



**SLOVENSKI STANDARD**  
**kSIST FprEN 1608:2012**

**01-september-2012**

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**Toplotnoizolacijski proizvodi za uporabo v gradbeništvu - Ugotavljanje natezne trdnosti v smeri dolžine**

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

Wärmedämmstoffe für das Bauwesen - Bestimmung der Zugfestigkeit in Plattenebene

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

**Ta slovenski standard je istoveten z: FprEN 1608**

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**ICS:**

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

**kSIST FprEN 1608:2012**

**en,fr,de**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**FINAL DRAFT**  
**FprEN 1608**

June 2012

ICS 91.100.60

Will supersede EN 1608:1996

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 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.

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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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## Foreword

This document (FprEN 1608:2012) 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 1608:1996.

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 on 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*

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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 tensile strength of a product parallel to its faces. It is applicable to thermal insulating products.

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

## 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*

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 Terms and definitions

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

### 3.1

#### **tensile strength parallel to faces**

$\sigma_t$

maximum recorded tensile force parallel to the product faces during the pulling operation, divided by the cross-sectional testing area of the test specimen

## 4 Principle

A test 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 test 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 test 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.

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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**

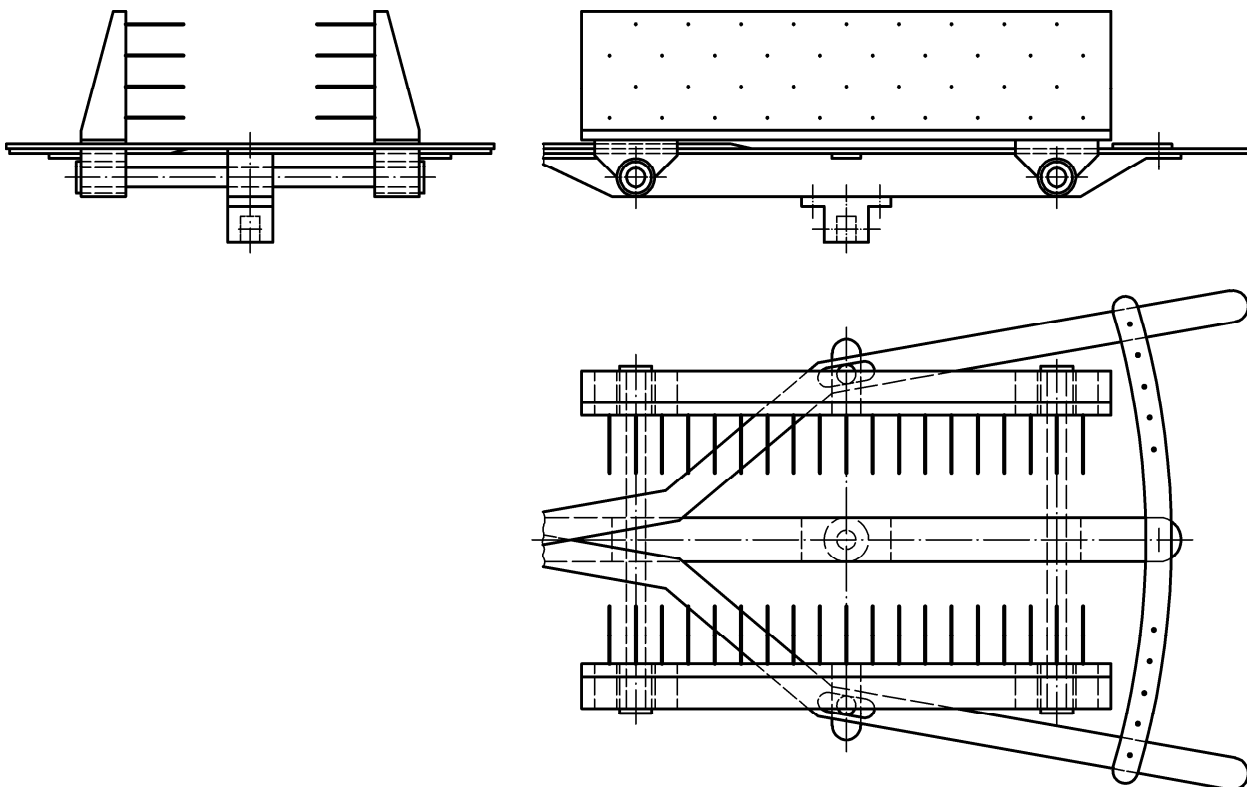
The thickness of the test specimens shall be the original product thickness including any skins, facings, and/or coatings. The test specimens shall be cut with the shape and with the dimensions shown in Figure 2. For small products or because of equipment limitations, the test specimen length and width 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 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.

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



**Figure 1 — Example of suitable clamps**

**6.3 Preparation of test specimens**

The test specimens shall be cut from the full size product so that the length direction corresponds to the direction in which the tensile force is applied to the product in its application.

Test specimens shall be prepared by methods that do not change the original structure of the product.