



SLOVENSKI STANDARD SIST EN ISO 10545-5:1998

01-april-1998

Keramične ploščice - 5. del: Ugotavljanje odpornosti proti udarcem z merjenjem koeficienta odboja

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

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

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

Ta slovenski standard je istoveten z: EN ISO 10545-5:1997

ICS:

91.100.23 Keramične ploščice Ceramic tiles

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EUROPEAN STANDARD

EN ISO 10545-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 1997

ICS 91.100

Descriptors: see ISO document

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 résistance au choc par mesurage du coefficient de restitution (ISO 10545-5:1996, Rectificatif technique 1:1996 inclus)

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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, 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

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Foreword

The text of the International Standard from Technical Committee ISO/TC 189 "Ceramic tiles" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 67 "Ceramic tiles", the secretariat of which is held by UNI.

EN ISO 10545 consists of 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: Extraction of lead and cadmium from glazed tiles
- Part 16: Determination of 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, at the latest by March 1998, and conflicting national standards shall be withdrawn at the latest by March 1998.

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.

Endorsement notice

The text of the International Standard ISO 10545-5:1996, including Technical Corrigendum 1:1996 has been approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

ISO 10545-5

First edition
1996-04-01

Ceramic tiles —

Part 5:

Determination of impact resistance by
measurement of coefficient of restitution

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Carreaux et dalles céramiques —

*Partie 5: Détermination de la résistance au choc par mesurage du
coefficient de restitution*



Reference number
ISO 10545-5:1996(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10545-5 was prepared by Technical Committee ISO/TC 189, *Ceramic tile*.

ISO 10545 consists of the following parts, under the general 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*

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- 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

Annex A of this part of ISO 10545 is for information only.

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Ceramic tiles —

Part 5:

Determination of impact resistance by measurement of coefficient of restitution

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 mm × 75 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.