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Textile floor coverings — Water impermeability test

Revêtements de sol textiles — Essai d'imperméabilité à l'eau

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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 document 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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This document was prepared by Technical Committee ISO/TC 219, *Floor coverings.*

This second edition cancels and replaces the first edition (ISO 20251:2016), which has been technically revised.

The main changes are as follows:

— inclusion of the pouring height of the coloured solution onto the test specimen;

— revision of process to make the coloured liquid.

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 — Water impermeability test

1 Scope

This document specifies a laboratory test method for determining the water impermeability of textile floor coverings.

This document does not apply to the characterization of a wall-to-wall installation of textile floor covering tiles.

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*

ISO 2424, *Textile floor coverings — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 2424 apply.

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

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

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

4 Principle

A specified amount of coloured liquid is poured from a height of 1 m onto a concentrated area of the use surface of the floor covering. After 24 hours, the floor covering is then evaluated for liquid penetration through (or in the secondary backing of) the product.

5 Materials

5.1 Coloured liquid solution

Methylene blue solution (1 g/l) (CAS number 61-73-4) or Acid Violet 7 solution (1 g/l) (CAS number 4321-69-1).

5.2 Open-ended cylinder

Open-ended cylinder (funnel with spout): 110 mm in diameter, 1 000 mm high, non-water permeable, and of a lightweight material, e.g. PVC.

5.3 White tissue paper

Any white tissue paper can be used for this purpose.

6 Sampling and selection of specimen

Select three specimens from the sample in accordance with ISO 1957, with each specimen measuring a minimum of 350 mm × 350 mm.

7 Conditioning and testing

The specimens shall be conditioned, and the test conducted, in the standard atmosphere for testing textiles as specified in ISO 139.

8 Procedure

Each specimen is laid on top, use surface uppermost, of a clean white tissue paper (5.3) on a horizontal surface.

Place the open-ended cylinder (5.2) in the middle of the textile floor covering specimen and pour 100 ml of the coloured liquid solution (5.1) into the centre of the cylinder from a height of 1 m. Remove the cylinder as soon as the liquid solution has soaked into the textile floor covering. Repeat for the other specimens.

Leave the specimens to stand for 24 h in the standard atmosphere before evaluation.

9 Assessment of the results

The specimens from each test are visually examined for evidence of water penetration through the backing onto the white tissue.

If no water penetration is visible, a cross section is carried out on the samples to see if the dye has penetrated the secondary backing.

10 Expression of the results

Record, for each specimen, whether the sample showed water penetration through the backing into the white tissue or in the secondary backing.

Record the conclusion of water impermeability if none of the specimens showed water penetration through the backing into the white tissue or in the secondary backing.

11 Test report

The test report shall contain the following information:

a) a statement that the tests were performed in accordance with this document, i.e. ISO 20251:2024;

b) the date of the test;

c) the complete identification of the product tested, including type, source, colour, and manufacturer's reference numbers;

d) the previous history of the sample;

e) whether or not the specimens showed water penetration or visible dye was seen in the secondary backing;

f) whether the examined textile floor covering was found to be water permeable or impermeable;

g) any deviation from this document, which can have possibly affected the results.