
**Textile floor coverings — Laboratory
soiling tests —**

**Part 2:
Drum test**

Revêtements de sol textiles — Essais d'encrassement en laboratoire —

Partie 2: Essai au tambour

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 11378 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 11378-2 was prepared by Technical Committee ISO/TC 219, *Floor coverings*.

ISO 11378 consists of the following parts, under the general title *Textile floor coverings — Laboratory soiling tests*:

- *Part 1: Kappasoil test*
- *Part 2: Drum test*

Annexes B and C form a normative part of this part of ISO 11378. Annexes A and D are for information only.

Textile floor coverings — Laboratory soiling tests —

Part 2: Drum test

1 Scope

1.1 This part of ISO 11378 describes the equipment and the test method for assessing the propensity of textile floor coverings to soiling in the absence of abrasive wear and texture changes using a standard artificial soil composition.

1.2 This test method is applicable for use in testing unused textile floor coverings of all types.

1.3 The scope of this test method can be extended to assess the effects of fibre finishes, cleaning chemicals and cleaning equipment (see annex A).

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 11378. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 11378 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 105-A02:1993, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour*

ISO 105-J01:1997, *Textiles — Tests for colour fastness — Part J01: General principles for measurement of surface colour*

ISO 139:1973, *Textiles — Standard atmospheres for conditioning and testing*

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

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

ISO 10361, *Textile floor coverings — Production of changes in appearance by means of Vettermann drum and hexapod tumbler testers*

ISO 11379, *Textile floor coverings — Laboratory cleaning procedure using spray extraction*

3 Principle

Carpet test specimens are subjected to an accelerated soiling process. The degree of soiling is measured by calculating the change in colour between soiled and original textile floor covering, or by use of the large grey scales.

4 Apparatus and materials

4.1 Drum and driving systems, conforming to the specified hexapod tumbler tester of ISO 10361 or to the modified drum test equipment described in annex B.

4.2 Wide-mouth mixing container, such as a standard mill jar, for preparation of soiled pellets.

4.3 Polyamide polymer pellets, having a volume of $(13 \pm 2) \text{ mm}^3$ per pellet.

4.4 Chrome alloy steel balls (ball bearings), of total mass $(1\,000 \pm 10) \text{ g}$, each with a diameter of $(9,5 \pm 0,02) \text{ mm}$.

4.5 Magnet, capable of attracting and holding several chrome alloy steel balls at one time.

4.6 Standard soiling compound, compatible with the equipment, selected from those listed in annex C. The preferred soiling compound is the compound C.5.

NOTE The standard soils have a limited shelf life and should be stored in sealed containers.

4.7 Suction (vacuum) cleaner, with an airflow of $(25 \pm 5) \text{ l/s}$ through the suction orifice of $(125 \pm 25) \text{ mm} \times (15 \pm 2,5) \text{ mm}$.

4.8 Specimen backing sheet, a polyethylene sheet of nominal size $950 \text{ mm} \times 215 \text{ mm} \times 2 \text{ mm}$.

4.9 Double-sided pressure sensitive adhesive tape, approximately 50 mm in width used to secure the textile floor covering specimens to the backing sheet.

4.10 Straight edged ruler, of minimum length 200 mm.

4.11 Control textile floor covering.

A light-coloured carpet of known specifications is used as a reference for each test evaluation.

4.12 Assessment equipment

4.12.1 Colour measurement equipment, consisting of a colour measurement device with a $(50 \pm 0,5) \text{ mm}$ aperture, capable of measuring the colour of textile floor coverings and expressing the results as ΔE or ΔL (CIELAB system) in accordance with ISO 105-J01.

4.12.2 Large grey scales, in accordance with ISO 105-A02.

4.12.3 Template, used in conjunction with the colour measurement equipment, of the same size as the test specimen(s) with six holes of the same dimensions as the measuring head of the colour measuring equipment (see Figure 1).

Dimensions in millimetres

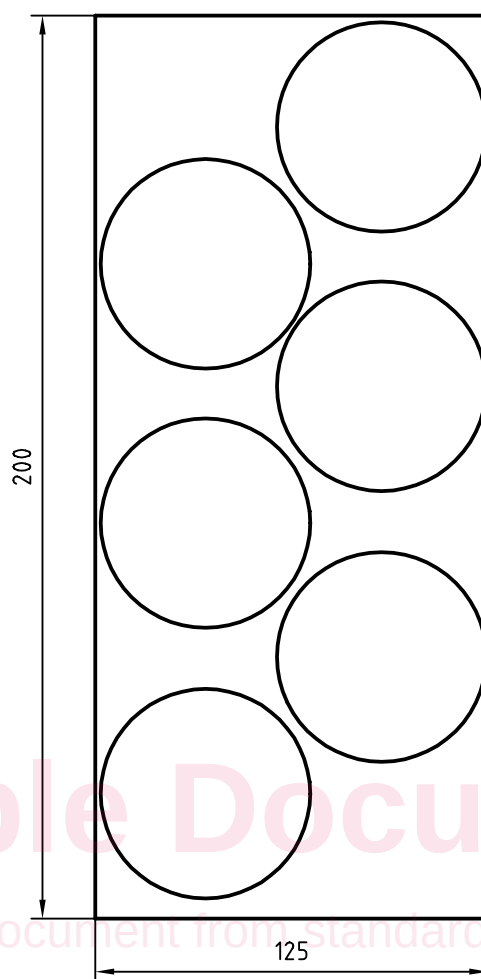


Figure 1 — Example of suitable template for colour measurement

5 Atmosphere for conditioning and testing

The standard atmosphere for conditioning and testing of textiles shall be one of those specified in ISO 139.

6 Sampling and preparation of soiled pellets and test specimens

6.1 Preparation of soiled pellets

Place $(3 \pm 0,1)$ g of the preferred soiling compound C5 and 1 000 g of polyamide pellets in the mixing container. Secure the lid and place the mixing container on the driving system (4.1) for 20 min. to ensure a homogeneous mixture of the soil and the pellets.

To simulate particular use areas it may be necessary to adjust the type and/or quantity of soiling compound

NOTE If large quantities of soiled pellets are prepared (e.g. more than 2 000 g) they should be kept in an airtight container to ensure that no loss of moisture from the mixture occurs, and the supply should not be allowed to dwindle below 25 % of the original quantity prepared.