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Ceramic tiles —

Part 10: Determination of moisture expansion

Carreaux et dalles céramiques —

Partie 10: Détermination de la dilatation à l'humidité

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 189, *Ceramic tile,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 67, *Ceramic tiles,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 10545-10:1995), which has been technically revised.

The main changes compared to the previous edition are as follows:

— addition of Clause 2 "Normative references", subsequent clauses have been renumbered;

— modification of Clause 6 "Test specimens".

This corrected version of ISO 10545-10:2021 incorporates the following corrections:

— in Clause 6 the number of test specimens for tiles with a nominal area ≤3600 cm^2 was incorrectly stated as 3. This number has been removed.

A list of all parts in the ISO 10545 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Ceramic tiles —

Part 10:
Determination of moisture expansion

1 Scope

This document specifies a method for determining the moisture expansion of ceramic tiles.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
moisture expansion
proportional accelerated expansion that results from subjecting reheated tiles to extended immersion in boiling water

4 Principle

The principle of this document is the determination of accelerated moisture expansion by subjecting a reheated tile to boiling water and measuring the proportional change in length. See additional remarks regarding moisture expansion in Annex A.

5 Apparatus

5.1 Measuring frame, a suitable type of measuring frame, fitted with a micrometer, dial gauge, transducer or similar device, with an accuracy of at least 0,01 % of the dimension of the specimen.

5.2 Reference bars of nickel steel (Invar), of approximately the same length as the test specimens, fitted with an insulated grip.

5.3 Kiln, capable of firing up to 600 °C, at a rate of temperature rise of 150 °C/h and with a control over the temperature of ±15 °C.

5.4 Boiling apparatus, to maintain the test specimens in boiling deionized or distilled water for 24 h.