



BSI Standards Publication

Natural stone test methods — Determination of sensitivity to accidental staining

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee B/545, Natural stone.

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

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EN 16301

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English Version

**Natural stone test methods - Determination of sensitivity to
accidental staining**

Méthodes d'essai pour les pierres naturelles -
Détermination de la sensibilité au tachage accidentel

Prüfverfahren für Naturstein - Bestimmung der
Empfindlichkeit gegen unbeabsichtigte Fleckenbildung

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Foreword

This document (EN 16301:2013) has been prepared by Technical Committee CEN/TC 246 “Natural stones”, the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by September 2013, and conflicting national standards shall be withdrawn at the latest by September 2013.

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1 Scope

The European Standard specifies a method to assess the sensitivity of natural stones when exposed to accidental staining. It defines a procedure for the application of the stains, the cleaning and the assessment of the surface appearance after cleaning. It also covers the possibility to assess the efficiency of a surface treatment. Note that the method does not intend to present any de-staining technique.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 11664-2, *Colorimetry – Part 2: CIE standard illuminants (ISO 11664-2)*

EN ISO 11998, *Paints and varnishes – Determination of wet-scrub resistance and cleanability of coatings (ISO 11998)*

ISO 1065, *Non-ionic surface-active agents obtained from ethylene oxide and mixed non-ionic surface-active agents – Determination of cloud point*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

surface finishing

final surface texture applied to a stone during processing

3.2

matt finished surface

surface treatment to produce a very flat, uniform, but no polished finish

Note 1 to entry: Matt finished surface can be obtained by means of a silicon carbide bonded polishing disk with grain size F 400 mesh.

3.3

surface treatment

application of certain materials (i.e chemicals) to the exposed face of a slab

[SOURCE: EN 12670:2001, 2.4.29]

3.4

impregnation

protection of the surface of a stone by a pore-sealing product or a chemical coating

3.5

staining agent

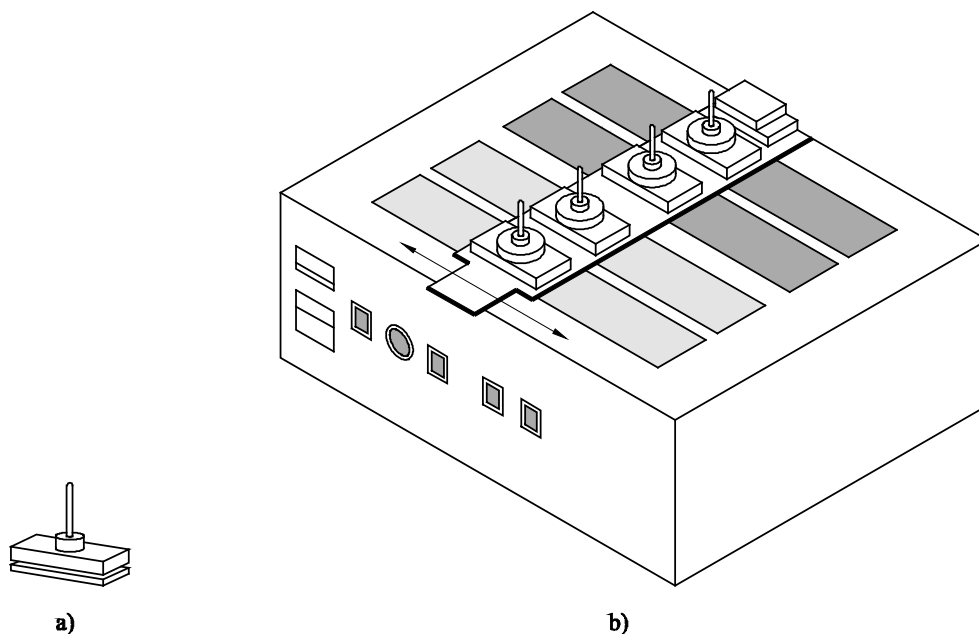
liquid used to produce stains on the surface of the stone

4 Principle

A defined set of staining agents is applied on a defined stone surface. The mode of application is specified. The specimens are conditioned and washed with a standardised cleaning machine. The stones are dried and the possible remainders of the stains are assessed by a visual observation.

5 Apparatus

- 5.1 **Ventilated oven** capable of maintaining a temperature of $(40 \pm 5) ^\circ\text{C}$ and $(70 \pm 5) ^\circ\text{C}$
- 5.2 **Pipette**, 0,10 ml – 1,00 ml
- 5.3 **Wet Abrasion Scrub Tester**, according to EN ISO 11998. The machine (Figure 1) works with a sinus-shaped movement with a frequency of 35 cycles per minute, and amplitude of approximately 350 mm. The total weight of the scrubbing arm with dry cloth and its holder shall be (350 ± 10) g.
- 5.4 **Weights** to achieve the specified load on the scrubbing arm.



Key

- a) scrubbing arm with dry cloth and its holder
- b) the machine

Figure 1 — Example of washability apparatus for cleaning test

5.5 Cleaning cloth

- a) Dimensions of the cloth 120 mm × 38 mm (may be different depending on the cleaning equipment).
- b) Thickness: $(2 \pm 0,5)$ mm.
- c) Area weight: (300 ± 50) g/m².
- d) A thinner cloth may be used in layers to achieve the above stated properties.
- e) At least 50 % viscose (regenerated cellulose fibres).