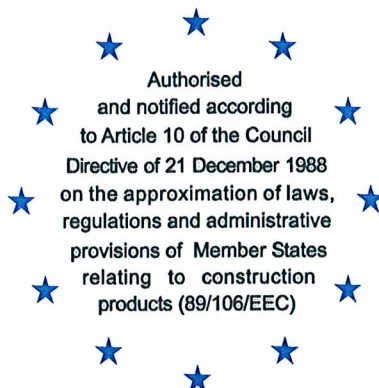


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DIBt

Mitglied der EOTA
Member of EOTA

European Technical Approval ETA-08/0126

English translation prepared by DIBt - Original version in German language

Handelsbezeichnung
Trade name

Calsitherm Klimaplatte

Zulassungsinhaber
Holder of approval

Calsitherm Silikatbaustoffe GmbH
An der Eiche 15
33175 Bad Lippspringe

Zulassungsgegenstand
und Verwendungszweck
*Generic type and use
of construction product*

Mineralische Wärmedämmplatte

Thermal insulation board made of mineral material

Geltungsdauer:
Validity: vom
from
bis
to

6 May 2008

5 May 2013

Herstellwerk
Manufacturing plant

Calsitherm Silikatbaustoffe GmbH
Hermann-Löns-Str. 170
33104 Paderborn-Sennelager

Diese Zulassung umfasst
This Approval contains

9 Seiten
9 pages



Europäische Organisation für Technische Zulassungen
European Organisation for Technical Approvals

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 products¹, modified by Council Directive 93/68/EEC² and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council³;
 - 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 1998⁴, zuletzt geändert durch Gesetz vom 06.01.2004⁵;
 - Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex to Commission Decision 94/23/EC⁶.
- 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, 11.02.1989, p. 12
2 Official Journal of the European Communities L 220, 30.08.1993, p. 1
3 Official Journal of the European Union L 284, 31.10.2003, p. 25
4 Bundesgesetzblatt I, p. 812
5 Bundesgesetzblatt I, p.2, 15
6 Official Journal of the European Communities L 17, 20.01.1994, 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 "Calsitherm Klimaplatte" (hereinafter referred to as thermal insulation boards).

The thermal insulation boards are high-pressure steam cured (autoclaved).

The surface of the thermal insulation boards can be one-side structured with slots up to approx. 1 mm.

The thermal insulation boards are not coated or laminated and are made with the following dimensions:

Nominal length: 1250 mm

Nominal widths: 500 mm; 1000 mm

Nominal thicknesses: 20 mm to 50 mm

The information concerning the dimensions correspond 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 (including added facing shells without substructure)
- 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 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 823⁷. 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 822⁸. The deviations (individual values) in the direction of length and width do not amount to more than ± 3 mm.

7 EN 823:1994-07: Thermal insulating products for building applications – Determination of thickness
8 EN 822:1994-07: Thermal insulating products for building applications – Determination of length and width

The squareness is determined according to the standard EN 824⁹. The deviation from the squareness in the direction of length and width for each individual value does not amount to more than 4 mm/m.

2.3 Density

The density of the thermal insulation boards is determined according to the standard EN 1602¹⁰. Each individual value of the density (dry¹¹) shall be at least 200 kg/m³ and shall not exceed 240 kg/m³.

2.4 Water vapour diffusion

The water vapour diffusion resistance coefficient, determined according to the standard EN 12086¹², climatic condition A, is at least $\mu = 3$ and not more than $\mu = 6$. 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 state¹³ is determined with a reference temperature of 10°C according to EN 12667¹⁴. 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 10456¹⁵ for a moisture content of the insulation boards at 23 °C/50 % relative humidity, amounts to

Category 1: $\lambda = 0.060 \text{ W}/(\text{m} \cdot \text{K})$

Category 2: $\lambda = 0.060 \text{ W}/(\text{m} \cdot \text{K})$

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 13172¹⁶, 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 $\lambda_{10,\text{dry}} = 0,059 \text{ W}/(\text{m} \cdot \text{K})$.

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

For conversion of humidity the following applies:

- the moisture content mass by mass at 23 °C/50 % relative humidity: $u = 0.020 \text{ kg/kg}$
- the moisture content mass by mass at 23 °C/80 % relative humidity: $u = 0.071 \text{ kg/kg}$
- the moisture content conversion coefficient mass by mass (23/50 → 23/80): $f_u = 0.93 \text{ kg/kg}$

9	EN 824:1994-07:	Thermal insulating products for building applications – Determination of squareness
10	EN 1602:1996-11:	Thermal insulating products for building applications – Determination of the apparent density
11	Drying temperature 105 °C to constant mass	
12	EN 12086:1997-06:	Thermal insulating products for building applications – Determination of water vapour transmission properties
13	Drying temperature for determination of $\lambda_{10,\text{dry}}$: 70 °C to constant mass	
14	EN 12667:2001-01:	Thermal performance of building materials and products – Determination of thermal resistance by means of guarded hot plate and heat flow meter methods – Products of high and medium thermal resistance
15	EN ISO 10456:1999-12:	Building materials and products – Procedures for determining declared and design thermal values
16	EN 13172:2001+A1:2005:	Thermal insulation products - Evaluation of conformity

2.6 Compressive strength

The determination of the compressive strength of the thermal insulation boards is performed according to the standard EN 826¹⁷.

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 determination of the dimensional stability under specified temperature and humidity conditions is performed according to the standard EN 1604¹⁸ after a 48 h storage at $(23 \pm 2) \text{ C}^\circ$ and $(90 \pm 5) \%$ relative humidity.

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

2.8 Bending strength

The bending strength of the thermal insulation boards is determined according to the standard EN 12089¹⁹, method B.

The minimum value of the bending strength (individual value) amounts to 300 kPa.

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

2.9 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 13501-1²⁰. The thermal insulation boards meet the criteria of class A1 according to EN 13501-1.

2.10 Water absorption

No performance determined.

2.11 Tensile strength perpendicular to faces

No performance determined.

2.12 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.

17	EN 826:1996-05:	Thermal insulating products for building applications - Determination of compression behaviour
18	EN 1604:1996-11:	Thermal insulating products for building applications – Determination of dimensional stability under specified temperature and humidity conditions
19	EN 12089:1997-06:	Thermal insulating products for building applications - Determination of bending behaviour
20	EN 13501-1:2007-05:	Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests

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 Commission²¹ 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 Commission²² 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:

- (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 6 May 2008 relating to the European technical approval ETA-08/0126 issued on 6 May 2008" 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.²³

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

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

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

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

3.2.1.2 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-08/0126 issued on 6 May 2008.

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 factor 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)
- * These characteristics can be indicated alternatively on the basis of the following designation code.
- | | |
|-----------------------|-----------|
| Compressive strength | CS(Y)1000 |
| Dimensional stability | DS(23,90) |
| Bending strength | BS300 |

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.

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 $\mu = 3$ and $\mu = 6$ respectively²⁴ shall be applied for calculating.

²⁴ The most unfavourable value for the construction work shall be applied each.

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.

Erich Jasch
President, Deutsches Institut für Bautechnik
Berlin, 6 May 2008