SLOVENSKI STANDARD
kSIST FprEN 1605:2012

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Toplotnoizolacijski proizvodi za uporabo v gradbeništvu - Ugotavljanje deformacij pri predpisani tlačni obremenitvi in temperaturi

Thermal insulating products for building applications - Determination of deformation under specified compressive load and temperature conditions

Wärmedämmstoffe für das Bauwesen - Bestimmung der Verformung bei definierter Druck- und Temperaturbeanspruchung

Produits isolants thermiques destinés aux applications du bâtiment - Détermination de la déformation sous charge en compression et conditions de température spécifiées

Ta slovenski standard je istoveten z: **FprEN 1605**

ICS:

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

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English Version

Thermal insulating products for building applications - Determination of deformation under specified compressive load and temperature conditions

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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.

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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.

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

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Foreword

This document (FprEN 1605:2012) 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 1605:1996.

The revision of this standard contains no major changes only minor corrections and clarifications of editorial nature.

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 drafted for applications in building, but it may also be used in other areas where it is relevant.

This EN test standard is one of the following group of interrelated standards on test methods for determining dimensions and properties of thermal insulation materials and products, all of which come within the scope of CEN/TC 88:

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 1602, *Thermal insulating products for building applications — Determination of the apparent density*

EN 1603, *Thermal insulating products for building applications — Determination of dimensional stability under constant normal laboratory conditions (23 °C/50 % relative humidity)*

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

EN 1605, *Thermal insulating products for building applications — Determination of deformation under specified compressive load and temperature conditions*

EN 1606, *Thermal insulating products for building applications — Determination of compressive creep*

EN 1607, *Thermal insulating products for building applications — Determination of tensile strength perpendicular to faces*

EN 1608, *Thermal insulating products for building applications — Determination of tensile strength parallel to faces*

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

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

EN 12086, *Thermal insulating products for building applications — Determination of water vapour transmission properties*

EN 12087, *Thermal insulating products for building applications — Determination of long-term water absorption by immersion*

EN 12088, *Thermal insulating products for building applications — Determination of long-term water absorption by diffusion*

EN 12089, *Thermal insulating products for building applications — Determination of bending behaviour*

EN 12090, *Thermal insulating products for building applications — Determination of shear behaviour*

EN 12091, *Thermal insulating products for building applications — Determination of freeze-thaw resistance*

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

EN 12430, *Thermal insulating products for building applications — Determination of behaviour under point load*

EN 12431, *Thermal insulating products for building applications — Determination of thickness for floating floor insulating products*

EN 13793, *Thermal insulating products for building applications — Determination of behaviour under cyclic loading*

EN 13820, *Thermal insulating products for building applications — Determination of organic content*

1 Scope

This European Standard specifies the equipment and procedures for determining the deformation occurring under specified conditions of compressive load, temperature and time. 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 12085 ,*Thermal insulating products for building applications — Determination of linear dimensions of test specimens*

ISO 5725-2, *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*

3 Terms and definitions

For the purposes of this document, the following term and definition apply.

3.1
relative deformation
ε
reduction in thickness of a test specimen under specified compressive load, expressed as a percentage of its initial thickness, measured in the direction of compressive loading

4 Principle

A specified compressive load is applied to a test specimen and the relative deformation is measured in two steps each with a different temperature and time condition.

5 Apparatus

5.1 Instruments, capable of measuring linear dimensions of test specimens in accordance with EN 12085 to an accuracy of 0,5 % for length and width and 0,1 mm for thickness.

5.2 Oven, with thermostat and forced air circulation, capable of maintaining the required temperature to within ± 1 K.

5.3 Loading device, consisting of two flat plates, one of which shall be movable, so arranged that they compress the test specimen in a vertical direction. The movable plate shall be guided in such a manner as to be self-aligning. The plates shall be capable of being loaded smoothly and without distortion so that, during the test, the static stress does not change by more than ± 5 % (see Figure 1 and Table 1).

NOTE The two flat plates should be finely ground/polished. The distance between the upper plate and the reading device should be as short as possible. The zero setting of the deformation measurement should be done using a calibrated steel block approximately of the same thickness as the product to be tested

6 Test specimens

6.1 Dimensions of test specimens

The thickness of the test specimens shall be the original product thickness, provided that the thickness is at least 20 mm.

The test specimens shall be squarely cut and have sides with the following recommended dimensions:

50 mm x 50 mm or

100 mm x 100 mm or

150 mm x 150 mm or

200 mm x 200 mm or

300 mm x 300 mm.

The side length shall be equal to or greater than the thickness.

Dimensions used shall be as specified in the relevant product standard.

NOTE In the absence of a product standard or any other European technical specification, the dimensions of the test specimens may be agreed between parties.

The tolerance on parallelism between the two faces of the test specimen shall not be greater than 0,5 % of its side length, with a maximum of 0,5 mm.

If the test specimen is not flat, it shall be ground flat or an adequate coating shall be applied to prepare the surface for the test. Where it is coated, no significant deformation should occur in the coating or it shall be taken into account by deducting the deformation of the coating.

6.2 Number of test specimens

The number of test specimens shall be as specified in the relevant product standard. If the number is not specified, then at least three test specimens shall be used for each selected set of conditions.

NOTE In the absence of a product standard or any other European technical specification, the number of test specimens may be agreed between parties.

6.3 Preparation of test specimens

The test specimens shall be cut so that the direction of loading applied to the product will correspond to the direction in which the compressive forces are applied to the product in use.

Natural surface skins and any facings and/or coatings that form an integral part of the product shall be retained.

NOTE Special methods of preparation, when needed, are given in the relevant product standard or any other European technical specification.