SLOVENSKI STANDARD
SIST EN 12087:1999

01-september-1999

Toplotnoizolacijski proizvodi za uporabo v gradbeništvu – Določanje dolgotrajnega vpijanja vode – Preskus s potapljanjem

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

Wärmedämmstoffe für das Bauwesen - Bestimmung der Wasseraufnahme bei langzeitigem Eintauchen

Produits isolants thermiques destinés aux applications du bâtiment - Détermination de l'absorption d'eau a long terme - Essai par immersion

Ta slovenski standard je istoveten z: **EN 12087:1997**

ICS:

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

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Descriptors: buildings, thermal insulation, thermal insulating materials, water absorption tests, immersion tests, test specimen, procedure, testing conditions, computation

English version

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

Produits isolants thermiques destinés aux applications du bâtiment - Détermination de l'absorption d'eau à long terme - Essai par immersion

Wärmedämmstoffe für das Bauwesen - Bestimmung der Wasseraufnahme bei langzeitigem Eintauchen

This European Standard was approved by CEN on 1997-04-26. 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, Czech Republic, 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

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of an identical text or by endorsement, at the latest by December 1997, and conflicting national standards shall be withdrawn at the latest by December 1997.

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 may also be used in other areas where it is relevant.

In pursuance of Resolution BT 20/1993 Revised, CEN/TC 88 have 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 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/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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, 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 long term water absorption of test specimens. It is applicable to thermal insulating products.

This European Standard specifies two options:
Method 1 - partial immersion
Method 2 - total immersion

The long term water absorption by partial immersion is intended to simulate the water absorption caused by long term water exposure.

The long term water absorption by total immersion is not directly related to the conditions on site, but has been recognized as a relevant condition of test for some products in some applications.

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 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 12085 Thermal insulating products for building applications - Determination of linear dimensions of test specimens

3 Definitions

This European Standard contains no definitions.

4 Principle

4.1 Partial immersion (method 1). The long term water absorption by partial immersion is determined by measuring the change in mass of a test specimen, the lower part of which is in contact with water for a period of 28 days.

The excess water adhering to the surface, not absorbed by the test specimen, is removed by drainage in method 1A or taken into account by deduction of the initial water uptake in method 1B.

4.2 Total immersion (method 2). The long term water absorption by total immersion is determined by measuring the change in mass of the test specimen, totally immersed in water, over a period of 28 days.

The excess water adhering to the surface, not absorbed by the test specimen, is removed by drainage in method 2A or taken into account by deduction of the initial water uptake in method 2B.

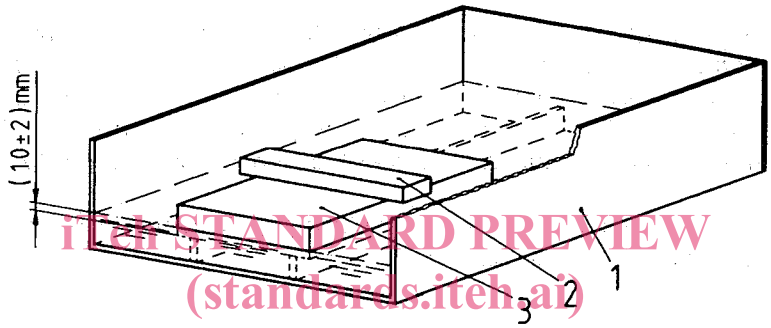
5 Apparatus

5.1 **Balance**, which allows the determination of the mass of a test specimen to 0,1 g.

5.2 **Water tank**, with a device for keeping the water level constant to within ± 2 mm, and a device to keep the test specimen in the required position. Examples of test devices are given in the figures 1, 2 and 3. The device to keep the test specimen in position shall not cover more than 15 % of the cross section area of the test specimen, which is exposed to water. The device shall be such that the original form of the test specimen is maintained.

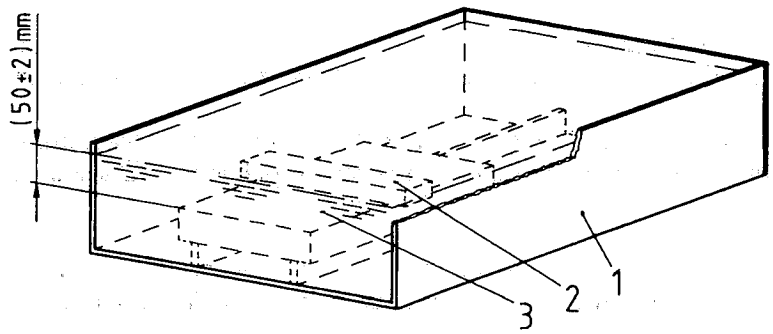
5.3 **Tap water**, adjusted to a temperature of (23 ± 5) °C.

5.4 **Equipment for drainage**. The principle for methods 1A and 2A is illustrated in figures 4a and 4b.



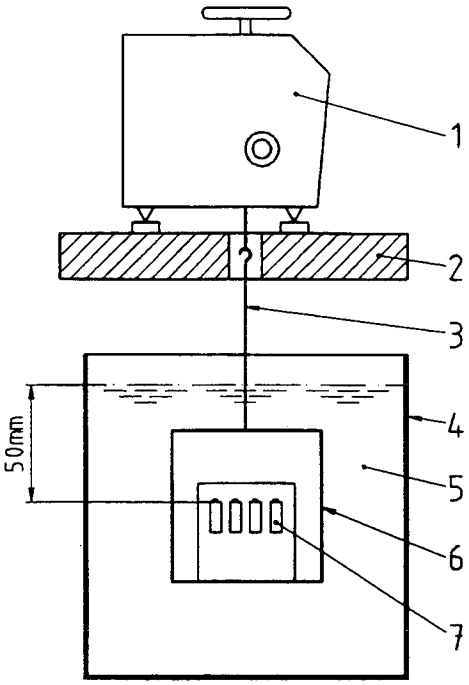
1 Watertank
2 Load to keep the test specimen in position
3 Test specimen

Figure 1: Example of partial immersion test device (method 1A and 1B)



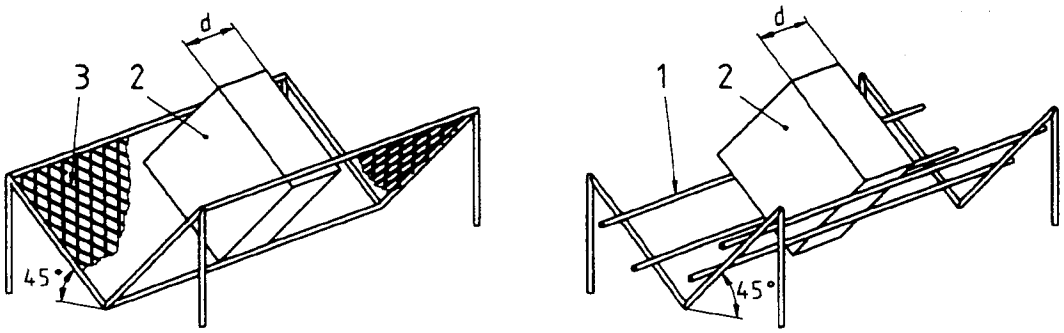
1 Watertank
2 Load to keep the test specimen in position
3 Test specimen

Figure 2: Example of equipment for the determination of water absorption by total immersion (method 2A and 2B)



1 Balance
2 Weighing table
3 Linkage
4 Water container
5 Water
6 Mesh cage made of stainless material with fixing rods or a sinker large enough in mass to compensate for the upthrust of the test specimen
7 Test specimen

Figure 3: Example of equipment for determination of water absorption by total immersion (method 2C)



a) b)

1 Stainless steel mesh
2 Test specimen
3 Perforated stainless steel

Figure 4: Examples of equipment for drainage