

Kahlid. Osa 3: Veeimavus, näivpoorsus, näiv suhteline tihedus ja ruumtihedus

Ceramic tiles - Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 10545-3:2000 sisaldab Euroopa standardi EN ISO 10545-3:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 20.03.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 10545-3:2000 consists of the English text of the European standard EN ISO 10545-3:1997.</p> <p>This document is endorsed on 20.03.2000 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>
--	---

<p>Käsitlusala:</p> <p>See standardi ISO 10545 osa kirjeldab meetodeid kahlite veeimavuse, näivpoorsuse, näiva suhtelise tiheduse ja ruumtiheduse määramiseks. Näidiste avatud pooride veega täitmiseks on kaks meetodit: keetmine ja vaakumsukeldus. Keetmisel imbub vesi kergesti täituvatesse avatud pooridesse, vaakummeetodil täituvad peagu kõik avatud poorid.</p>	<p>Scope:</p>
--	----------------------

ICS 91.100.23

Võtmesõnad: katsed, keraamika, määramine, plaadid, poorsus, ruumtihedus, tihedus, veeimavuskatsed

English version

Ceramic tiles

Part 3: Determination of water absorption, apparent porosity,
apparent relative density and bulk density
(ISO 10545-3 : 1995, including Technical Corrigendum 1 : 1997)

Carreaux et dalles céramiques –
Partie 3: Détermination de l'absorption d'eau, de la porosité ouverte, de la densité relative apparente et de la masse volumique globale
(ISO 10545-3 : 1995, Rectificatif Technique 1 : 1997 inclus)

Keramische Fliesen und Platten –
Teil 3: Bestimmung von Wasseraufnahme, offener Porosität scheinbarer relativer Dichte und Rohdichte
(ISO 10545-3 : 1995, einschließlich Technische Korrektur 1 : 1997)

This European Standard was approved by CEN on 1997-05-01.

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

Foreword

International Standard

ISO 10545-3 : 1995 Ceramic tiles – Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density,

which was prepared by ISO/TC 189 'Ceramic tiles' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 67 'Ceramic tiles', the Secretariat of which is held by UNI, as a European Standard.

EN ISO 10545 comprises the following parts, under the common title 'Ceramic tiles':

- Part 1: Sampling and basis for acceptance
- Part 2: Determination of dimensions and surface quality
- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density
- Part 4: Determination of modulus of rupture and breaking strength
- Part 5: Determination of impact resistance by measurement of coefficient of restitution
- Part 6: Determination of resistance to deep abrasion for unglazed tiles
- Part 7: Determination of resistance to surface abrasion for glazed tiles
- Part 8: Determination of linear thermal expansion
- Part 9: Determination of resistance to thermal shock
- Part 10: Determination of moisture expansion
- Part 11: Determination of crazing resistance for glazed tiles
- Part 12: Determination of frost resistance
- Part 13: Determination of chemical resistance
- Part 14: Determination of resistance to stains
- Part 15: Determination of lead and cadmium given off by glazed tiles
- Part 16: Determination of small colour differences
- Part 17: Determination of coefficient of friction

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by January 1998 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, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 10545-3 : 1995, including Technical Corrigendum 1 : 1997, was approved by CEN as a European Standard without any modification.

1 Scope

This part of ISO 10545 specifies methods for determining water absorption, apparent porosity, apparent relative density and bulk density of ceramic tiles.

There are two methods of obtaining impregnation with water of the samples' open pores: boiling and immersion under vacuum. Boiling will impregnate open pores that are easily fillable; the vacuum method fills almost all the open pores.

The boiling method shall be used for classification of tiles and product specifications. The vacuum method shall be used for apparent porosity, apparent relative density and water absorption for purposes other than classification.

2 Principle

Impregnation of dry tiles with water and then suspension in water. Calculation of the listed properties using the relationships between the dry, saturated and suspended masses.

3 Apparatus

3.1 Drying oven, capable of being operated at $(110 \pm 5) ^\circ\text{C}$.

Microwave, infrared or other drying systems may be used provided that it has been determined that the same results are obtained.

3.2 Heating apparatus, constructed of suitable inert material, in which boiling takes place.

3.3 Source of heat.

3.4 Balance, accurate to 0,01 % of the mass of a test specimen.

3.5 Deionized or distilled water.

3.6 Desiccator.

3.7 Chamois leather.

3.8 Wire loop, halter or basket, capable of supporting specimens under water for making suspended mass measurements.

3.9 Glass beaker, or similar container of size and shape such that the sample, when suspended from the balance (3.4) by the wire loop (3.8), is completely immersed in water, with the test specimen and the wire loop being completely free of contact with any part of the container.

3.10 Vacuum chamber and vacuum system, of sufficient capacity to accommodate the required number of test specimens and achieve and hold a vacuum of $(10 \pm 1) \text{ kPa}$ for 30 min.

4 Test specimens

4.1 A sample of each type of tile under test shall consist of 10 whole tiles.