BS EN ISO 10545-6:2012

BSI Standards Publication

Ceramic tiles

Part 6: Determination of resistance to deep abrasion for unglazed tiles (ISO 10545-6:2010)

This British Standard is the UK implementation of EN ISO 10545-6:2012. It is identical to ISO 10545-6:2010. It supersedes BS EN ISO 10545-6:1997, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/539, Ceramic tiles and other rigid tiling.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

Ceramic tiles - Part 6: Determination of resistance to deep abrasion for unglazed tiles (ISO 10545-6:2010)

Carreaux et dalles céramiques - Partie 6: Détermination de la résistance à l'abrasion profonde pour les carreaux non émaillés (ISO 10545-6:2010)

Keramische Fliesen und Platten - Teil 6: Bestimmung des Widerstands gegen Tiefenverschleiß für unglasierte Fliesen und Platten (ISO 10545-6:2010)

This European Standard was approved by CEN on 29 January 2012.

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Foreword

The text of ISO 10545-6:2010 has been prepared by Technical Committee ISO/TC 189 “Ceramic tile” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 10545-6:2012 by Technical Committee CEN/TC 67 “Ceramic tiles” the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 10545-6:1997.

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Endorsement notice

The text of ISO 10545-6:2010 has been approved by CEN as a EN ISO 10545-6:2012 without any modification.

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10545-6 was prepared by Technical Committee ISO/TC 189, *Ceramic tile*.

This second edition cancels and replaces the first edition (ISO 10545-6:1995), of which subclause 4.3 has been technically revised.

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*

— *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*

Ceramic tiles —

Part 6:
Determination of resistance to deep abrasion for unglazed tiles

1 Scope

This part of ISO 10545 specifies a test method for determining the resistance to deep abrasion of all unglazed ceramic tiles used for floor coverings.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 630, *Structural steels — Plates, wide flats, bars, sections and profiles*

ISO 8486-1, *Bonded abrasives — Determination and designation of grain size distribution — Part 1: Macrogrits F4 to F220*

3 Principle

Determination of the abrasion resistance of unglazed tiles by measuring the length of the groove produced in the proper surface by means of a rotating steel disc, under given conditions and with the use of abrasive material.

4 Apparatus

4.1 Abrasion apparatus, consisting essentially of a rotating disc, a storage hopper with a dispensing device for the abrasive material, a test specimen support and a counterweight (see Figure 1).

The disc shall be made of E 235 A (Fe 360 A) conforming to ISO 630, with a diameter of (200 ± 0,2) mm and a thickness at the edge of (10 ± 0,1) mm, and with a revolution rate of 75 r/min.

The pressure with which the test specimens are held against the steel disc shall be determined by calibrating the apparatus against transparent fused silica. The pressure shall be adjusted such that, after 150 revolutions using F80 abrasive, which shall be in accordance with ISO 8486-1, a chord of (24 ± 0,5) mm shall be produced. Transparent fused silica shall be used as a primary standard. A secondary standard of float glass or other products may be used.

When the diameter has worn by 0,5 % of the initial diameter, the steel disc shall be replaced.

4.2 Measuring gauge, accurate to 0,1 mm.