

**Ehituses kasutatavad
soojustusmaterjalid. Tõmbetugevuse
määramine rööbiti pealispinnaga**

Thermal insulating products for building applications
- Determination of tensile strength parallel to faces

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1608:1999 sisaldab Euroopa standardi EN 1608:1996 + AC:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1608:1999 consists of the English text of the European standard EN 1608:1996 + AC:1997.</p> <p>This document is endorsed on 23.11.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: See standard määrab kindlaks seadmed ja moodused tõmbetugevuse määramiseks rööbiti pealispinnaga. Standard kehtib soojustustoodete kohta. Standardit võib kasutada hindamiseks, kas toode on transpordiks ja kasutuseks piisavalt tugev.</p>	<p>Scope:</p>
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ICS 91.100.60

Võtmesõnad: hooned, määramine, soojaisolatsioon, soojustusmaterjalid, tõmbeteimid, tõmbetugevus

ICS 91.100.99

Descriptors: Thermal insulation, insulating materials, tensile strength, testing.

English version

Thermal insulating products for building applications
Determination of tensile strength parallel to faces

Produits isolants thermiques destinés aux applications du bâtiment – Détermination de la résistance à la traction parallèlement aux faces

Wärmedämmstoffe für das Bauwesen – Bestimmung der Zugfestigkeit in Plattenebene

This European Standard was approved by CEN on 1996-10-05.

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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Foreword

This European Standard 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 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.

In pursuance of Resolution BT 20/1993 (revised), CEN/TC 88 has proposed defining the standards listed below as a European 'package' of standards, setting December 31, 1997 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 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
- prEN 12085
Thermal insulating products for building applications – Determination of linear dimensions of test specimens

prEN 12086

Thermal insulating products for building applications – Determination of water vapour transmission properties

prEN 12087

Thermal insulating products for building applications – Determination of long-term water absorption by immersion

prEN 12088

Thermal insulating products for building applications – Determination of long-term water absorption by diffusion

prEN 12089

Thermal insulating products for building applications – Determination of bending behaviour

prEN 12090

Thermal insulating products for building applications – Determination of shear behaviour

prEN 12091

Thermal insulating products for building applications – Determination of freeze-thaw resistance

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, by May 1997 at the latest, and conflicting national standards shall be withdrawn by December 1997 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

1 Scope

This European Standard specifies the equipment and procedures for determining the tensile strength of a product parallel to its faces. It is applicable to thermal insulating products.

This standard can be used to determine whether the product has sufficient strength to withstand stresses during transportation and application.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN 823

Thermal insulating products for building applications – Determination of thickness

prEN 12085

Thermal insulating products for building applications – Determination of linear dimensions of test specimens

ISO 5725-1

Accuracy (trueness and precision) of measurement methods and results – Part 1: General principles and definitions

ISO 5725-2

Accuracy (trueness and precision) of measurement methods and results – Part 2: Basic method for determination of repeatability and reproducibility of a standard measurement method

3 Definitions

For the purposes of this standard, the following definition applies:

tensile strength parallel to faces, σ_t : The maximum recorded tensile force parallel to the product faces during the pulling operation, divided by the cross-sectional testing area of the specimen.

4 Principle

A specimen is attached to two clamps which are fastened in a tensile testing machine and pulled apart at a given speed.

The maximum tensile force is recorded and the tensile strength of the specimen is calculated.

5 Apparatus

5.1 Tensile testing machine, appropriate for the range of force and displacement involved, capable of having a constant crosshead speed adjusted to 10 mm/min \pm 10 % and capable of measuring the force to an accuracy of \pm 1 %.

5.2 Two clamps, designed so as to avoid failure of the specimen in the area of the clamps. The clamps shall be positioned so that the tensile stress is uniformly distributed during the test.

An example of suitable equipment is shown in figure 1.

NOTE: Any test equipment or method which provides the same result with at least the same accuracy may be used.

6 Test specimens

6.1 Dimensions of test specimens

The thickness of the specimens shall be the original product thickness including any skins, facings, and/or coatings.

The specimens shall be cut with the shape and with the dimensions shown in figure 2. For small products or because of equipment limitations, the specimen length and width shall be adjusted proportionally, but with a minimum length of 500 mm.

NOTE: Other specimen shapes which provide the same result to at least the same accuracy may be used.

6.2 Number of test specimens

The number of specimens shall be as specified in the relevant product standard. If the number is not specified, then at least three specimens shall be used.