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Textile floor coverings — Floor soiling — Test site set-up and soiling evaluation

*Revêtements de sol textiles — Encrassement — Établissement
d'un emplacement d'essai et évaluation*

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ISO 11377:1997(E)**Foreword**

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International Standard ISO 11377 was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 12, *Textile floor coverings*.

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Textile floor coverings — Floor soiling — Test site set-up and soiling evaluation

1 Scope

This International Standard specifies the procedure for setting up a test site for textile floor coverings and the procedure for evaluation of levels of soiling as measured by colour change.

2 Normative references

The following standards contain provisions which, through reference in this text constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO 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:—¹⁾, *Textiles — Tests for colour fastness — Part J01: General principles for the measurement of surface colour.*

ISO 1957:1986, *Machine-made textile floor coverings — Sampling and cutting specimens for physical tests.*

3 Principle

Samples of textile floor covering are exposed to foot traffic at a controlled test site and are evaluated for change in colour after a given level of soiling is reached. The textile floor coverings can be evaluated for soiling in-situ for intermediate assessments and, after removal from the test site, for final assessment.

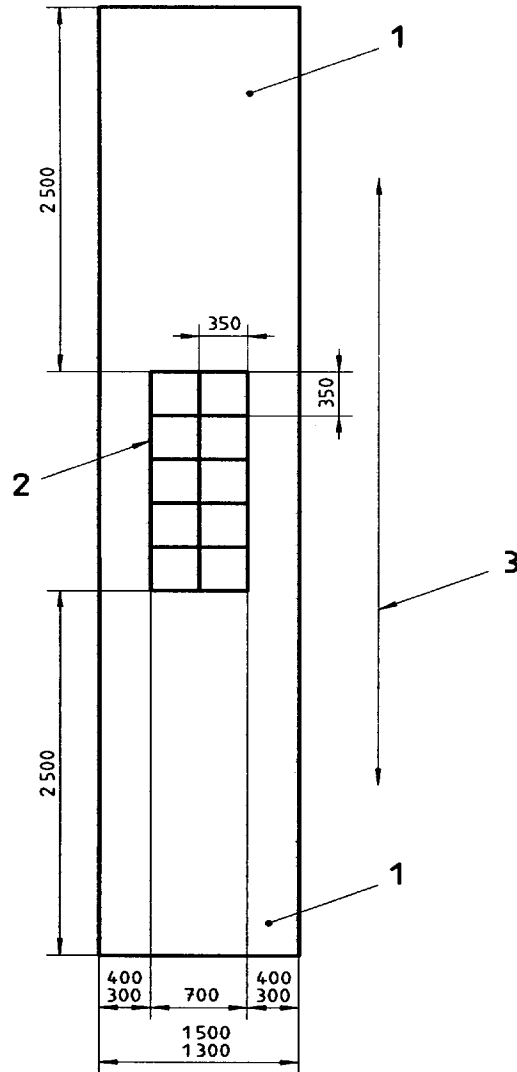
1) To be published. (Revision of ISO 105-J01:1989)

4 Test site

The test site shall be remote from outside entrances and isolated from non-typical, greasy, oily or wet traffic. It shall consist of a level corridor of width not more than 1,5 m and not less than 1,3 m, with straight, non-turning traffic in both directions, as shown in figure 1.

The test site may be equipped with a photoelectric traffic counter positioned 1,25 m above floor level.

Dimensions in millimetres



Key

- 1 Buffer textile floor covering
- 2 Test specimens
- 3 Direction of traffic

Figure 1 — Test site layout

The test site shall not be in areas where people gather, such as those containing bulletin boards or vending machines. The floor shall be level and free from irregularities. At least 2,5 m of buffer textile floor covering, free from contaminants and exhibiting minimum fibre shedding, shall be placed at each end of the test textile floor covering.

5 Test specimen preparation

Textile floor coverings under test shall be sampled in accordance with ISO 1957 and square test specimens shall be prepared having sides measuring (350 ± 10) mm. They shall be placed in two lines along the length of the corridor (see figure 1). Buffer textile floor covering between 300 mm and 400 mm in width shall be attached to the sides of the test area, so as to fill the width of the corridor. For each sample of floor covering there shall be at least two replicate specimens.

6 Textile floor covering installation

Textile floor coverings shall be installed in such a way that they ensure safe traffic. This is easily achieved with double faced pressure-sensitive adhesive tape. Alternatively, individual specimens may be mounted to a removable rigid or semi-rigid substrate of size identical to the test specimens and inserted into the test area.

Where traffic crosses from hard flooring to textile floor covering and vice versa, the textile floor covering edge shall be secured with rubber, plastic or metal edging, or tape to prevent a tripping hazard. Care shall be taken to minimize textile floor covering junctions where there are large differences in carpet thickness and other potential tripping hazards.

NOTE — If it is deemed beneficial to identify the site as one where a trial is in progress, it is recommended that any safety signs which are used conform to ISO 3864.

When first installed, the test specimens shall be placed in alternating positions. For example, if there are two sets of replicate specimens, A and B, they shall be placed AB/BA across the width of the test site; if there are three sets of replicate specimens, A, B and C, they shall be placed AB/CA/BC; and if there are four sets of replicate specimens, A, B, C and D they shall be placed AB/CD/BA/DC (see figure 2).

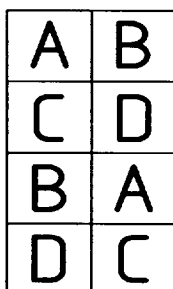
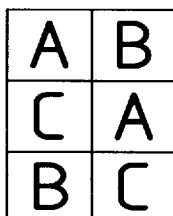
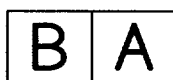


Figure 2 — Examples of test specimen layouts

7 Test procedure

7.1 To ensure even soiling, systematic transfer of test specimens between lines shall take place every two days, or after a predetermined number of trafficks, with specimens being rotated 90° in a clockwise direction, moved two places down the length of the corridor and moved to the other line. Replicate specimens shall be placed away from each other where possible within the test area (see figure 2) to help to assess whether even soiling has taken place.

7.2 When the positions of the test specimens have been rotated they shall be cleaned with a vacuum cleaner, using two double strokes i.e. twice backwards and twice forwards, in order to give all parts of all specimens equal treatment, as follows. The first two double strokes shall be made with the vacuum cleaner suction slot approximately 50 % on the buffer carpet and 50 % over the test area. Each subsequent series of strokes is made parallel to the first series with 50 % overlap, ending when the buffer strip at the other side is included in the overlap.

7.3 Test specimens shall be trafficked until soiling has reached a predetermined level for one of the sets of specimens which has been selected as a reference, after a predetermined number of trafficks or after a fixed period of time.

The predetermined soiling level is assessed to a grey scale level (e.g. level 3) or the colour difference measured instrumentally. Alternatively, a standard or control specimen may be included in every test and compared with presoiled samples of the standard or control specimen which are held in the laboratory.

8 Evaluation

Prior to evaluation the specimens shall be suction cleaned in accordance with the procedure described in 7.2.

The soiling level of each test specimen shall be assessed using at least one of the following techniques

- a) colour measurement device described in ISO 105-J01;
- b) grey scales and procedure described in ISO 105-A02;
- c) visual comparative ranking.

When using colour measurements, colour change shall be expressed as the difference between the soiled specimen and the untrafficked control.

NOTE — Caution should be employed when measuring colour difference, since pile flattening and the method of introducing the test specimen to the instrument can profoundly influence results.

9 Test report

The test report shall include the following information:

- a) all the information necessary for complete identification of the textile floor coverings being tested;
- b) a reference to this International Standard;
- c) the purpose of the test;
- d) a description of the test site with lay-out of test specimens at the start and at the completion of the test;
- e) the rotation and transfer procedure (7.1);
- f) a description of the maintenance procedure (including type of vacuum cleaner used);

- g) the predetermined level to which one of the sets of test specimens was soiled, the number of trafficks or the length of time test specimens were on the floor;
- h) the method(s) of evaluation;
- i) the test results;
- j) additional information which may have affected the results, e.g. relative humidity and temperature measurements of the test site during the test period;
- k) a statement that the results obtained are valid only within the test site;
- l) the date of the test.

Annex A
(informative)

Bibliography

- [1] ISO 3864:1984, *Safety colours and safety signs*.

ICS 59.080.60

Descriptors: textiles, floor coverings, textile floor coverings, tests, cleanliness checks, determination, soiling, testing conditions.

Price based on 7 pages
