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Textile floor coverings — Production of changes in appearance by means of a hexapod tumbler tester

Revêtements de sol textiles — Production de changements d'aspect au moyen d'un tambour d'essai pour hexapode

FDIS stage

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Foreword

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

This first edition of ISO 23122 cancels and ~~directly~~ replaces ISO 10361:2015, which has been technically revised.

The main changes are as follows:

— this document covers Method B of ISO ~~10361:2015. Method A of ISO~~ 10361:2015 ~~will be published as ISO 23122.~~only;

— Method A has been removed from this document (it is now covered by ISO 23106).

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 — Production of changes in appearance by means of a hexapod tumbler tester

1 Scope

This document specifies requirements for a procedure that uses the mechanical action of a hexapod tumbler tester to produce changes in appearance (surface structure and colour) to all types of textile floor coverings. It does not include pilling or colour changes due to other actions.

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 48-4*:2018*, *Rubber, Vulcanised vulcanized or thermoplastic — Determination of indentation hardness — Part 1: Durometer 4: Indentation hardness by durometer method (Shore hardness)*

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 hexapod with studs rolls randomly inside a rotating drum which is lined with the textile floor covering specimens.

After fatiguing, the change in appearance of the specimens is assessed in accordance with the applicable assessment standard.

5 Apparatus

5.1 5.1 Hexapod tumbler tester, with a plastic drum of the following dimensions:

— internal diameter: (305 ± 1) mm;

— wall thickness: approximately 8 mm;

— internal depth: (210 ± 1) mm.

The drum shall rotate at a speed of (35 ± 2) r/min and shall have facilities for reversing the direction of rotation every 15 min (14 min 30 s rotating and 30 s stop). The drum system shall incorporate a revolution counter and the drum base and lid shall have a locating groove to hold a Polyethylene specimen backing sheet (5.2(5.2)) flat against the inner wall of the drum. Figure 1Figure 1 illustrates the drum and lid disassembled and Figure 2Figure 2 shows the drum in cross-section.

5.2 5.2 **Polyethylene specimen backing sheet,** of nominal size 950 mm long, 215 mm wide, and thickness of 2 mm.

5.3 5.3 **Hexapod,** comprising a 50 mm mild steel cube with 25 mm thick plates connected to each face. The outside corners of the plates shall be rounded, such that, when the studs are fitted and the hexapod placed on a flat surface, no metal touches the flat surface (see Figure 3Figure 3).).

A replaceable polyurethane stud with steel backing shall be screwed centrally into each face.

— diameter of stud: (40 ± 1) mm;

— height of stud: (15 ± 1) mm;

— edge radius of stud: (15 ± 1) mm;

— thickness of steel backing: (3 ± 0,25) mm;

— shore A hardness, measured in accordance with ISO 48-4:2018: (92,5 ± 7,5);

— total mass of hexapod with its six studs: (3,8 ± 0,1) kg.

The physical properties of height, diameter, and hardness shall be tested after every 400 000 cycles. If any of the physical properties of any of the studs are found not to comply withconform to the stud specification, the non-compliantconformant studs shall be replaced.

Studs shall be replaced in any case after two years' use.[1][1)]

5.4 5.4 **Double-sided adhesive tape,** 50 mm wide.

5.5 5.5 **Vacuum cleaner,** having a width of suction head at least equal to the width of the specimens.

Upright vacuum cleaner with rotating brush and beater bar.

NOTE If this type of vacuum cleaner is not recommended by the manufacturer, then the recommended one should be used and described in the test report.

[1] Replacement studs for the hexapod tumbler tester can be obtained from Wira Instrumentation Ltd. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of the product named. Equivalent products may be used if they can be shown to lead to the same results.

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