
**Textile floor coverings — Laboratory
cleaning procedure using spray extraction**

*Revêtements de sol textiles — Méthode de nettoyage en laboratoire
par injection-extraction*



Foreword

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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.

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International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Internet central@iso.ch
X.400 c=ch; a=400net; p=iso; o=isocs; s=central

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Textile floor coverings — Laboratory cleaning procedure using spray extraction

1 Scope

This International Standard describes a laboratory-scale carpet cleaning procedure using a spray extraction technique.

NOTE — Depending on the characteristic under investigation, test specimens subjected to this cleaning procedure may be evaluated for many properties, eg. ease of soil (dirt) removal, changes in appearance, effects of cleaning materials and durability of floor covering finishes.

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 listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

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

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

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*.

3 Principle

Test specimens of textile floor coverings are treated in a controlled manner with a spray extraction cleaning machine.

4 Apparatus and materials

4.1 Spray extraction cleaning machine, capable of applying $(3,75 \pm 0,25)$ litres/m² of cleaning solution to the surface when the cleaner wand is moved across the surface at a rate of (40 ± 5) mm/s.

NOTE — This may be achieved by using a machine with a wand width of (100 ± 5) mm and an application rate of $(0,9 \pm 0,1)$ litres/min or by using a machine with a wand width of (200 ± 10) mm and an application rate of $(1,8 \pm 0,2)$ litres/min.

An antifoam agent may be used in the waste water tank of the spray extraction machine but shall not be used in the delivery tank.

4.2 Suitable base, e.g. bench, table top or floor.

4.3 Floor covering adhesive or pressure sensitive adhesive tape.

4.4 Suction-only cleaner, canister-type, giving an airflow of (25 ± 5) litres/s through the suction-only nozzle with a suction surface of (125 ± 25) mm x $(15 \pm 2,5)$ mm.

4.5 Cleaning solution

4.5.1 Reference cleaning product, prepared to the following formula:

sodium dodecyl sulfate (General Purpose Reagent)	0,5 g
C ₁₂ /C ₁₃ alcohol ethoxylate (7 mole ethoxylation)	0,2 g
tetrasodium ethylene diamine tetraacetate (General Purpose Reagent)	0,1 g

made up to 1 litre with water conforming to grade 3 of ISO 3696.

This solution is at working strength and shall be used without further dilution.

4.5.2 Cleaning product for evaluation, prepared according to the manufacturer's instructions.

5 Conditioning

Condition the test specimens in one of the standard atmospheres described in ISO 139 for a minimum of 24 h.

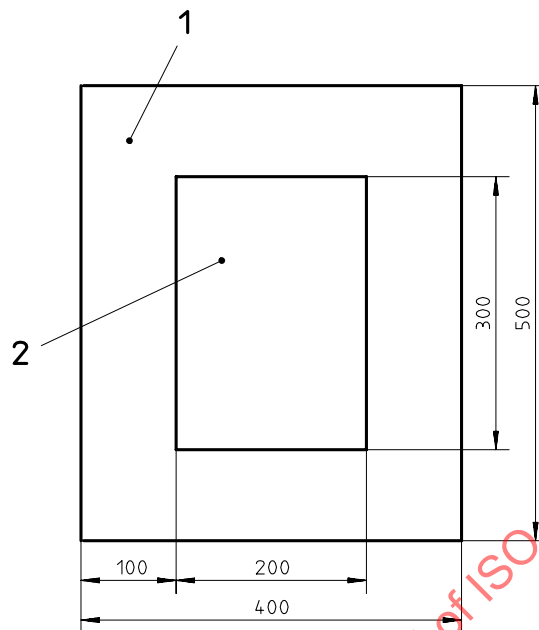
6 Preparation of test specimens

Sample and select test specimens in accordance with ISO 1957. Cut a test specimen of suitable dimensions from each sample, e.g. (200 x 300) mm, with the longer side in the manufacturing direction as shown in figure 1.

Mount the test specimen on a suitable base (4.2) using a floor covering adhesive or pressure sensitive adhesive tape (4.3). Surround the test specimen with material of comparable construction and thickness of dimensions at least 100 mm greater than those of the test specimen secured to the base using the floor covering adhesive or pressure sensitive adhesive tape (4.3) (see figure 1). Ensure this material is colourfast to prevent bleeding into the test specimen.

NOTE — In some cases the test specimen will be of predetermined dimensions, as it will have been used for other procedures, e.g. soiling, and the mounting arrangements will have to be adjusted accordingly.

Dimensions in millimetres

**Key**

- 1 Surround carpet
- 2 Test specimen

Figure 1 — Example of dimensions of test specimen and mounting arrangement

7 Procedure

7.1 Use the suction cleaner (4.4) to clean the test specimens, 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.

7.2 Prepare the cleaning solution (4.5). Pour the cleaning solution into the spray extraction cleaning machine (4.1). Attach the cleaning head and run the machine prior to cleaning to obtain stable conditions, including temperature, at the point of delivery.

7.3 Spray and extract the test specimen by drawing the cleaning head at the speed of (40 ± 5) mm/s necessary to obtain the required application per unit area (see 4.1) in the length direction both with and against the pile lay. For the first stroke, position the cleaning head approximately 50 % over the surround carpet and 50 % over the test specimen. For each subsequent stroke, allow 50 % overlap per stroke, finally ending when the opposite side surround carpet is included in the overlap. Do not use a scrubbing action.

7.4 Turn the test specimen through 180° and repeat the process described in 7.3.

7.5 Dry the test specimen to approximately constant mass and then condition in the standard atmosphere (clause 5) for a minimum of 24 h, or proceed to the conditioning process required by any subsequent test procedure.

7.6 Suction clean the test specimen as described in 7.1 with the last stroke in the direction of the pile lay.

8 Report

The report shall include the following information:

- a) a reference to this International Standard;
- b) identification of the textile floor covering;
- c) description of the spray extraction machine used;
- d) conditioning atmosphere used;
- e) identification of the cleaning product for evaluation, if relevant;
- f) application rate and temperature at point of delivery of the cleaning solution;
- g) date of carrying out the procedure;
- h) reason for carrying out the procedure.