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OiB
 Member of EOTA

European technical approval

ETA-13/0717

(English language translation, the original version is in German language)

Handelsbezeichnung
Trade name

CaSi-Systems Wohnklimaplatte Premium
CaSi-Systems Klimaplatte

Zulassungsinhaber
Holder of approval

CaSi-Systems Aktiengesellschaft,
Auf der Breun 16
37671 Höxter
Deutschland

Zulassungsgegenstand
 und Verwendungszweck

Mineralische Wärmedämmplatte

*Generic type and use of
 construction product*

Thermal insulation board made of mineral material

Geltungsdauer vom
validity *from*
 bis
 to

25. 06. 2013

24. 06. 2018

Herstellwerk
Manufacturing plant

CaSi-Systems plant III

Diese Europäische
 technische Zulassung umfasst
*This European technical
 approval contains*

10 Seiten inklusive 0 Anhängen

10 pages including 0 Annexes

I LEGAL BASES AND GENERAL CONDITIONS

- 1 This European technical approval is issued by the Österreichisches 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 the Council Directive 93/68/EEC² and regulation (EC) no. 1882/2003 of the European Parliament and of the Council³;
 - Steiermärkischen Bauproduktengesetzes 2000, LGBl. Nr. 50/2001, in der Fassung LGBl. Nr. 85/2005 und in der Fassung LGBl. Nr. 13/2010
 - Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex to Commission Decision 94/23/EC⁴;
- 2 The Österreichisches Institut für Bautechnik is authorised 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 manufacturer other than those indicated on page 1; or manufacturing plants other than those laid down in the context of this European technical approval.
- 4 This European technical approval may be withdrawn by the Österreichisches Institut für Bautechnik, in particular pursuant to information by the Commission according to Article 5(1) of Council Directive 89/106/EEC.
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- 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 no. L 40, 11.2.1989, p. 12
² Official Journal of the European Communities no. L 220, 30.8.1993, p. 1
³ Official Journal of the European Union no. L 284, 31.10.2003, p. 1.
⁴ Official Journal of the European Communities no. L 17, 20.1.1994, p. 34.

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1. Definition of products and intended use

1.1 Definition of the construction product

This European technical approval applies to the following insulation product.

**CaSi-Systems Wohnklimaplatte Premium
CaSi-Systems Klimaplatte**

It is manufactured in the form of boards in the following dimensions:

nominal thickness:	from 15 mm to 50 mm
nominal length:	600 mm, 1000 mm, 1200 mm
nominal width:	300 mm, 500 mm, 600 mm

The high pressure steam cured (autoclaved) product consists of calcium silicate with a content of cellulose fibres below **1 %** in weight and volume and glass fibres of **2 %** in weight as reinforcement

The insulation material is not faced.

The dimensions correspond to the delivery program of the manufacturer.

The calcium silicate board has to fulfill the following quality criteria:

ph value	8 -10,5
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1.2 Intended use

The calcium silicate insulation board **CaSi-Systems Wohnklimaplatte Premium, CaSi-Systems Klimaplatte** can be used as insulation material for the following intended uses:

Area of application for walls

- internal insulation of walls

Area of application for roofs and ceilings/floors

- internal insulation of ceilings

The insulation product shall only be used in structures where it will not be exposed to wetting or weathering.

The provisions made in this ETA are based on an assumed intended working life of the insulation products of 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 product in relation to the expected economically reasonable working life of the works.

2.12. Bending strength

The bending strength of the products is determined according to European standard EN 12089¹⁶ test method B. The bending strength is for a span of 114 mm of the 25 mm thick insulation material at least **496 kPa** .

The bending strength is for a span of 239 mm of the 50 mm thick insulation material at least **418 kPa** .

Before testing the sample has been dried at a temperature of 40° C to constant mass.

2.13. Tensile strength perpendicular to faces

The tensile strength perpendicular to faces of the products is determined according to European standard EN 1607¹⁷ . The reached tensile strength for a density of 281 kg/m³ is at least **189 kPa**. Before testing the sample has been dried at a temperature of 40° C to constant mass.

2.14. Thermal conductivity

The thermal conductivity of the products is determined according to EN 12667¹⁸ . The declared value of thermal conductivity is determined according to EN 10456¹⁹ .

The fractile value of thermal conductivity for the density range of 243 kg/m³ - 297 kg/m³ is $\lambda_{(10,dry,90/90)} = \mathbf{0,0644 \text{ W/(m}\cdot\text{K)}}$ representing at least 90 % of the production with a confidence limit of 90 %.

The limit value of thermal conductivity for the density range of 243 kg/m³ - 297 kg/m³ is $\lambda_{(10,dry,limit)} = \mathbf{0,0640 \text{ W/(m}\cdot\text{K)}}$ representing the total production. The manufacturer is responsible for keeping the limit during production.

The declared value of thermal conductivity for the density range of 243 kg/m³ - 297 kg/m³ is $\lambda_{D(23,50)} = \mathbf{0,067 \text{ W/(m}\cdot\text{K)}}$ – **category 1** determined by conversion of the $\lambda_{(10,dry,90/90)}$ value.

The declared value of thermal conductivity for the density range of 243 kg/m³ - 297 kg/m³ is $\lambda_{D(23,50)} = \mathbf{0,066 \text{ W/(m}\cdot\text{K)}}$ – **category 2** determined by conversion of the $\lambda_{(10,dry,limit)}$ value.

For conversion of humidity the following applies:

- the moisture content mass by mass at 23 °C/50 % relative humidity: $u_{23,50} = \mathbf{0,0187 \text{ kg/kg}}$
- the moisture content mass by mass at 23 °C/80 % relative humidity: $u_{23,80} = \mathbf{0,0334 \text{ kg/kg}}$
- the moisture content conversion coefficient mass by mass: $f_{u1} (dry - 23/50) = \mathbf{1,487 \text{ kg/kg}}$
 $f_{u2} (23/50 - 23/80) = \mathbf{2,229 \text{ kg/kg}}$

In case of non conformity of individual values of the thermal conductivity from the declared values above the method described in EN 13172²⁰ Annex F applies.

¹⁶ EN 12089:1997 Thermal insulating products for building applications - Determination of bending behaviour;

¹⁷ EN 1607:1996 Thermal insulation products for building applications - Determination of tensile strength perpendicular to faces

¹⁸ EN 12667:2001 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

¹⁹ EN ISO 10456: 2000 Thermal insulation - Building materials and products - Determination of declared and design values

²⁰ EN 13172:2008 Thermal insulating products — Evaluation of conformity

2.15. Reaction to fire

The reaction to fire of boards made of calcium silicate and glass with an organic content below 1 % in weight and volume is given by Commission Decision 96/603/EC (consolidated version). The products are classified **A1**, as provided for in Decision 2000/147/EC, without further testing.

2.16. Release of dangerous substances

The high pressure steam cured (autoclaved) product made of calcium silicate with a content of cellulose fibres below 1 % in weight and volume and glass fibres of 2 % in weight as reinforcement and complies with the provisions of guidance paper H²¹.

It does not contain substances which have to be classified as dangerous according to Directive 67/548/EEC and/or listed in the "Indicative list on dangerous substances" of the EGDS

A declaration of conformity in this respect was made by the manufacturer.

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 EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

2.17. Biocidal products

The high pressure steam cured (autoclaved) product made of calcium silicate with a content of cellulose fibres below 1 % in weight and volume and glass fibres of 2 % in weight as reinforcement does not contain preservatives falling under the Biocides Directive 98/8/EC (consolidated version).

3. Evaluation of conformity and CE marking

3.1 Attestation of conformity system

System 3 for **CaSi-Systems Wohnklimaplatte Premium, CaSi-Systems Klimaplatte** for which the following is valid:

- intended use "any"

The system of attestation of conformity is described in Council Directive (89/106/EEC) Annex III, 2 (ii), Second possibility and is detailed as follows:

- Tasks of the manufacturer
 - factory production control.
- Tasks of the approved body
 - initial type-testing of the product

System 4 for **CaSi-Systems Wohnklimaplatte Premium, CaSi-Systems Klimaplatte** for which the following is valid:

- reaction to fire class A1
(according to Commission Decision 96/603/EC (consolidated version))

²¹ Guidance paper H

A harmonised approach relating to Dangerous substances under the construction products directive, 18 February 2000

The system of attestation of conformity is described in Council Directive (89/106/EEC) Annex III, 2 (ii), Third possibility and is detailed as follows:

Tasks of the manufacturer

- initial type-testing of the product
(according Commission Decision 96/603/EC (consolidated version) no reaction to fire test required)
- factory production control

3.2 Responsibilities

3.2.1 Tasks for the manufacturer; factory production control

The manufacturer has a factory production control system in his plant and exercises permanent internal control of production.

All the elements, requirements and provisions adopted by the manufacturer are documented in a systematic manner in the form of written policies and procedures. The factory production control system ensured that the products are always in conformity with the European technical approval.

In the framework of factory production control the manufacturer shall carry out tests and controls in accordance with the control plan²² which is fixed with this European technical approval.

Details of the extent, nature and frequency of testing and controls to be performed within the factory production control shall correspond to this control plan¹⁷ which is part of the technical documentation of this European technical approval. The results of factory production control are recorded and evaluated. The records include at least the following information:

- designation of the products and of the basic materials
- type of control or testing
- date of manufacture of the products and date of testing of the products or basic materials or components
- result of control and testing and, if appropriate, comparison with requirements
- signature of person responsible for factory production control

On request the records shall be presented to the Österreichisches Institut für Bautechnik.

3.2.2 Tasks for approved bodies

Initial type-testing of the products

For initial type-testing the results of the tests performed as part of the assessment for the European technical approval shall be used unless there are changes in the production line or plant. In such cases the necessary initial type-testing has to be agreed between the Österreichisches Institut für Bautechnik and the approved bodies involved.

3.3 CE marking

The CE marking shall be affixed on the products, the packaging or the attached label.

The symbol "CE" shall be accompanied by the following information:

- name or identifying mark of producer and manufacturing plant
- the last two digits of the year in which the CE marking was affixed
- number of the European technical approval
- identification of products (commercial name)
- nominal dimensions of length, width and thickness
- nominal density
- water vapour diffusion resistance coefficient (MU_i)
- bending strength (BS_i)
- declared value of thermal conductivity²³
- class of reaction to fire

²² The control plan has been deposited at the Österreichisches Institut für Bautechnik and is handed over only to the approved bodies involved in the attestation of conformity procedure

²³ European classification of reaction to fire of building materials according to the Commission Decision 2000/147/EG of 8 February 2000 implementing Article 20 of Directive 89/106/EEC on construction products.

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

4.1 Manufacturing

The thermal insulation products shall correspond as far as their composition and manufacturing process is concerned to the products subject to the approval tests. Composition and manufacturing process are deposited at the Österreichischen Institut für Bautechnik.

4.2 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 defined in accordance with the relevant national provisions. For the calculation of the thermal resistance the nominal thickness of the board shall be applied.

4.2.1.2 Value of water vapour diffusion resistance

For evaluating the diffusion equivalent thickness of air layer of the thermal insulation products the value of $\mu = 2,7$ of water vapour diffusion resistance factor shall be used

The construction shall be designed and installed in such a way that no harmful condensation occurs within the works.

4.2.2 Parameters for the installation in the construction works or parts of construction works

The fitness of the calcium silicate insulation material for the intended use is given under the following condition:

- Installation carried out by appropriate personnel
- Installation in accordance with the manufacturer's specifications (directions of use)

5 Recommendations for the manufacturer

5.1 Recommendations on packaging, transport and storage

Packaging of the products has to be such that they are protected from moisture during transport and storage unless other measures are foreseen by the manufacturer for this purpose.

5.2 Recommendations on installation

The product has to be protected from moisture during installation.

The processing guidelines of the manufacturer have to be followed.

5.3 Accompanying information

In the information accompanying CE marking the manufacturer shall indicate that the products shall be protected from humidity during transport, storage and installation.

Further it is the responsibility of the manufacturer to ensure that the information on the installation procedure is shown clearly on the package and/or on an enclosed instruction sheet.

On behalf of Österreichisches Institut für Bautechnik
Managing Director

The original document is signed by:

Rainer Mikulits

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