

Ehituses kasutatavad soojustusmaterjalid. Veeauru läbilaskvuse määramine

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12086:1999 sisaldab Euroopa standardi EN 12086:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12086:1999 consists of the English text of the European standard EN 12086:1997.</p> <p>This document is endorsed on 23.11.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>See standard määrab kindlaks seadmed ja moodused, mille abil saab määrata püsivas olekus proovikehade veeauru läbilaskevõime, veeauru läbilaskvust paksusühiku kohta ja veeauru läbilaskvust erisugustes täpselt määratud teimitingimustes. Standard kehtib soojustustoodete kohta. Standard on ette nähtud kasutamiseks homogeensete materjalide ning lahutamatu pealiskihiga või erineva(te)st materjali(de)st kattekihiga toodete korral.</p>	<p>Scope:</p>
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Võtmesõnad: arvutus, auruläbilaskvus, hooned, läbilaskvus, moodus, määramine, soojaisolatsioon, soojusmaterjalid, teimid, teimitingimused, veeaur

ICS 91.100.99

Descriptors: Thermal insulation, insulating materials, water vapour transmission, testing.

English version

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

Produits isolants thermiques destinés aux applications du bâtiment – Détermination des propriétés de transmission de la vapeur d'eau

Wärmedämmstoffe für das Bauwesen – Bestimmung der Wasserdampfdurchlässigkeit

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, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the 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

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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 contains the following informative Annexes:

Annex A - Conversion table for water vapour transmission units

Annex B - Examples of test assemblies

Annex C - Information about correction procedures

This European Standard has been drafted for applications in buildings but it 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 water vapour transmission rate, water vapour permance and water vapour permeability of test specimens in the steady state under different sets of specified test conditions. It is applicable to thermal insulating products.

It is intended to be used for homogeneous materials (see note 1) and for products which may contain integral skins or facings of different material(s).

NOTE 1: A material is considered to be homogeneous, with regard to mass distribution, if its density is approximately the same throughout, i.e. if the measured density values are close to its mean density.

NOTE 2: This test method is not normally used for determining the water vapour transmission properties of single, separate vapour barriers (of high diffusion resistance), such as prefabricated films, foils, membranes or sheets, due to the long duration of the test.

For products with a vapour retarder or barrier with a water vapour diffusion equivalent air layer thickness $s_d \geq 1000$ m (see 3.6) other test methods e.g. IR-detection can be used for measuring the single separate vapour retarder or barrier, provided that the results obtained are in the same range as the values measured in accordance with this standard.

The water vapour transmission rate and permance values are specific to the test specimen (i.e. the product) thickness tested. For homogeneous products, the water vapour permeability is a property of the material.

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

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

3.1 water vapour transmission rate, g : The quantity of water vapour transmitted through unit area in unit time under specified conditions of temperature, humidity and thickness.

3.2 water vapour permance, W : The quotient of the water vapour transmission rate of the test specimen and the water vapour pressure difference between the two specimen faces during the test.

3.3 water vapour resistance, Z : The inverse of water vapour permance.

3.4 water vapour permeability, δ : The product of the permance and the thickness of the test specimen. The water vapour permeability of a homogeneous product is a property of the material. It is the quantity of water vapour transmitted per unit of time through a unit area of the product per unit of vapour pressure difference between its faces for a unit thickness.