

Kahlid. Osa 5: Löögikindluse määramine põrketeguri mõõtmise teel

Ceramic tiles - Part 5: Determination of impact
resistance by measurement of coefficient of
restitution

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 10545-5:2000 sisaldab Euroopa standardi EN ISO 10545-5:1997 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 10545-5:2000 consists of the English text of the European standard EN ISO 10545-5:1997.</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>
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<p>Käsitlusala: See standardi osa määrab kindlaks katsemeetodi kahlite löögikindluse määramiseks pörketeguri mõõtmise teel.</p>	<p>Scope:</p>
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ICS 91.100.23

Võtmesõnad: katsed, katseseadmed, keraamika, löögikindlus, löögikindluskatsed, määramine, plaadid

ICS 91.100.20

Descriptors: Ceramics, tiles, impact resistance, testing.

English version

Ceramic tiles

Part 5: Determination of impact resistance by measurement
of coefficient of restitution
(ISO 10545-5 : 1996, including Technical Corrigendum 1 : 1996)

Carreaux et dalles céramiques –
Partie 5: Détermination de la résis-
tance au choc par mesurage du
coefficient de restitution
(ISO 10545-5 : 1996, Rectificatif
Technique 1 : 1996 inclus)

Keramische Fliesen und Platten –
Teil 5: Bestimmung der Schlag-
festigkeit durch Messung des
Rückprallkoeffizienten
(ISO 10545-5 : 1996, einschließlich
Technische Korrektur 1 : 1996)

This European Standard was approved by CEN on 1997-08-23.

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 10545-5 : 1996 Ceramic tiles – Part 5: Determination of impact resistance by measurement of coefficient of restitution,

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 10545-5 : 1996, including Technical Corrigendum 1 : 1996, was approved by CEN as a European Standard without any modification.

1 Scope

This part of ISO 10545 specifies a test method for determining the impact resistance of ceramic tiles by measuring the coefficient of restitution.

2 Definition

For the purpose of this part of ISO 10545, the following definition applies.

2.1 coefficient of restitution between two impacting bodies, e : Relative velocity of departure divided by the relative velocity of approach.

3 Principle

Determination of the coefficient of restitution by dropping a steel ball from a fixed height onto the test specimen and measuring the height of rebound.

4 Apparatus

4.1 Chrome steel ball, of diameter $(19 \pm 0,05)$ mm.

4.2 Ball-release apparatus, (see figure 1), consisting of a heavy steel base set on levelling screws with a vertical steel bar to which is attached an electromagnet, a guide tube and a test unit support.

The test unit is clamped firmly in a position so that when the steel ball drops it impinges on the centre of the horizontal tile surface. A clamping device is shown in figure 1, but any suitable system may be used.

4.3 Electronic timing device (optional), which, by means of a microphone, measures the time interval between the first and second impacts when the ball is dropped onto the test specimen.

5 Test specimens

5.1 Number of test specimens

A minimum of five pieces in dimensions $75 \text{ mm} \times 75 \text{ mm}$ cut from five tiles. Tiles with facial dimensions less than 75 mm may be used.

5.2 Brief description of test units

The test units consist of test specimens fixed to mature concrete blocks by means of rigid epoxide resin adhesive.