
Textile floor coverings and textile floor coverings in tile form — Determination of dimensional changes due to the effects of varied water and heat conditions and distortion out of plane

Revêtements de sol textiles et revêtements de sol textiles sous forme de dalles – Détermination de la variation des dimensions et de l'incurvation due aux effets de diverses conditions de mouillage et de chaleur

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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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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 219, *Floor coverings*.

This second edition cancels and replaces the first edition (ISO 2551:1981), which has been technically revised.

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

- the scope has been expanded to include the testing of textile floor covering tiles and the determination of distortion out of plane.

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.

Textile floor coverings and textile floor coverings in tile form — Determination of dimensional changes due to the effects of varied water and heat conditions and distortion out of plane

1 Scope

This document specifies a procedure for the determination of the dimensional changes and distortion out of plane likely to take place when textile floor coverings and tiles are subjected to varied water and heat conditions.

The method is applicable to all textile floor coverings and textile floor coverings in tile form.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 139, *Textiles — Standard atmospheres for conditioning and testing*

ISO 1957, *Machine-made textile floor coverings — Selection and cutting of specimens for physical tests*

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

dimensional stability

determination of changes in the flat dimensions of a specimen after treatment under various specified conditions of moisture and heat

3.2

distortion out of plane

measurement of the vertical deformation shown by the specimen after treatment under various specified conditions of moisture and heat

4 Apparatus

4.1 Equipment for measurement of dimensional stability, consisting of the following.

4.1.1 Instrument capable of measuring a dimension to an accuracy of 0,05 mm, such as a slide gauge or measuring table or an opto-electronic system or optical bench.

4.1.2 Loading plate, of metal or glass of dimensions slightly smaller than the test specimen, or any other device capable of keeping the specimen flat during measurement of dimensional change.

4.2 Equipment for measurement of distortion out of plane, consisting of the following.

4.2.1 Instrument capable of measuring the vertical dimension to an accuracy of 0,5 mm.

4.2.2 Support plate, of dimensions slightly larger than the test specimen on which to place the specimen during measurement.

4.2.3 Loading plate, of dimensions slightly smaller than the test specimen to put on the test specimen during measurement.

4.3 Steel pins, or other appropriate means of indicating the reference points on the test specimen, if necessary.

4.4 Drying oven, with forced ventilation able to maintain a temperature of $60\text{ °C} \pm 2\text{ °C}$ containing removable shelves of smooth inert material with perforations to permit free circulation of air.

4.5 Container, to hold water at $20\text{ °C} \pm 2\text{ °C}$, of dimensions at least 20 mm greater than the test specimen and deep enough to permit the test specimen to be submerged.

5 Sampling and preparation of specimens

5.1 For textiles floor coverings

5.1.1 Sampling

Select the specimens according to the directives in ISO 1957.²⁰

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5.1.2 Number and dimensions

Take at least three test specimens each measuring not less than 250 mm × 250 mm, noting the direction of manufacture.

5.2 For tiles

5.2.1 Tiles of dimensions $\leq 500\text{ mm}$

Take at least three tiles as delivered by the manufacturer, marking to show the direction of manufacture.

5.2.2 Tiles of dimensions $> 500\text{ mm}$

From these tiles, take at least three specimens and reduce the size to dimensions not greater than 500 mm × 500 mm.

6 Conditioning

Condition the test specimens in the standard atmosphere for testing textiles as defined in ISO 139 for at least 48 h or until constant mass.