SLOVENSKI STANDARD
SIST EN 12085:2013

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Nadomešča:

SIST EN 12085:1999

Toplotnoizolacijski proizvodi za uporabo v gradbeništvu - Ugotavljanje linearnih dimenzij preskušancev

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

Wärmedämmstoffe für das Bauwesen - Bestimmung der linearen Maße von Probekörpern

Produits isolants thermiques destinés aux applications du bâtiment - Détermination des dimensions linéaires des éprouvettes d'essai

Ta slovenski standard je istoveten z: EN 12085:2013

ICS:

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

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EUROPEAN STANDARD

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English Version

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

Produits isolants thermiques destinés aux applications du bâtiment - Détermination des dimensions linéaires des éprouvettes

Wärmedämmstoffe für das Bauwesen - Bestimmung der linearen Maße von Probekörpern

This European Standard was approved by CEN on 15 December 2012.

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Foreword

This document (EN 12085:2013) 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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2013, and conflicting national standards shall be withdrawn at the latest by September 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12085:1997.

The revision of this standard contains no major changes, only minor corrections and clarifications of an 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 buildings but it may also be used in other areas where it is relevant.

This European test standard is one of the following group of inter-related standards on test methods for determining dimensions and properties of thermal insulation materials and products, all of which fall 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 materials for building applications — Determination of organic content*

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the characteristics and choice of measuring equipment and the procedure for determining the linear dimensions of test specimens which are taken from thermal insulating products. The procedures for measuring the dimensions of full size products are specified in EN 822 and EN 823.

2 Normative references

Not applicable.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
linear dimension
distance between two points, between two parallel lines or between two parallel planes, defined by corners, edges or surfaces of the test specimen

3.2
test specimen
single item or part of an item used for a test

4 Principle

The linear dimensions of a test specimen are measured using an apparatus giving the required degree of accuracy.

5 Apparatus

5.1 Flat surface, larger than the largest dimensions of the test specimen.

5.2 Dial gauge, permitting reading to at least 0,05 mm. The measuring surface shall be of such a size that the total resultant measuring pressure is ≤ 1 kPa.

The measuring pressure of the dial gauge can be reduced by removing the spring. The dial gauge, or any other electrical or optical measuring instrument having at least the same accuracy, can be fixed to a device to adapt the testing equipment to the size of the test specimen.

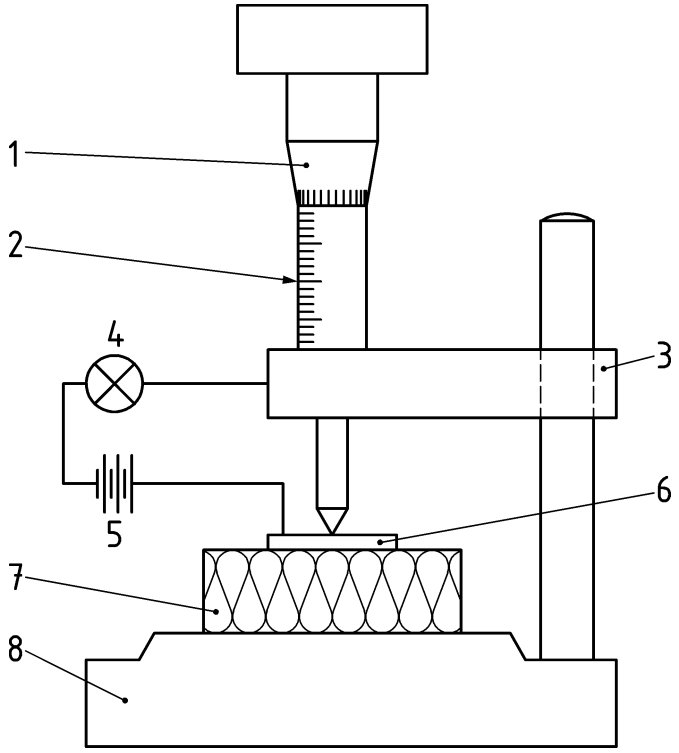
5.3 Micrometer, permitting readings to at least 0,05 mm.

A micrometer shall only be used if it incorporates a device which indicates the onset of the force applied by the micrometer when it contacts the test specimen surface. An example of such a device is an electrical circuit, consisting of a flexible wire, battery, lamp and an aluminium plate exerting a pressure of (50 ± 1,5) Pa on the test specimen. An example of such an apparatus is given in Figure 1.

5.4 Sliding caliper, permitting readings to at least 0,1 mm. The sliding caliper shall only be used if it does not cause any deformation of the test specimen.

5.5 Metal rule or metal tape, graduated in millimetres and permitting reading to at least 0,5 mm.

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



Key

1 screw micrometer
2 millimetre scale
3 adjustable support
4 lamp
5 battery
6 aluminium plate, 10 cm^2
7 test specimen
8 base plate

Figure 1 — Example of apparatus conforming to 5.3

6 Test specimens

The number, dimensions and conditioning of test specimens shall be as defined in the relevant test method standard or any other European Technical Specification.

7 Procedure

7.1 Test conditions

The test conditions shall be as defined in the relevant test method standard or any other European Technical Specification.

7.2 Choice of measuring equipment

The choice of measuring equipment shall be in accordance with the required accuracy of the measured value as given in the relevant test method standard or any other European Technical Specification. Where no such standard or specification exists, the required accuracy shall be agreed between parties, but it shall correspond to the dimensions to be measured.

If the required accuracy of the dimension is expressed in millimetres, the choice of the equipment shall be as shown in Table 1.

Table 1 — Choice of equipment related to required accuracy in millimeters

Required accuracy mm	Measuring equipment	Readings to the nearest mm	Median of readings at each position rounded to the nearest mm
0,1	dial gauge or micrometer[a]	0,05	0,1
0,2	sliding caliper[b]	0,1	0,2
1,0	metal tape or rule[c]	0,5	1,0

[a] A dial gauge shall only be used if the result is unaffected by dial gauge pressure up to 1 kPa.
[b] A dial gauge or a micrometer may also be used, but then the instrument accuracy need be no better than that of a sliding caliper.
[c] A sliding caliper or even a dial gauge or micrometer may be used, but then the instrument accuracy need be no better than that of the metal tape or rule.

Table 2 shall be used to provide the means for the selection of the equipment to be used where the accuracy is expressed in percentage terms. The choice depends on both the required accuracy and on the test specimen dimensions.

Table 2 — Choice of equipment related to required accuracy in percent

Required accuracy %	Measuring equipment / range of dimensions		
	20 mm to ≤ 50 mm	50 mm to ≤ 100 mm	> 100 mm
0,5 to < 1	dial gauge or micrometer[a]	sliding caliper[b]	metal tape or rule[c]
1 to < 2	sliding caliper[b]	sliding caliper[b]	metal tape or rule[c]
2	sliding caliper[b]	metal tape or rule[c]	metal tape or rule[c]

[a] A dial gauge shall only be used if the result is unaffected by dial gauge pressure up to 1 kPa.
[b] A dial gauge or a micrometer may also be used, but then the instrument accuracy need be no better than that of a sliding caliper.
[c] A sliding caliper or even a dial gauge or micrometer may be used, but then the instrument accuracy need be no better than that of the metal tape or rule.

7.3 Number and location of measurements

The number of the measuring locations shall depend on the size and the shape of the test specimen, but shall be at least two. The locations shall be as widely separated as possible, in order to give a good mean value.

If the median of three readings at each position is taken, the mean shall be calculated from the two or more median values.

NOTE The median value at each position is taken because it is easier to keep in mind the majority of the measured values instead of noting all single values and calculating the mean value.

7.4 Measurement with dial gauge

The measurement shall be made with the test specimen placed on a flat surface.