



BSI Standards Publication

Ceramic tiles

Part 10: Determination of moisture expansion

National foreword

This British Standard is the UK implementation of EN ISO 10545-10:2021. It is identical to ISO 10545-10:2021. It supersedes BS EN ISO 10545-10:1997, which is withdrawn.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 committee manager.

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Ceramic tiles - Part 10: Determination of moisture expansion (ISO 10545-10:2021)

Carreaux et dalles céramiques - Partie
10: Détermination de la dilatation à
l'humidité (ISO 10545-10:2021)

Keramische Fliesen und Platten - Teil 10:
Bestimmung der Feuchtigkeitsdehnung
(ISO 10545-10:2021)

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN ISO 10545-10:2021) 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of an identical text or by endorsement, at the latest by January 2022, and conflicting national standards shall be withdrawn at the latest by January 2022.

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

This document supersedes EN ISO 10545-10:1997.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN websites.

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Endorsement notice

The text of ISO 10545-10:2021 has been approved by CEN as EN ISO 10545-10:2021 without any modification.

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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.

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).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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".

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.