

Thermal insulating products for building equipment and industrial installations - Determination of maximum service temperature

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NATIONAL FOREWORD

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English Version

Thermal insulating products for building equipment and industrial installations - Determination of maximum service temperature

Produits isolants thermiques pour l'équipement du bâtiment et les installations industrielles - Détermination de la température maximale de service

Wärmedämmstoffe für die Haustechnik und für betriebstechnische Anlagen - Bestimmung der oberen Anwendungsgrenztemperatur

This European Standard was approved by CEN on 24 August 2012.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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.

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Foreword

This document (EN 14706:2012) has been prepared by Technical Committee CEN/TC 88 "Thermal insulating materials and products", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14706:2005.

The main technical changes that have been made in this new edition of EN 14706 are the following:

- a) Normative references have been updated;
- b) Figure 1 has been corrected;
- c) Clause 9, Accuracy of measurements has been revised;
- d) 5.1, Flat square or circular hot plate has been supplemented;
- e) 6.1, Dimensions of test specimens has been revised;
- f) A.3.1, Test conditions has been revised;
- g) A.5, Test for internal self-heating has been completed;
- h) C.4, Additional tests and/or observations has been completed;
- i) D.3, Dimensions of test specimens has been revised.

This European Standard is one of a series of standards which specify test methods for determining dimensions and properties of thermal insulating materials and products. It supports a series of product standards for thermal insulating materials and products which derive from the Council Directive of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products (Directive 89/106/EEC) through the consideration of the essential requirements.

This European Standard has been prepared for products used to insulate building equipment and industrial installations, but it may also be applied to products used in other areas.

A similar standard is available for testing of preformed pipe insulation EN 14707, *Thermal insulating products for building equipment and industrial installations — Determination of maximum service temperature for preformed pipe insulation*.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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 the United Kingdom.

1 Scope

This European Standard specifies the equipment and procedures for determining the maximum service temperature of flat insulation products. It is applicable to thermal insulating products.

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

EN 12085, *Thermal insulating products for building applications — Determination of linear dimensions of test specimens*

EN 12429, *Thermal insulating products for building applications — Conditioning to moisture equilibrium under specified temperature and humidity conditions*

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

ISO 5725-2:1994, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*

ISO 7884-1, *Glass — Viscosity and viscometric fixed points — Part 1: Principles for determining viscosity and viscometric fixed points*

ISO 7884-7, *Glass — Viscosity and viscometric fixed points — Part 7: Determination of annealing point and strain point by beam bending*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

maximum service temperature

highest temperature at which the insulation product, when installed at the recommended thickness in a given application, continues to function within specified limits of performance

[SOURCE: EN ISO 9229:2007, 2.6.9.1]

Note 1 to entry: The required performance may be in the areas of dimensional stability, thermal properties, and mechanical properties as well as changes in appearance and resistance against creation of hazards such as internal self heating (see Annexes A and C and possible requirements in the relevant product standard).

Note 2 to entry: In the present test procedure, which is used as a reference, the test specimen is exposed to a temperature difference going from ambient to the maximum service temperature. This may not reflect the actual application conditions when products are exposed to different temperatures on the two main faces, e.g. in multilayer systems or for faced products where the facing may limit the maximum service temperature.

4 Principle

Measure thickness, length, and width after one sided heat treatment for a specified time period, at the maximum service temperature, achieved using a specified rate of temperature increase. The thickness of the test specimen is measured during heat treatment, and the length and width only after cooling to ambient temperature.

The procedure may be an iterative process.