance to EN ISO 10456: 2007 + AC:2009	
The mass-related moisture content at 23 °C/50 % rel. humidity	$u_{23/50}$ = 0.02 kg/kg
The mass-related moisture content at 23 °C/80 % rel. humidity	$u_{23/80}$ = 0.03 kg/kg
The mass-related moisture conversion coefficient	f_u = 0.8
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} = 1.01
Dimensional deviations (individual values)	maximum deviation:
Length and width Test acc. EN 822:2013	± 3 mm
Thickness Test acc. EN 823:2013 (with a load of 250 Pa)	+ 4 / - 2 mm
Squareness in direction of length and width Test acc. EN 824:2013	S_b ≤ 3 mm/m
Water absorbtion	No performance assessed
Density Test acc. to EN 1602:2013	Density range (each individual value): 130 kg/m³ - 150 kg/m³
Bending strength (individual value) Test acc. to EN 12089:2013	≥ 200 kPa
Compressive strength (individual value) Test acc. to EN 826:2013	≥ 300 kPa CS(10\Y)300 acc. to EN 13169: 2012+A1:2015
Deformation under specified compressive load and temperature Test acc. To EN 1605:2013 Test conditions: 80 kPa, 60 °C, 168 h	Relative thickness reduction: ≤ 5 % DLT(3)5 acc. to EN 13169: 2012+A1:2015
Dimensional stability at specified temperature and humidity Test acc. to EN 1604:2013	Relative changes in length, width and thickness:
Conditioning: 48 h, (23 ± 2) °C, (90 ± 5) % relative humidity	max ± 0.5%
Conditioning: 48 h, (70 ± 2) °C, (50 ± 5) % relative humidity	max ± 0.5%

Essential characteristic	Performance
Tensile strength perpendicular to faces (individual value) Test acc. to EN 1607:2013 in accordance EN 13169: 2012+A1:2015	≥ 120 kPa
Compressive creep	No performance assessed
Point load	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 section 3.4. 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.

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 at Deutsches Institut für Bautechnik.

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