

Ceramic tiles - Part 9: Determination of resistance to thermal shock

Ceramic tiles - Part 9: Determination of resistance to thermal shock (ISO 10545-9:2013)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 10545-9:2013 sisaldab Euroopa standardi EN ISO 10545-9:2013 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 10545-9:2013 consists of the English text of the European standard EN ISO 10545-9:2013.
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English Version

Ceramic tiles - Part 9: Determination of resistance to thermal shock (ISO 10545-9:2013)

Carreaux et dalles céramiques - Partie 9: Détermination de la résistance aux chocs thermiques (ISO 10545-9:2013)

Keramische Fliesen und Platten - Teil 9: Bestimmung der Temperaturwechselbeständigkeit (ISO 10545-9:2013)

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Foreword

This document (EN ISO 10545-9:2013) has been prepared by Technical Committee ISO/TC 189 “Ceramic tile” in collaboration with 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of an identical text or by endorsement, at the latest by January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.

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Endorsement notice

The text of ISO 10545-9:2013 has been approved by CEN as EN ISO 10545-9:2013 without any modification.

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Ceramic tiles —

Part 9:

Determination of resistance to thermal shock

1 Scope

This part of ISO 10545 specifies a test method for determining the resistance to thermal shock of all ceramic tiles under normal conditions of use.

Depending on the water absorption of the tiles, different procedures (tests with or without immersion) are used unless there is an agreement to the contrary.

NOTE ISO 13006 provides property requirements for tiles and other useful information on these products.

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 10545-3, *Ceramic tiles — Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density*

3 Principle

Determination of the resistance to thermal shock of a whole tile by cycling 10 times between the temperatures of 15 °C and 145 °C.

4 Apparatus

4.1 Low-temperature water bath, through which cold water flows at (15 ± 5) °C.

One example is a bath 55 cm long, 35 cm wide and 20 cm deep, with a water flowrate of 4 l/min. Any other suitable apparatus may be used.

For the case of testing with immersion, applicable to all tiles having a water absorption coefficient less than or equal to a mass fraction of 10 % (determined in accordance with ISO 10545-3), the bath shall not be covered and shall be of sufficient depth to allow the tiles to be placed vertically and immersed completely.

For the case of testing without immersion, applicable to glazed tiles having a water absorption coefficient greater than a mass fraction of 10 % (determined in accordance with ISO 10545-3), the bath shall be covered with a thick aluminium plate in such a manner that the water, directed towards the surface, is in contact with the plate. The aluminium plate shall be covered with a layer approximately thick of 5 mm aluminium granules with diameters in the range of 0,3 mm to 0,6 mm.

4.2 Oven, capable of being operated at 145 °C to 150 °C.