



SLOVENSKI STANDARD

SIST EN 823:1997

01-december-1997

Toplotno izolacijski proizvodi za uporabo v gradbeništvu - Določanje debeline

Thermal insulating products for building applications - Determination of thickness

Wärmedämmstoffe für das Bauwesen - Bestimmung der Dicke

Produits isolants thermiques destinés aux applications du bâtiment - Détermination de l'épaisseur

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Ta slovenski standard je istoveten z: **EN 823:1994**

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ICS:

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

EN 823

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 1994

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Descriptors: Buildings, thermal insulation, thermal insulating materials, dimensional measurements, thickness measurement

English version

Thermal insulating products for building applications - Determination of thickness

Produits isolants thermiques destinés aux applications du bâtiment - Détermination de l'épaisseur

Wärmedämmstoffe für das Bauwesen - Bestimmung der Dicke

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This European Standard was approved by CEN on 1994-07-22. 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 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 the 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 January 1995, and conflicting national standards shall be withdrawn at the latest by December 1996.

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 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 contains the following two normative annexes:

annex A Preparation of test specimens for compressed products

annex B Examples of other methods for the determination of thickness

This European Standard gives the reference method. Other methods may be used, e.g. for quality control, provided a correlation has been established with this reference method; annex B gives some examples of such methods.

This European standard has been drafted for applications in buildings but it may also be used in other areas where it is relevant.

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This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

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, 1996 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 inter-related standards on test methods for determining dimensions and properties of thermal insulation materials and products, all of which come within the scope of CEN/TC88:

- | | |
|--------|---|
| 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 |

prEN 826

Thermal insulating products for building applications - Determination of compression behaviour ¹⁾

Thermal insulating products for building applications - Determination of the apparent density ¹⁾

Thermal insulating products for building applications - Determination of dimension and shape stability under constant normal laboratory conditions (23°C/50% relative humidity) ¹⁾

Thermal insulating products for building applications - Determination of dimensional stability under specified temperature and humidity conditions ¹⁾

Thermal insulating products for building applications - Determination of deformation under specified compressive load and temperature conditions ¹⁾

Thermal insulating products for building applications - Determination of compressive creep ¹⁾

Thermal insulating products for building applications - Determination of tensile strength perpendicular to faces ¹⁾

Thermal insulating products for building applications - Determination of tensile strength parallel to faces ¹⁾

Thermal insulating products for building applications - Determination of short term water absorption by partial immersion ¹⁾

Thermal insulating products for building applications - Determination of linear dimensions of test specimens ¹⁾

Thermal insulating products for building applications - Determination of water vapour transmission properties ¹⁾

Thermal insulating products for building applications - Determination of long term water absorption by immersion ¹⁾

Thermal insulating products for building applications - Determination of long term water absorption by diffusion ¹⁾

Thermal insulating products for building applications - Determination of bending behaviour ¹⁾

Thermal insulating products for building applications - Determination of shear behaviour ¹⁾

Thermal insulating products for building applications - Determination of freeze-thaw resistance ¹⁾

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

¹⁾ Standards are in preparation

1 Scope

This European Standard specifies the equipment and procedures for determining the thickness of full-size products. It is applicable to thermal insulating products.

2 Normative references

This European Standard contains no normative references.

3 Definitions

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

Thickness, d : The linear dimension measured perpendicularly to the length and width plane.

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4 Principle

The distance is measured between a hard flat reference surface on which the test specimen rests and a pressure plate resting freely on the top surface of the specimen.

5 Apparatus

A measuring device comprising a dial gauge and a square pressure plate. An example of a suitable apparatus is given in figure 1.

5.1 A dial gauge having an accuracy of at least $0,5^{2)}$ mm and mounted on a rigid frame fastened to a flat rigid base plate which is at least as large as the test specimen.

5.2 A pressure plate 200 mm square which exerts a total pressure on the test specimen of either $(50 \pm 1,5)$ Pa or (250 ± 5) Pa (including the force exerted by the dial gauge). The choice of pressure shall be given in the relevant product standard.

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

²⁾ If a higher accuracy is required, it is specified in the relevant product standard or agreed between parties.

6 Test specimens

6.1 Dimensions of test specimens

The test specimen shall be the full size product, but it may be necessary to cut the product into pieces of appropriate size.

6.2 Number of test specimens

The number of test specimens shall be as specified in the relevant product standard.

NOTE: In the absence of a product standard the number of test specimens may be agreed between parties.

6.3 Conditioning of test specimens

The test specimens should be stored for at least 6 h at $(23 \pm 5)^{\circ}\text{C}$. in case of dispute they shall be stored at $(23 \pm 2)^{\circ}\text{C}$ and $(50 \pm 5)\%$ relative humidity for the time specified in the relevant product standard.

6.4 Preparation of test specimens

Any surface facings or coatings shall be retained.

For compressed products the preparation of test specimens shall be in accordance with annex A.

7 Procedure

7.1 Test conditions

The test should be carried out at $(23 \pm 5)^{\circ}\text{C}$. In case of dispute it shall be carried out $(23 \pm 2)^{\circ}\text{C}$ and $(50 \pm 5)\%$ relative humidity.

7.2 Test procedure

Lay the test specimen carefully on the flat rigid base plate ensuring that the measuring area is in contact with the base plate. Test specimens faced or coated on one side shall be placed with the facing or coating against the base plate. Place the pressure plate on the specimen exerting a total pressure of either $(50 \pm 1,5)\text{Pa}$ or $(250 \pm 5)\text{Pa}$ at a designated position with the dial gauge centrally located.

Take two measurements for test specimens of lengths less than or equal to 600 mm, four measurements for test specimens greater than 600 mm and less than or equal to 1500 mm in length, and one additional measurement for each additional 500 mm exceeding 1500 mm in length.

Take the measurements d_1 , d_2 , ... and d_n at positions on the surface, as shown in figure 2.

Measure with an accuracy in accordance with 5.1.

8 Calculation and expression of results

The thickness of the test specimen shall be expressed in millimetres as the mean value of the measurements made at all the points for the test specimen (see figure 2), rounded to the nearest millimetre.²⁾

9 Accuracy of measurement

NOTE: It has not been possible to include a statement of the accuracy of the method in this edition of the standard, but it is intended to include such a statement when the standard is next revised.

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10 Test report

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The test report shall include the following information:

a) reference to this European Standard;
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b) product identification:

- 1) product name;
- 2) factory, manufacturer or supplier;
- 3) production code number;
- 4) type of product;
- 5) packaging;
- 6) the form in which the product arrived at the laboratory;
- 7) other information as appropriate, e.g. nominal density.

c) test procedure:

- 1) pre-test history and sampling, e.g. who sampled and where;
- 2) conditioning;
- 3) if any deviation from clauses 6 and 7;
- 4) date of testing;
- 5) general information relating to the test including the pressure;
- 6) events which may have affected the results;

NOTE: Information about the apparatus and identity of the technician should be available in the laboratory but it need not be recorded in the report.

d) results: all individual values and the mean value.

2) If a higher accuracy is required, it is specified in the relevant product standard or agreed between parties.