Ehituses kasutatavad soojustusmaterjalid. Mõõtmete püsivuse määramine labori konstantsetes normaaltingimustes (temperatuur 23 °C ja relatiivne niiskus 50%).

Thermal insulating products for building applications - Determination of dimensional stability under constant normal laboratory conditions (23 degrees C/50% relative humidity)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1603:1999 sisaldab Euroopa standardi EN 1603:1996 + AC:1997 ingliskeelset teksti.	This Estonian standard EVS-EN 1603:1999 consists of the English text of the European standard EN 1603:1996 + AC:1997.
Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 23.11.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

Käsitlusala: See standard määrab kindlaks seadmed ja moodused labori konstantsetes normaaltingimustes proovikehadel või täissuuruses toodetel aja jooksul tekkivate pöördumatute kuju- ja mõõtmemuutuste hindamiseks. Standard kehtib soojustustoodete kohta.	**Scope:**

ICS 91.100.60

Võtmesõnad: hooned, mõõtmete püsivus, määramine, soojaisolatsioon, soojustusmaterjalid, teimid, teimikeskkond, teimitingimused

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1603

November 1996

ICS 91.100.99

Descriptors: Thermal insulation, insulating materials, dimensional stability, standard atmosphere, testing.

English version

Thermal insulating products for building applications

Determination of dimensional stability under constant normal laboratory conditions (23 °C/50 % relative humidity)

Produits isolants thermiques destinés aux applications du bâtiment – Détermination de la stabilité dimensionnelle dans les conditions de laboratoire constantes et normales (23 °C/50 % d'humidité relative)

Wärmedämmstoffe für das Bauwesen – Bestimmung der Dimensionsstabilität im Normalklima (23 °C/50 % relative Luftfeuchte)

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

Contents

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 to evaluate irreversible dimensional changes of test specimens and full size products with time under constant normal laboratory conditions. It is applicable to thermal insulating products.

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 822
Thermal insulating products for building applications – Determination of length and width

EN 825
Thermal insulating products for building applications – Determination of flatness

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 length, l: The long linear dimension of the major surface of the specimen parallel to the longer linear dimension of the original product.

3.2 width, b: The short linear dimension of the major surface of the specimen, measured at right angles to the length.

3.3 deviation from flatness, S: The maximum distance between the product placed on a flat surface with the convex side uppermost and the flat surface.

3.4 normal laboratory conditions: (23 ± 2) °C and (50 ± 5) % relative humidity.

4 Principle

Measure length, width and deviation from flatness of the specimens at several time intervals under normal laboratory conditions until relative stability has been achieved.

Dimensional stability is determined using one or more of the following methods:

– method A: Determination of linear dimensions of full size products;

– method B: Determination of linear dimensions of products using specimens with dimensions smaller than those of full size products;

– method C: Determination of deviation from flatness of full size products.

5 Apparatus

Method A: Measuring equipment as defined in EN 822.

Method B: A frame fixed on a flat reference surface with a dial gauge of 0,01 mm accuracy or any device (optical, electrical etc.) which has an accuracy of 0,1 mm/m (see examples in figure 1 and figure 2)

and either

Method B1: Metal plates of at least 20 mm in diameter (see figure 1). The actual diameter is to be chosen so that the pressure exerted by the dial gauge is less than 2 kPa

or

Method B2: Metal wire (see figure 2).

Method C: Measuring equipment as defined in EN 825.

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

6 Test specimens

6.1 Dimensions of test specimens

The thickness of the specimens shall be equal to the original product thickness.

Method A: The specimen shall be the full size product.

Method B1: 500 mm × 500 mm or, if less than 500 mm × 500 mm, as large as possible. In every case, it shall be greater than 250 mm × 250 mm.

Method B2: 250 mm × 250 mm.

Method C: The specimen shall be the full size product.

6.2 Number of test specimens

When testing full size products, the number of specimens shall be as specified in the relevant product standard. If measurements are made on specimens taken from a full size product, at least three specimens shall be tested.

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