



SLOVENSKI STANDARD
kSIST FprEN 14306:2015
01-julij-2015

**Toplotnoizolacijski proizvodi za opremo stavb in industrijske inštalacije -
Proizvodi iz kalcijevih silikatov (CS) - Specifikacija**

Thermal insulation products for building equipment and industrial installations - Factory made calcium silicate (CS) products - Specification

Wärmedämmstoffe für die technische Gebäudeausrüstung und für betriebstechnische Anlagen in der Industrie - Werkmäßig hergestellte Produkte aus Calciumsilikat (CS) - Spezifikation

Produits isolants thermiques pour l'équipement du bâtiment et les installations industrielles - Produits manufacturés en silicate de calcium (CS) - Spécification

Ta slovenski standard je istoveten z: FprEN 14306

ICS:

91.100.60	Materiali za toplotno in zvočno izolacijo	Thermal and sound insulating materials
-----------	---	--

kSIST FprEN 14306:2015

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

FINAL DRAFT
FprEN 14306

April 2015

ICS 91.100.60

Will supersede EN 14306:2009+A1:2013

English Version

Thermal insulation products for building equipment and industrial installations - Factory made calcium silicate (CS) products - Specification

Produits isolants thermiques pour l'équipement du bâtiment et les installations industrielles - Produits manufacturés en silicate de calcium (CS) - Spécification

Wärmedämmstoffe für die technische Gebäudeausrüstung und für betriebstechnische Anlagen in der Industrie - Werkmäßig hergestellte Produkte aus Calciumsilikat (CS) - Spezifikation

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 88.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	Page
Foreword.....	4
1 Scope	6
2 Normative references	6
3 Terms, definitions, symbols, units and abbreviated terms	8
3.1 Terms and definitions	8
3.1.1 Terms and definitions as given in EN ISO 9229:2007	8
3.1.2 Additional terms and definitions	8
3.2 Symbols, units and abbreviated terms.....	9
3.2.1 Symbols and units used in this standard	9
3.2.2 Abbreviations used in this standard.....	10
4 Requirements	10
4.1 General.....	10
4.2 For all applications	10
4.2.1 Thermal conductivity.....	10
4.2.2 Dimensions and tolerances	11
4.2.3 Dimensional stability	11
4.2.4 Reaction to fire of the product as placed on the market	11
4.2.5 Durability characteristics	12
4.3 For specific applications.....	12
4.3.1 General.....	12
4.3.2 Maximum service temperature	12
4.3.3 Minimum service temperature	13
4.3.4 Compressive stress or compressive strength	13
4.3.5 Trace quantities of water soluble ions and the pH-value	14
4.3.6 Water vapour diffusion resistance.....	14
4.3.7 Short-term water absorption by partial immersion	14
4.3.8 Release of dangerous substances.....	14
4.3.9 Continuous glowing combustion.....	14
5 Test methods.....	14
5.1 Sampling	14
5.2 Conditioning.....	15
5.3 Testing	15
5.3.1 General.....	15
5.3.2 Thermal conductivity.....	17
5.3.3 Maximum service temperature	18
5.3.4 Reaction to fire.....	18
6 Designation code	18
7 Assessment and Verification of the Constancy of Performance (AVCP)	18
7.1 General.....	18
7.2 Product Type Determination (PTD).....	19
7.3 Factory Production Control (FPC)	19
8 Marking and labelling	19
Annex A (normative) Factory production control	20
Annex B (normative) Determination of minimum service temperature	23
B.1 Definitions	23
B.2 Principle.....	23

B.3	Apparatus	23
B.4	Test specimens	24
B.4.1	Dimensions of test specimens	24
B.4.2	Number of test specimens	24
B.4.3	Conditioning of the test specimens	24
B.5	Procedure	24
B.5.1	Test conditions	24
B.5.2	Test procedure	24
B.5.3	Alternative test procedure	25
B.6	Calculation and expression of results	25
B.6.1	Dimensional changes	25
B.6.2	Additional tests and/or observation	25
B.7	Accuracy of measurements	26
B.8	Test report	26
Annex C (informative) Preparation of the test specimens to measure thermal conductivity		27
C.1	Preparation of the test specimens to measure thermal conductivity	27
C.2	Ageing	27
Annex D (informative) Additional properties		28
D.1	General	28
D.2	Coefficient of thermal expansion	28
D.3	Apparent and true porosity	28
D.4	Air flow resistance	28
D.5	Creep in compression	28
D.6	Permeability to gases	28
D.7	Acoustic properties	28
D.8	Bending strength	28
D.9	Apparent density	28
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation		30
ZA.1	Scope and relevant characteristics	30
ZA.2	Procedures for AVCP of factory made calcium silicate (CS)	31
ZA.2.1	Systems of AVCP	31
ZA.2.2	Declaration of Performance (DoP)	35
ZA.2.2.1	General	35
ZA.2.2.2	Content	36
ZA.2.2.3	Example of DoP	37
ZA.3	CE Marking and labelling	39
	Bibliography	41

FprEN 14306:2015 (E)**Foreword**

This document (FprEN 14306:2015) has been prepared by Technical Committee CEN/TC 88 “Thermal insulating materials and products”, the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 14306:2009+A1:2013.

This document is identifying those clauses of the standard which are needed for the compliance of the European Standard with the Construction Products Regulation (CPR).

The main technical changes that have been made in this new edition of EN 14306 are the following:

- a) an addition to the foreword;
- b) an addition in Clause 3.2.2;
- c) a new Clause 4.3.8;
- d) modification of Clause 5.3.2;
- e) modification of Clause 7;
- f) modification of Clause 8;
- g) modification of Annex A;
- h) a new Annex ZA.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of Regulation (EU) No. 305/2011.

For relationship with Regulation (EU) No. 305/2011, see informative Annex ZA, which is an integral part of this document.

Locally responsible authorities and contracting entities, who are bound by EU Directives to specify their requirements using European harmonized product standards, are allowed to demand additional properties outside the provisions of this standard if this is technically necessary because of prevailing operational conditions of the building equipment or the industrial installation projected or because of safety regulations.

This European Standard contains six annexes:

- Annex A (normative), Factory production control;
- Annex B (normative), Testing for reaction to fire;
- Annex C (normative), Determination of minimum service temperature;
- Annex D (informative), Preparation of the test specimens to measure thermal conductivity;
- Annex E (informative), Additional properties ;
- Annex ZA (informative), Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation.

This document includes a bibliography.

This European Standard is one of a series of standards for insulation products used in building equipment and industrial installations, but this standard can be used in other areas, where appropriate.

In pursuance of Resolution BT 20/1993 revised, CEN/TC 88 have proposed defining the standards listed below as a European package of standards, setting 21 months after availability as the date of withdrawal (dow) of national standards which conflict with the European standards of this package.

The package of standards comprises the following group of interrelated standards for the specifications of factory made thermal insulation products, all of which come within the scope of CEN/TC 88:

EN 14303, *Thermal insulation products for building equipment and industrial installations — Factory made mineral wool (MW) products — Specification*

EN 14304, *Thermal insulation products for building equipment and industrial installations — Factory made flexible elastomeric foam (FEF) products — Specification*

EN 14305, *Thermal insulation products for building equipment and industrial installations — Factory made cellular glass (CG) products — Specification*

EN 14306, *Thermal insulation products for building equipment and industrial installations — Factory made calcium silicate (CS) products — Specification*

EN 14307, *Thermal insulation products for building equipment and industrial installations — Factory made extruded polystyrene foam (XPS) products — Specification*

EN 14308, *Thermal insulation products for building equipment and industrial installations — Factory made rigid polyurethane foam (PUR) and polyisocyanurate foam (PIR) products — Specification*

EN 14309, *Thermal insulation products for building equipment and industrial installations — Factory made products of expanded polystyrene (EPS) — Specification*

EN 14313, *Thermal insulation products for building equipment and industrial installations — Factory made polyethylene foam (PEF) products — Specification*

EN 14314, *Thermal insulation products for building equipment and industrial installations — Factory made phenolic foam (PF) products — Specification*

EN 15501, *Thermal insulation products for building equipment and industrial installations — Factory made expanded perlite (EP) and exfoliated vermiculite (EV) products — Specification*

FprEN 14306:2015 (E)**1 Scope**

This European Standard specifies the requirements for factory made calcium silicate products which are used for the thermal insulation of building equipment and industrial installations with an operating temperature range of approximately - 170 °C to + 1 100 °C.

Calcium silicate products can be used below - 50 °C. Below the operating temperature of - 50 °C, special tests, regarding the suitability of the product in the intended application are advised (e.g. liquefaction of oxygen). Manufacturer's advice should be heeded in all cases.

The products are manufactured in the form of boards, pipe sections, segments and prefabricated ware.

This European Standard describes product characteristics and includes procedures for testing, evaluation of conformity, marking and labelling.

Products covered by this standard are also used in prefabricated thermal insulation systems and composite panels; the structural performance of systems incorporating these products is not covered.

This European Standard does not specify the required level or class of a given property that should be achieved by a product to demonstrate fitness for purpose in a particular application. The levels required for a given application can be found in regulations and invitations to tender.

Products with a declared thermal conductivity greater than 0,6 W/(m·K) at 10 °C are not covered by this standard.

This European Standard does not cover products intended to be used for the insulation of the building structure.

This European Standard does not cover the following acoustical aspects: direct airborne sound insulation and impact noise transmission index.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 822, *Thermal insulating products for building applications - Determination of length and width*

EN 823, *Thermal insulating products for building applications - Determination of thickness*

EN 824, *Thermal insulating products for building applications - Determination of squareness*

EN 825, *Thermal insulating products for building applications - Determination of flatness*

EN 826, *Thermal insulating products for building applications - Determination of compression behaviour*

EN 1094-6, *Insulating refractory products - Part 6: Determination of permanent change in dimensions of shaped products on heating (ISO 2477:1987 modified)*

EN 1604, *Thermal insulating products for building applications - Determination of dimensional stability under specified temperature and humidity conditions*

EN 1609, *Thermal insulating products for building applications - Determination of short term water absorption by partial immersion*