INTERNATIONAL STANDARD

ISO 10545-10

Second edition
2021-06

Corrected version
2021-09

Ceramic tiles —

Part 10: Determination of moisture expansion

Carreaux et dalles céramiques —

Partie 10: Détermination de la dilatation à l'humidité

Reference number
ISO 10545-10:2021(E)

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Published in Switzerland

Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Principle **1**
5 Apparatus **1**
6 Test specimens **2**
7 Procedure **2**
7.1 Refiring 2
7.2 Treatment in boiling water 2
8 Expression of results **2**
9 Test report **3**
Annex A (informative) **Remarks on the moisture expansion of ceramic tiles** **4**

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Foreword

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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.

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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.

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