FINAL DRAFT
International Standard

ISO/FDIS 23106

Textile floor coverings — Production of changes in appearance by means of Vettermann drum tester

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

ISO/TC **219**

Secretariat: **NBN**

Voting begins on:
2025-04-04

Voting terminates on:
2025-05-30

Reference number
ISO/FDIS 23106:2025(en)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 219, *Floor coverings*.

This first edition of ISO 23106 cancels and replaces ISO 10361:2015, which has been technically revised.

The main changes are as follows:

— this document covers Method A of ISO 10361:2015 only;

— Method B has been removed from this document (it is now covered by ISO 23122).

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 Vettermann drum tester

1 Scope

This document specifies requirements for procedures that use the mechanical action of a Vettermann drum 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.

NOTE Changes produced by these drum tester are assessed in accordance with the applicable assessment standards.

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*

ISO 9405, *Textile floor coverings — Assessment of changes in appearance*

ISO 48-4, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 4: Indentation hardness by durometer method (Shore hardness)*

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 steel ball 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 Vettermann drum method

5.1 Apparatus

5.1.1 Vettermann drum tester, with a metal drum of the following dimensions (see Figure 1):

— internal diameter: (730 ± 10) mm;

— internal depth: (270 ± 5) mm;

— effective depth: (240 ± 7) mm;

— thickness of curved surface: (8 ± 0,5) mm.

The drum shall be capable of rotating at a speed of (16 ± 1) r/min. The drum shall have facilities for reversing the direction of rotation every 5 min with approximately 1 s stationary time. The drum system shall incorporate a revolution counter, and specimens shall be held in place by four adjustable retaining segments [thickness (15 ± 1) mm] on each side wall of the drum.

Loose fibres or yarns shall be extracted by a vacuum cleaner. Figure 1 illustrates the drum in cross-section.

A vulcanized fibre backing sheet of size 2 320 mm × 270 mm × 1,5 mm thick and of density 1,1 g/cm^3 to 1,3 g/cm^3 at 20 °C is loosely laid inside the drum shell on the working side.

The sheet remains permanently in the drum.

5.1.2 Steel ball, fitted with 14 cylindrical rubber studs located to be equally spaced on the ball surface. The studs shall be replaceable and screwed into flat faces machined into the surface of the ball (see Figure 2). It shall have the following dimensions:

— diameter of the ball: (120 ± 0,2) mm;

— distance between diametrically opposed flat stud-mounting faces: (118 ± 0,1) mm;

— mass without studs: (6 800 ± 100) g;

— mass with 14 studs: (7 600 ± 100) g.

Each stud shall consist of a light grey natural rubber disc attached to a steel backing plate having an integral mounting screw.[1]

Specification of the studs:

— thickness of metal plate: 3 mm;

— diameter: (40 ± 0,5) mm;

— mass individual stud: (57 ± 0,5) g;

— height (without spiral drill): (15 ± 0,5) mm;

— spiral drill: metric 8;

— hardness of studs: shore A (48 ± 3) measured according to ISO 48-4, reading after 3 s.

The studs shall be stored under exclusion of light (in a dark room) at between 18 °C and 23 °C, but not longer than 18 months