
Resilient floor coverings — Determination of staining and resistance to chemicals

*Revêtements de sol résilients — Détermination du degré de tachage et
de la résistance aux produits chimiques*



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Foreword

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ISO 26987 was prepared by Technical Committee ISO/TC 219, *Floor coverings*.

Resilient floor coverings — Determination of staining and resistance to chemicals

1 Scope

This International Standard specifies a procedure for the determination of the reaction of resilient floor covering to chemical substances.

2 Principle

Various chemical substances in liquid or paste form are placed on a test piece for defined periods and then removed. After cleaning has been carried out, the resulting change of appearance is assessed under specified lighting conditions.

3 Apparatus and materials

3.1 Standard laboratory equipment.

3.1.1 Pipettes.

3.1.2 Watch glass, diameter 40 mm.

3.1.3 Spatulas.

3.2 Chemical substances in liquid or paste form.

This International Standard does not specify or suggest the chemical substances to be tested.

3.3 Standard cleaning and stain removal products.

3.3.1 White cotton, in pad or cloth form.

3.3.2 Brushes, hard, unlikely to score the surface.

3.3.3 Warm water, used alone or with selected cleaning products (see Annex A).

3.4 Abrasive materials (abrasives, abrasive scouring pads, steel wool No. 00 or scouring powder, or abrasive papers, grain size P 240 or finer, used with water).

3.5 Special cleaning products, recommended by the floor covering manufacturer.

3.6 Illumination device, comprising a lamp of correlated colour temperature 5 500 K to 6 500 K, mounted to give an intensity of light at the viewing platform of $(1\,500 \pm 100)$ lx and in such a way as to illuminate the test piece vertically from above. The surroundings shall be neutral and darkened.

The intensity of the light shall be checked frequently by the use of a luxometer. The lifetime of the lamp, as given by the manufacturer, shall not be exceeded.

3.7 Rotary viewing table, which enables the test piece to be rotated so that it can be viewed from all directions under the standard illumination.

4 Sampling and preparation of test piece

Take a representative sample from the available floor covering material. The sample should be obtained from a new roll or carton and should not have been treated with any floor finish/polish.

Take one test piece in each colour to be tested with a surface area of at least 3 000 mm², for each of the chemical substances to be tested. If the test uses a chemical substance likely to cause swelling or deformation of the test piece, e.g. prolonged contact with the solvent, bond the test piece to a fibre-cement board at least 5 days before testing.

Identify the test pieces corresponding to each of the substances tested, either by marking numbers on the test piece (using a marking which is not affected by the material used in the test), or by a sketch, diagram or photograph.

5 Atmosphere for conditioning and testing

Condition the test pieces at a temperature of (23 ± 2) °C and a relative humidity of (50 ± 5) % for a minimum of 24 h. Maintain this condition when carrying out the test.

6 Test procedure

6.1 Application of liquid substances

6.1.1 Using a clean pipette (3.1.1), pour a small quantity of the liquid chemical substance to test (see 3.2) into the centre of the marked position of the test piece. Apply the convex face of a watch glass (3.1.2) to the liquid and remove it immediately. If the diameter of the splash of the liquid chemical substance is more than 15 mm, apply the watch glass again. Leave it in position this time, in such a way as to produce a splash of liquid chemical substance covering an area of 300 mm² to 400 mm².

6.1.2 If the diameter of the chemical substance does not exceed 15 mm, add a few more drops and spread it again by applying the watch glass. Leave it in position this time, in such a way as to produce a splash of the liquid chemical substance of 300 mm² to 400 mm².

6.2 Application of paste substances

With a spatula (3.1.3), spread about 1 000 mm³ of the paste chemical substance to test (see 3.2) over an area of 300 mm² to 400 mm² (i.e. thickness 2,5 mm to 3 mm).

6.3 Duration of contact

The main duration of contact shall be 2 h with the evaluation of the sample being done within 5 min of removing the chemical substance. After cleaning and observation if the test piece has been adversely affected (staining, dulling, softening, swelling, etc.), a new test shall be conducted for a period of 30 min.

6.4 Cleaning and observation

6.4.1 Before cleaning, remove chemical substances which are still liquid with cotton (3.3.1), working from the edge towards the centre of the stain. Scrape off the remains of paste with a spatula (3.1.3) and wipe with cotton as above. Clean the surface, working from the edge toward the centre of the stain, using one or more

cleaning and stain removal products as described in 3.3. See also Annex A. After cleaning has been carried out, examine the residual staining using the illumination device (3.6) from a distance of approximately 800 mm at an approximate angle of 45 degrees and from all directions by slowly rotating the viewing table (3.7).

6.4.2 If a stain is still visible, rub it down with an abrasive material (see 3.4) or a cleaning product recommended by the manufacturer (3.5), and examine it as described in 6.4.1.

7 Expression of results

After observing the test pieces as described in 6.4, assign an index to each of the test pieces, according to the observed effect of the test after cleaning/abrasion, as shown in Table 1.

Table 1 — Interpretation and presentation of results

Index	Effect of test after cleaning/abrasion
0	Not affected
1	Slight
2	Moderate
3	Severe

8 Test report

The test report shall contain the following information:

- a statement that the tests were performed in accordance with this International Standard (ISO 26987);
- complete identification of the floor covering tested, including type, source, colour and manufacturer's reference numbers;
- history of the sample, i.e. from what source was the sample secured, new carton or roll manufactured when;
- the chemical substances, type of cleaning and stain removal products and abrasive materials used and the contact periods;
- the test results in accordance with Table 1;
- any deviation from this International Standard which may have affected the results.

Annex A

(informative)

Examples of cleaning and stain removal products

Synthetic detergent, e.g. sodium alkylsulfate

Soap

Alkaline products, e.g. washing soda or ammonia solution (5 %)

Hydrogen peroxide

Sodium hypochlorite

Sodium thiosulfate, 1 % solution

Oxalic acid

Denatured ethanol

White spirit

Turpentine

Bibliography

- [1] EN 423, *Resilient floor coverings — Determination of resistance to staining*
- [2] ASTM F925, *Standard Test Method for Resistance to Chemicals of Resilient Flooring*
- [3] JIS A 1454, *Test methods — Resilient floorcoverings*. Staining Test, Section 6.12

