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Authorised and notified according to Article 10 of the Council Directive of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products (89/106/EEC)

Deutsches Institut für Bautechnik

DIBt

Mitglied der EOTA
Member of EOTA

European Technical Approval ETA-10/0193

English translation prepared by DIBt - Original version in German language

Handelsbezeichnung *Trade name*	TecTem® Insulation Board Indoor Historic
Zulassungsinhaber *Holder of approval*	KNAUF AQUAPANEL GmbH Kipperstraße 19 44147 Dortmund DEUTSCHLAND
Zulassungsgegenstand und Verwendungszweck *Generic type and use of construction product*	Wärmedämmplatten aus expandiertem Perlit, abweichend von EN 13169 *Thermal insulation boards made of expanded perlite, deviating from EN 13169*
Geltungsdauer: *Validity:* vom *from* / bis *to*	24 May 2013 4 July 2015
Herstellwerk *Manufacturing plant*	KNAUF AQUAPANEL GmbH Kipperstraße 19 44147 Dortmund DEUTSCHLAND

Diese Zulassung umfasst *This Approval contains*	8 Seiten *8 pages*
Diese Zulassung ersetzt *This Approval replaces*	ETA-10/0193 mit Geltungsdauer vom 03.12.2012 bis 04.07.2015 *ETA-10/0193 with validity from 03.12.2012 to 04.07.2015*

I LEGAL BASES AND GENERAL CONDITIONS

1 This European technical approval is issued by Deutsches Institut für Bautechnik in accordance with:

- Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products[1], modified by Council Directive 93/68/EEC[2] and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council[3];
- *Gesetz über das In-Verkehr-Bringen von und den freien Warenverkehr mit Bauprodukten zur Umsetzung der Richtlinie 89/106/EWG des Rates vom 21. Dezember 1988 zur Angleichung der Rechts- und Verwaltungsvorschriften der Mitgliedstaaten über Bauprodukte und anderer Rechtsakte der Europäischen Gemeinschaften (Bauproduktengesetz - BauPG) vom 28. April 1998[4], as amended by Article 2 of the law of 8 November 2011[5];*
- Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex to Commission Decision 94/23/EC[6].

2 Deutsches Institut für Bautechnik is authorized to check whether the provisions of this European technical approval are met. Checking may take place in the manufacturing plant. Nevertheless, the responsibility for the conformity of the products to the European technical approval and for their fitness for the intended use remains with the holder of the European technical approval.

3 This European technical approval is not to be transferred to manufacturers or agents of manufacturers other than those indicated on page 1, or manufacturing plants other than those indicated on page 1 of this European technical approval.

4 This European technical approval may be withdrawn by Deutsches Institut für Bautechnik, in particular pursuant to information by the Commission according to Article 5(1) of Council Directive 89/106/EEC.

5 Reproduction of this European technical approval including transmission by electronic means shall be in full. However, partial reproduction can be made with the written consent of Deutsches Institut für Bautechnik. In this case partial reproduction has to be designated as such. Texts and drawings of advertising brochures shall not contradict or misuse the European technical approval.

6 The European technical approval is issued by the approval body in its official language. This version corresponds fully to the version circulated within EOTA. Translations into other languages have to be designated as such.

1 Official Journal of the European Communities L 40, 11 February 1989, p. 12
2 Official Journal of the European Communities L 220, 30 August 1993, p. 1
3 Official Journal of the European Union L 284, 31 October 2003, p. 25
4 *Bundesgesetzblatt Teil I 1998*, p. 812
5 *Bundesgesetzblatt Teil I 2011*, p. 2178
6 Official Journal of the European Communities L 17, 20 January 1994, p. 34

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of the product and intended use

1.1 Definition of the construction product

This European technical approval applies to the factory-made thermal insulation boards made of expanded perlite (EPB) with the designation:

"TecTem® Insulation Board Indoor Historic"

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 and they are not coated.

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 information concerning the dimensions corresponds to the manufacturer's delivery program.

1.2 Intended use

The thermal insulation boards can be used for the following intended uses:

- Internal insulation of walls
- Internal insulation of ceilings

The thermal insulation boards shall only be installed in structures where they are protected from precipitation, weathering and moisture.

As to the application of the insulation product, the respective national regulations shall be additionally observed.

The provisions made in this European technical approval are based on an assumed working life of the thermal insulation boards of 50 years, provided that the conditions laid down in sections 4.2, 5.1 and 5.2 for packaging, transport, storage and installation are met. 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.

2 Characteristics of product and methods of verification

2.1 Composition and production methods

With regard to composition and production method the thermal insulation boards shall correspond to those which were the basis for the approval tests. Composition and production methods are deposited with Deutsches Institut für Bautechnik. See also clause 4.1.

2.2 Dimensions

The thickness is determined according to the standard EN 823:1994-07. The test is performed with a load of 250 Pa. No test result (individual value) deviates from the nominal thickness d_N by more than +4/-2 mm.

Length and width of the thermal insulation boards are determined according to the standard EN 822:1994-07. The deviations (individual values) in the direction of length and width do not amount to more than ± 3 mm.

The squareness is determined according to the standard EN 824:1994-07. The deviation from the squareness in the direction of length and width for each individual value does not amount to more than 3 mm/m.

2.3 Density

The density of the thermal insulating boards is determined according to the standard EN 1602:1996-11. Each individual value of the density shall be at least 130 kg/m³ and shall not exceed 150 kg/m³.

2.4 Water vapour diffusion

The water vapour diffusion resistance coefficient, determined according to the standard EN 12086:1997-06, amounts to at least μ = 5 and does not exceed the value of μ = 6.

2.5 Water absorption

No performance determined.

2.6 Thermal conductivity

The thermal conductivity of the thermal insulation boards at a reference temperature of 10 °C is determined according to the standard EN 12667:2001-01, in accordance with the standard EN 13169:2008-11.

The declared value of thermal conductivity for a moisture content of the thermal insulation boards at 23 °C/50 % relative humidity amounts to

λ = 0.055 W/(m·K).

The declared value of the thermal conductivity is representative for at least 90 % of the production with a confidence level of 90 % and applies to the density range given in section 2.3.

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.

As to the conversion of humidity the following applies (see EN ISO 10456:2007+AC:2009):

- mass-related moisture content at 23 °C/50 % relative air humidity: u = 0.02 kg/kg
- mass-related moisture content at 23 °C/80 % relative air humidity: u = 0.03 kg/kg
- conversion coefficient for the mass-related moisture content f_u = 0.8

2.7 Compressive strength

The determination of the compressive strength of the thermal insulation boards is performed according to the standard EN 826:1996-05.

The compressive strength (individual value) amounts to at least 300 kPa and meets the requirements of level CS(10\Y)300 according to EN 13169.

2.8 Dimensional stability under specified temperature and humidity conditions

2.8.1 Dimensional stability under 23 °C and 90 % relative air humidity

The dimensional stability of the thermal insulation boards is determined according to the standard EN 1604:1996-11+A1:2006-09. The test is performed after a storage of 48 h at (23 ± 2) °C and (90 ± 5) % relative air humidity. The dimensional changes in the direction of lengths, widths and thicknesses amount to a maximum of ± 0.5 %.

2.8.2 Dimensional stability under 70 °C and 50 % relative air humidity

The determination of the dimensional stability is performed according to the standard EN 1604 after a storage of 48 h at (70 ± 2) °C and (50 ± 5) % relative air humidity.

The dimensional changes in the direction of lengths, widths and thicknesses amount to a maximum of ± 0.5 %.

2.9 Tensile strength perpendicular to faces

The tensile strength perpendicular to faces of the boards is determined according to the standard EN 1607:1996-11 in accordance with EN 13169.
The minimum value of the tensile strength (individual value) amounts to 120 kPa.

2.10 Bending strength

The bending strength of the thermal insulation boards is determined according to the standard EN 12089:1997-06.

The minimum value of the bending strength (individual value) amounts to 200 kPa.

2.11 Deformation under specified compressive load and temperature

The deformation under specified compressive load and temperature is determined according to the standard EN 1605:1996-11+A1:2006-09 (test conditions: 80 kPA, 60 °C, 168 h). The relative thickness reduction amounts to a maximum of 5 % and meets the requirements of level DLT(3)5 according to EN 13169.

2.12 Reaction to fire

The reaction to fire is tested by using the test methods relevant for the corresponding reaction to fire class and is classified according to the standard EN 13501-1:2007+A1:2009-09. The thermal insulation boards meet the requirements on construction products of class A1 according to EN 13501-1.

2.13 Dangerous substances

Note: In addition to the specific clauses relating to dangerous substances contained in this European technical approval, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Directive, these requirements need also to be complied with, when and where they apply.

3 Evaluation and attestation of conformity and CE marking

3.1 System of attestation of conformity

According to the communication of the European Commission[7] system 3 of the attestation of conformity applies.

In addition, according to the Decision 2001/596/EC of the European Commission[8] system 1 of the attestation of conformity applies with regard to reaction to fire.

These systems of attestation of conformity are defined in the following:

System 1: Certification of conformity of the product by an approved certification body on the basis of:

(a) Tasks for the manufacturer:

(1) factory production control;

(2) further testing of samples taken at the factory by the manufacturer in accordance with a prescribed test plan;

7 Communication of the European Commission of 14 February 2006 to EOTA (date of notification by CIRCA system)
8 Official Journal of the European Communities L 209/33 of 02.08.2001

(b) Tasks for the approved body:
  (3) initial type–testing of the product;
  (4) initial inspection of factory and of factory production control;
  (5) continuous surveillance, assessment and approval of factory production control.

System 3: Declaration of conformity of the product by the manufacturer on the basis of:

(a) Tasks for the manufacturer:
  (1) factory production control;

(b) Tasks for the approved body:
  (2) initial type-testing of the product.

Note: Approved bodies are also referred to as "notified bodies".

3.2 Responsibilities

3.2.1 Tasks for the manufacturer

3.2.1.1 Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. The factory production control system shall insure that the product is in conformity with this European technical approval.

The manufacturer may only use initial materials stated in the technical documentation of this European technical approval.

The factory production control shall be in accordance with the control plan which is part of the technical documentation of this European technical approval. The control plan is laid down in the context of the factory production control system operated by the manufacturer and deposited with Deutsches Institut für Bautechnik.[9]

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the control plan.

3.2.1.2 Other tasks for the manufacturer

The manufacturer shall, on the basis of a contract, involve a body which is approved for the tasks referred to in section 3.1 for the construction product in order to undertake the actions laid down in section 3.2.2. For this purpose, the control plan referred to in sections 3.2.1.1 and 3.2.2 shall be handed over by the manufacturer to the approved body involved.

The manufacturer shall make a declaration of conformity, stating that the construction product is in conformity with the provisions of this European technical approval.

3.2.2 Tasks for the approved bodies

The approved body shall perform the

- initial type-testing of the product,
- initial inspection of factory and of factory production control (for system 1),
- continuous surveillance, assessment and approval of factory production control (for system 1)

in accordance with the provisions laid down in the control plan.

[9] The control plan is a confidential part of the documentation of this European technical approval and only handed over to the approved body involved in the procedure of attestation of conformity. See section 3.2.2.

For initial type-testing the results of the test carried out as part of the assessment for the European technical approval shall be used, provided that nothing changes in the production or at the factory. Otherwise the necessary initial type-testing shall be agreed on between Deutsches Institut für Bautechnik and the approved body involved.

The approved body shall retain the essential points of its actions referred to above and state the results obtained and conclusions drawn in a written report.

The approved certification body involved by the manufacturer shall issue an EC certificate of conformity of the product stating the conformity with the provisions of this European technical approval. In cases where the provisions of the European technical approval and its control plan are no longer fulfilled the certification body shall withdraw the certificate of conformity and inform Deutsches Institut für Bautechnik without delay.

3.3 CE marking

The CE marking shall be affixed on the product, on a label attached to it, on the packaging or on the accompanying commercial documents (e.g. the EC declaration of conformity). The letters "CE" shall be followed by the identification number of the approved certification body, where relevant, and be accompanied by the following additional information:

- the name and address of the producer (legal entity responsible for the manufacture),
- the last two digits of the year in which the CE marking was affixed,
- the number of the EC certificate of conformity for the product (only for system 1),
- the number of the European technical approval,
- nominal thickness, nominal length, nominal width,
- density,
- declared value of thermal conductivity,
- bending strength,
- tensile strength perpendicular to faces,
- dimensional stability,
- compressive strength (level),
- deformation under compressive load and temperature (level),
- reaction to fire: class A1 according to EN 13501-1.

4 Assumptions under which the fitness of the product for the intended use was favourably assessed

4.1 Manufacturing

The European technical approval was 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 and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to Deutsches Institut für Bautechnik before the changes are introduced. Deutsches Institut für Bautechnik will decide whether or not such changes affect the approval and consequently the validity of the CE marking on the basis of the approval and if so whether further assessment or alterations to the approval shall be necessary.

4.2 Installation

For installation of the thermal insulation boards the installation instructions given by the manufacturer shall be followed. 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 approval. The product shall be protected from moisture during installation. The conditions according to clause 1.2 shall be observed.

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

4.2.1 Parameters for the design of construction works or parts of construction works

4.2.1.1 Design value of thermal conductivity

The design value of thermal conductivity shall be laid down according to relevant national provisions.

4.2.1.2 Nominal thickness

When calculating the thermal resistance, the nominal thickness of the thermal insulation boards shall be applied.

4.2.1.3 Water vapour diffusion resistance coefficient

For the determination of the diffusion-equivalent air layer thickness of the thermal insulation boards the water vapour diffusion resistance factor $\mu = 5$ or $\mu = 6$ shall be applied for calculating[10].

5 Indications to the manufacturer

5.1 Packaging, transport and storage

Packaging of the product shall be performed such that the thermal insulation boards are protected from moisture during transport and storage, unless other measures are foreseen by the manufacturer for this purpose.

5.2 Use, maintenance, repair

In the information accompanying the CE marking the manufacturer shall specify that the product is to be protected from moisture during transport, storage and installation.

Dirk Brandenburger
Head of Department

beglaubigt:
Kühnemund

[10] The more unfavourable value for the construction works shall be applied each.