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

**Part 1:
Kappasoil test**

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

Partie 1: Essai Kappasoil



Reference number
ISO 11378-1:2000(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2000

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 734 10 79
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

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.

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 11378-1 was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 12, *Textile 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 A, B and C of this part of ISO 11378 are for information only.

This document is a preview of the ISO 11378-1:2000(E) standard.

www.iso.org

Textile floor coverings — Laboratory soiling tests —

Part 1: Kappasoil test

1 Scope

This part of ISO 11378 specifies a method for assessing the propensity of textile floor coverings to soiling using an artificial soil composition.

The scope of this test method can be extended to assess the efficiency of 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:—¹⁾, *Machine-made textile floor coverings — Selection and cutting specimens for physical tests*.

ISO 9405:—²⁾, *Textile floor coverings — Assessment of changes in appearance*.

3 Principle

Carpet specimens are subjected to an accelerated soiling process. The degree of soiling is measured by comparing the change in colour between soiled and original specimens.

1) To be published. (Revision of ISO 1957:1986)

2) To be published. (Revision of ISO/TR 9405:1990)

4 Apparatus

4.1 Kappasoil machine, consisting of the following components.

4.1.1 Circular table, (600 ± 2) mm in diameter, rotating at a speed of $(0,3 \pm 0,016) \text{ s}^{-1}$ $[(18 \pm 1) \text{ rpm}]$ and reversing direction every 250 revolutions, to which the test specimens are attached.

4.1.2 Two cones, which rest radially on the table, one being free-running and the other driven in the same direction and with a cone surface speed $(5 \pm 1) \%$ higher than the surface speed of the table, each cone assembly being adjusted to apply a load of $(40 \pm 2) \text{ N}$.

4.1.3 Soil dispenser, placed above the table, capable of dispensing soil uniformly and intermittently for distribution on the test specimens over a period of time during the machine cycle.

NOTE Typically $(1,4 \pm 0,01) \text{ g}$ of soiling compound (4.2) is dispensed every 250 revolutions of the table and distributed evenly for one full revolution.

4.2 Standard soiling compound, compatible with the equipment.

NOTE Examples of such soiling compounds are listed in annex B.

4.3 Suction (vacuum) cleaner, with an airflow of $(25 \pm 5) \text{ l}\cdot\text{s}^{-1}$ through the suction-only nozzle with a suction surface of $(125 \pm 25) \text{ mm} \times (15 \pm 2,5) \text{ mm}$.

4.4 Means of securing floor covering specimens to the horizontal table.

NOTE This can be double-sided, pressure-sensitive, adhesive tape or (aerosol) contact adhesive or a clamping system.

4.5 Colour measurement instrument, 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.

4.6 Grey scales, in accordance with ISO 105-A02.

4.7 Template, to be used in conjunction with the colour measurement instrument and of the same size as the specimens with five holes of the same dimensions as the measuring head of the colour measurement equipment (see Figure 2).

4.8 Straight edged ruler, at least 200 mm long.

4.9 Illumination device, as described in ISO 9405.

5 Atmosphere for conditioning and testing

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

6 Sampling and preparation of test specimens

6.1 Sampling

Select a minimum of two test specimens per textile floor covering being tested in accordance with ISO 1957. Cut each test specimen in such a way that in the case of those textile floor coverings with a “natural” pile lay, the direction of pile lay is at right angles to the direction of the rotational motion of the table. The specimens and soiling compound (4.2) shall be conditioned for a minimum of 24 h, and the test and assessment carried out in one of the standard atmospheres (clause 5).

6.2 Preparation of test specimens

A maximum of twelve test specimens (see Figure 1) from the same or different samples shall be exposed in each test run. Cut out the appropriate number of test specimens and allow to condition in the standard atmosphere (clause 5), flat, singly and use-surface uppermost, for at least 24 h.

If there are insufficient specimens available for testing, any vacant spaces on the circular table of the Kappasoil machine shall be filled with spare floor covering material of similar thickness.