

# Resilient floor coverings — Determination of resistance to staining

The European Standard EN 423:2001 has the status of a  
British Standard

ICS 97.150

## National foreword

This British Standard is the official English language version of EN 423:2001. It supersedes BS EN 423:1993 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/60, Resilient floor coverings, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

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This British Standard, having been prepared under the direction of the Sector Policy and Strategy Committee for Materials and Chemicals, was published under the authority of the Standards Policy and Strategy Committee on 25 February 2002

### Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 5 and a back cover.

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### Amendments issued since publication

Amd. No.	Date	Comments

English version

## Resilient floor coverings - Determination of resistance to staining

Revêtements de sol résilients - Détermination de résistance  
aux taches

Elastische Bodenbeläge - Bestimmung der  
Fleckenempfindlichkeit

This European Standard was approved by CEN on 18 November 2001.

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## **Foreword**

This European Standard has been prepared by Technical Committee CEN/TC 134 "Resilient and textile floor coverings", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2002, and conflicting national standards shall be withdrawn at the latest by June 2002.

This European Standard supersedes EN 423:1993.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European Standard specifies a method for determining the resistance of a resilient floor covering to those chemical substances it is likely to experience in service.

## 2 Principle

Various chemical substances in liquid or paste form are placed on a test piece for defined periods and 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

- a) pipettes;
- b) spatulas.

**3.2 Untreated glass fibre fabric**, of mass per unit area (300 to 400) g/m<sup>2</sup> and diameter approximately 40 mm.

**3.3 Chemical substances in liquid or paste form**, to be agreed between the interested parties.

### 3.4 Standard cleaning and stain removal products.

**3.4.1 White cotton**, in pad or cloth form.

**3.4.2 Brushes**, hard, unlikely to score the surface.

**3.4.3 Warm water**, used alone or with the following:

- a) synthetic detergent, e.g. sodium alkylsulfate;
- b) soap;
- c) alkaline products, e.g. washing soda or ammonia solution;
- d) hydrogen peroxide;
- e) sodium hypochlorite;
- f) sodium thiosulfate, 1 % solution;
- g) oxalic acid.

**3.4.4 Denatured ethanol**

**3.4.5 White spirit**

**3.4.6 Turpentine**

**3.5 Abrasives**

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

**3.6 Special cleaning products**, special products, recommended by the floor covering manufacturer.

**3.7 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  $(1500 \pm 100)$  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.

**3.8 Rotary viewing table**, enabling the test piece to be rotated so that it may be viewed from all directions under the standard illumination.

**4 Sampling and preparation of test pieces**

Take a representative sample from the available material.

Take one test piece in the colour(s) to be used with a surface area of at least 3 000 mm<sup>2</sup> for each stain to be tested. If the test uses a substance likely to cause swelling or deformation of the test piece, e.g. prolonged contact with a solvent, bond the test piece to a fibre-cement sheet at least five days before testing.

Subject the test piece to any treatment required, e.g. light abrasion to remove surface polish or application of a non-specified maintenance product.

Identify the positions corresponding to each of the substances used, 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 Procedure**

**5.1 Application of liquid substances**

Place the fabric (3.2) on the surface of the test specimen and saturate it with 1 ml to 2 ml of the test liquid. Leave the fabric in place for the duration of the test.

**5.2 Application of paste substances**

With a spatula, spread about 1 000 mm<sup>3</sup> over an area of 300 mm<sup>2</sup> to 400 mm<sup>2</sup>, (i.e. thickness 2,5 mm to 3 mm).

**5.3 Duration of contact**

The main duration of contact shall be 2 h. If a stain appears on the test piece after 2 h, a new test shall be conducted for a period of 30 min.

## 5.4 Types of cleaning and observation

**5.4.1** Before cleaning, remove stains that are still liquid with cotton, working from the edge towards the centre of the stain. Scrape off the remains of paste with a spatula and wipe with cotton as above.

After cleaning has been carried out, examine the residual staining from a distance of approximately 800 mm at an approximate angle of 45° and from all directions by slowly rotating the viewing table.

**5.4.2** If a stain is visible, rub it down with a mild abrasive material or a cleaning product recommended by the manufacturer, and examine as described in 5.4.1.

NOTE If white spirit or turpentine are used, these should be rinsed off with denatured ethanol.

## 6 Expression of results

Express the results in accordance with Table 1.

**Table 1 — Interpretation and presentation of results**

Index	Effect of the test after cleaning/abrasion
0	Not affected
1	Very slightly affected
2	Slightly affected
3	Affected
4	Severely affected

## 7 Test report

The test report shall contain the following information:

- a) a reference to this standard, i.e. EN 423;
- b) a complete identification of the product tested, including type, source, colour and manufacturer's reference numbers;
- c) previous history of the sample;
- d) the staining materials, type of cleaning and contact periods used;
- e) the test results in accordance with Table 1;
- f) any deviation from this standard which may have affected the results.

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