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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)

DIBt

Mitglied der EOTA
Member of EOTA

European Technical Approval ETA-10/0073

English translation prepared by DIBt - Original version in German language

Handelsbezeichnung *Trade name*	KlimaPlus
Zulassungsinhaber *Holder of approval*	GETIFIX GmbH Haferwende 1 28357 Bremen DEUTSCHLAND
Zulassungsgegenstand und Verwendungszweck *Generic type and use of construction product*	Wärmedämmplatte aus Calciumsilikat *Thermal insulation board made of calcium silicate*
Geltungsdauer: vom *Validity: from* bis *to*	25 March 2010 24 March 2015
Herstellwerk *Manufacturing plant*	Herstellwerk 1

Diese Zulassung umfasst *This Approval contains*	9 Seiten einschließlich 1 Anhang *9 pages including 1 annex*

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 law of 31 October 2006[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 2006*, p.2407, 2416
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 thermal insulation boards made of calcium silicate and cellulose fibres with the designation "KlimaPlus" (hereinafter 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: 25 mm, 30 mm, 50 mm

Nominal length: 600 to 1520 mm

Nominal widths: 500 to 1000 mm

Insulating wedges according to Annex 1 which are cut from the thermal insulation boards and which show the same density are also covered by the approval.

The triangular fillets and shapes given in Annex 1 which are also cut from the thermal insulation boards and which show the same density are only covered by the approval concerning the reaction to fire classification.

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 the packaging, transport, storage, installation and use 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 method 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 by more than ± 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 do not amount to more than ± 3 mm, the deviations in direction of width to more than ± 2 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 2 mm/m.

The flatness is determined according to the standard EN 825:1994-07. The deviation from the flatness does not exceed the value of 2 mm.

2.3 Density

The density of the thermal insulation boards is determined according to the standard EN 1602:1996-11. Each individual value of the density[7] amounts to at least 350 kg/m^3 and does not exceed 400 kg/m^3.

2.4 Water vapour diffusion

The water vapour diffusion resistance coefficient, determined according to the standard EN 12086:1997-06, climatic condition A, amounts to μ = 3. Before testing, the samples shall be stored to constant mass at 23 °C / 50 % relative humidity.

2.5 Thermal conductivity

The thermal conductivity of the thermal insulation boards at dry state[8] is determined with a reference temperature of 10 °C according to EN 12667:2001-01. The effect of humidity on thermal conductivity is determined by measuring the thermal conductivity after storing the insulation boards at 23 °C and 50 % relative humidity and at 23 °C and 80 % relative humidity.

The declared value of thermal conductivity, determined according to the standard EN ISO 10456.2007-12 for a moisture content of the insulation boards at 23 °C/50 % relative humidity, amounts to

Category 1: λ = 0.070 W/(m · K)

Category 2: λ = 0.069 W/(m · K)

The declared value of category 1 is 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 13172:2001+A1:2005, Annex F applies.

The declared value of category 2 is based on a limit value, which must not be exceeded during production. The limit value of the thermal conductivity at dry state amounts to $\lambda_{10,dry}$ = 0,0672 W/(m · K).

The declared values of the thermal conductivity apply to the density range given in section 2.3.

For conversion of humidity the following applies:

- moisture content mass by mass at 23 °C/50 % relative humidity: u = 0.025 kg/kg
- moisture content mass by mass at 23 °C/80 % relative humidity: u = 0.060 kg/kg
- moisture conversion coefficient mass by mass (dry → 23/50) f_{u1} = 0.73
- moisture conversion coefficient mass by mass (23/50 → 23/80) f_{u1} = 0.60
- moisture conversion factor (dry → 23/50) F_m = 1.02
- moisture conversion factor (23/50 → 23/80) F_m = 1.02

7 at 23 °C and 50 % relative humidity

8 Drying temperature for determination of $\lambda_{10,dry}$: 70 °C to constant mass

2.6 Compressive strength

The determination of the compressive strength of the thermal insulation boards is performed according to the standard EN 826:1996-03.

The mean value of the compressive strength amounts to at least 1000 kPa. Individual values may fall below this value up to 10 %.

Before testing, the samples shall be dried at a temperature of at least 40 °C to constant mass.

2.7 Dimensional stability

The dimensional stability of the thermal insulation boards at specified temperature is determined according to the standard EN 1604:1996 + A1:2006. The test is performed after a 48 h storage at (70 ± 2) °C.

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

The determination of the dimensional stability under specified temperature and humidity conditions is performed according to the standard EN 1604 after a 48 h storage at (23 ± 2) C and (90 ± 5) % relative humidity.

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

2.8 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. The thermal insulation boards meet the requirements of class A1 according to EN 13501-1.

The classification also applies to insulating wedges, triangular fillets and shapes according to Annex 1 which are cut from the thermal insulation boards and show a density according to clause 2.3.

2.9 Emission of dangerous substances or radiation

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 Decision 1999/91/EC of the European Commission[9] amended by Decision 2001/596/EC system 3 of the attestation of conformity applies.

In addition, according to the Decision 2001/596/EC of the European Commission[10] system 1 of the attestation of conformity applies with regard to reaction to fire.

These systems of attestation of conformity are defined as follows:

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

9 Official Journal of the European Communities L 29/44 of 25 January 1999

10 Official Journal of the European Communities L 209/33 of 8 January 2001

(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;

(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. This 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 of 25 March 2010 relating to the European technical approval ETA-10/0073 issued on 25 March 2010 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.[11].

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 in the field of thermal insulation materials 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 the European technical approval ETA-10/0073 issued on 25 March 2010.

11 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.

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.

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.

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 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 bodies involved.

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 (for system 1).

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 the product, on the packaging or on the accompanying commercial document (e.g. the EC declaration of conformity). The letters "CE" shall be followed by the identification number of the approved certification body 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 (for system 1),
- the number of the European technical approval,
- identification of the product (trade name),
- nominal dimensions of length, width and thickness,
- density range,
- water vapour diffusion resistance coefficient,
- compressive strength,
- dimensional stability,
- bending strength,
- declared value of thermal conductivity for Category 1 and/or Category 2,
- conversion coefficient for thermal conductivity for the moisture content mass by mass at 23 °C / 80 % relative humidity,
- reaction to fire: class according to EN 13501-1,
- indication of dangerous substances,
- indication of biocidal products (Directive 98/8/EEC)

For triangular fillets and shapes according to Annex 1 the indications of the product characteristics within the CE-marking are limited to the density and the reaction to fire.

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

4.1 Manufacturing

The European technical approval is 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

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

The installation instructions given by the manufacturer shall be taken into account for installation of the thermal insulation boards. Where the thermal insulation boards are fixed by using adhesives and / or anchors, only such adhesions or anchors shall be used, which are suited for this purpose. The assessment of these fixing means is not part of this European technical approval.

The thermal insulation boards shall be protected from moisture during installation.

The reaction to fire of class A1 according to EN 13501-1 is only proved if mortars or spackles of class A1 according to EN 13501-1 are used for sealing of joints and unevenness.

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 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 $\mu = 3$ shall be applied for calculating.

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.

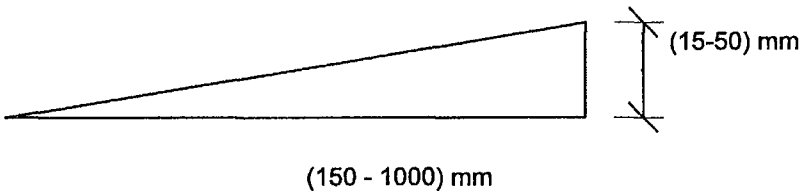
5.2 Use, maintenance, repair

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.

Dipl.-Ing. Bender
Berlin, 25 March 2010

beglaubigt:
Iffländer

1. Insulating wedges



Length: (0,5 - 1,52) m

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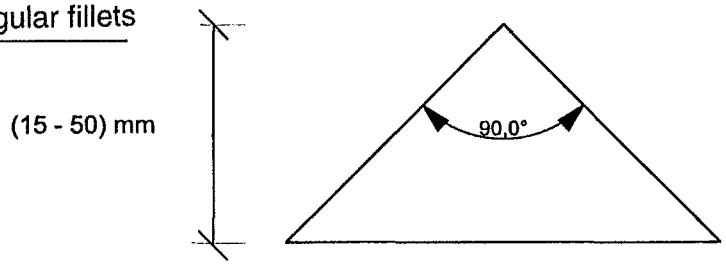
2. Triangular fillets



Length: (0,5 - 1,52) m

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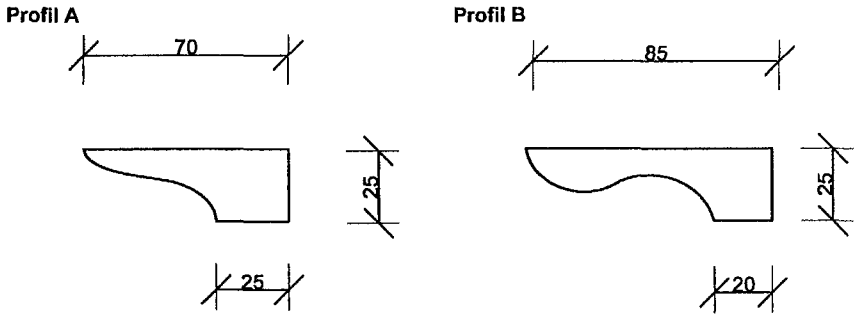
3. Shapes



Length: (0,5 - 1,52) m

GETIFIX GmbH Haferwende 1 28357 Bremen	KlimaPlus insulating wedges, triangular fillets and shapes	**Annex 1** to European technical approval ETA-10/0073 of 25 March 2010