

English Version

Adhesives for tiles - Determination of slip

Colles à carrelage - Détermination du glissement

Mörtel und Klebstoffe für Fliesen und Platten - Bestimmung
des Abrutschens

This European Standard was approved by CEN on 21 January 2007.

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Foreword

This document (EN 1308:2007) has been prepared by Technical Committee CEN/TC 67 “Ceramic tiles”, 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of an identical text or by endorsement, at the latest by February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.

This document supersedes EN 1308:1996.

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

1 Scope

This European Standard specifies the method for the determination of the resistance to slip of a tile applied to an adhesive on a vertical surface.

This European Standard applies to all ceramic tile adhesives for internal and external tiling on walls.

This European Standard does not contain performance requirements or recommendations for the design and installation of ceramic tiles.

NOTE Ceramic tile adhesives can be used also for other kinds of tiles (natural and agglomerated stones etc.), if they do not adversely affect the stones.

2 Normative references

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

EN 196-1:2005, *Methods of testing cement — Part 1: Determination of strength*

EN 1067, *Adhesives — Examination and preparation of samples for testing*

EN 1323, *Adhesives for tiles — Concrete slabs for tests*

EN 14411, *Ceramic tiles — Definitions, classification, characteristics and marking*

EN ISO 15605, *Adhesives — Sampling (ISO 15605:2000)*

3 Sampling

Take at least 2 kg sample of the adhesive in accordance with EN ISO 15605 and EN 1067.

4 Test conditions

Standard conditions shall be $(23 \pm 2) ^\circ\text{C}$ and $(50 \pm 5) \%$ relative humidity and the speed of air in the testing area less than 0,2 m/s.

5 Test materials

5.1 General

Condition all test materials for at least 24 h under standard conditions.

The adhesive to be tested shall be within its shelf life, where this is specified.

5.2 Ceramic tiles

The tiles shall be checked prior to conditioning to ensure that they are new, clean and dry.

The tiles used for this method shall be of the following type:

type V2: dry pressed ceramic tile in accordance with EN 14411, group BI_a, with a water absorption $\leq 0,5$ % by mass, unglazed, with plane adhering surface and with facial dimensions of (100 ± 1) mm x (100 ± 1) mm and mass of (200 ± 10) g.

5.3 Concrete slab

The concrete slab shall comply with EN 1323.

6 Apparatus

6.1 Steel straight edge

6.2 Clamps

6.3 Masking tape

A 25 mm wide masking tape.

6.4 Notched trowel

A notched trowel having 6 mm x 6 mm notches at 12 mm centres.

6.5 Spacers

Two $(25 \pm 0,5)$ mm x $(25 \pm 0,5)$ mm x $(10 \pm 0,5)$ mm thick spacers made from stainless steel.

6.6 Weight

A mass capable of exerting a force of $(50 \pm 0,1)$ N with a cross-sectional area of less than (100 ± 1) mm x (100 ± 1) mm.

6.7 Vernier caliper

A Vernier caliper accurate to 0,01 mm.

7 Mixing of the adhesive

The amount of water and/or liquid admix required for preparing the adhesive shall be as stated by the manufacturer in parts by mass, i.e. liquid to dry powder (in the case where a range of values is given, the average shall be used).

Prepare a minimum quantity of 2 kg of the adhesive in a mixer of the type described in 4.4 of EN 196-1:2005, using the slow speed settings (140 ± 5) rotations per min and (62 ± 5) revolution planetary movement.

Carry out the following procedure:

- pour the liquid into the pan;
- scatter the dry powder over the liquid;

- mix for 30 s;
- take out the mixing paddle;
- scrape down the paddle and pan within 1 min;
- replace the paddle and mix for 1 min.

Let the adhesive mature as specified in the manufacturer's instructions, and then mix for a further 15 s.

Where ready-to-use dispersion adhesives or reaction resin adhesives are to be used, the manufacturer's instructions shall be followed.

8 Procedure

Secure the steel straight edge (6.1), with the clamps (6.2), at the top of the concrete slab so that its bottom edge is horizontal when the slab is raised to its vertical position.

Position 25 mm wide masking tape (6.3) immediately below the steel straight edge and apply a thin layer of the adhesive mixed in accordance with Clause 7 to the concrete slab with a straight edge trowel.

Then apply a thicker layer of adhesive to the surface of the concrete slab so that it just overlaps the bottom edge of the masking tape. Comb the adhesive at right angles to the straight-edge with the notched trowel (6.4).

Hold trowel held at an angle of 60° to the substrate and parallel to the straight edge.

Immediately remove the masking tape, position 25 mm spacers (6.5) against the straight edge and after two minutes place a type V2 tile against the spacers, as shown in Figure 1 and load with the mass of $(50 \pm 0,1)$ N (6.6).

Measure the gap between the straight edge and the tile, in three points, with the Vernier caliper (6.7) to within $\pm 0,1$ mm.

After (30 ± 5) s remove the mass and the spacers and immediately and carefully lift the slab into a vertical position. After (20 ± 2) min re-measure the gap, as before, in the same three points.

The maximum slip of the tile under its own mass is the difference between the two readings.

Carry out the test for each of 3 tiles, for each adhesive. Report the results in millimetres and the mean value.

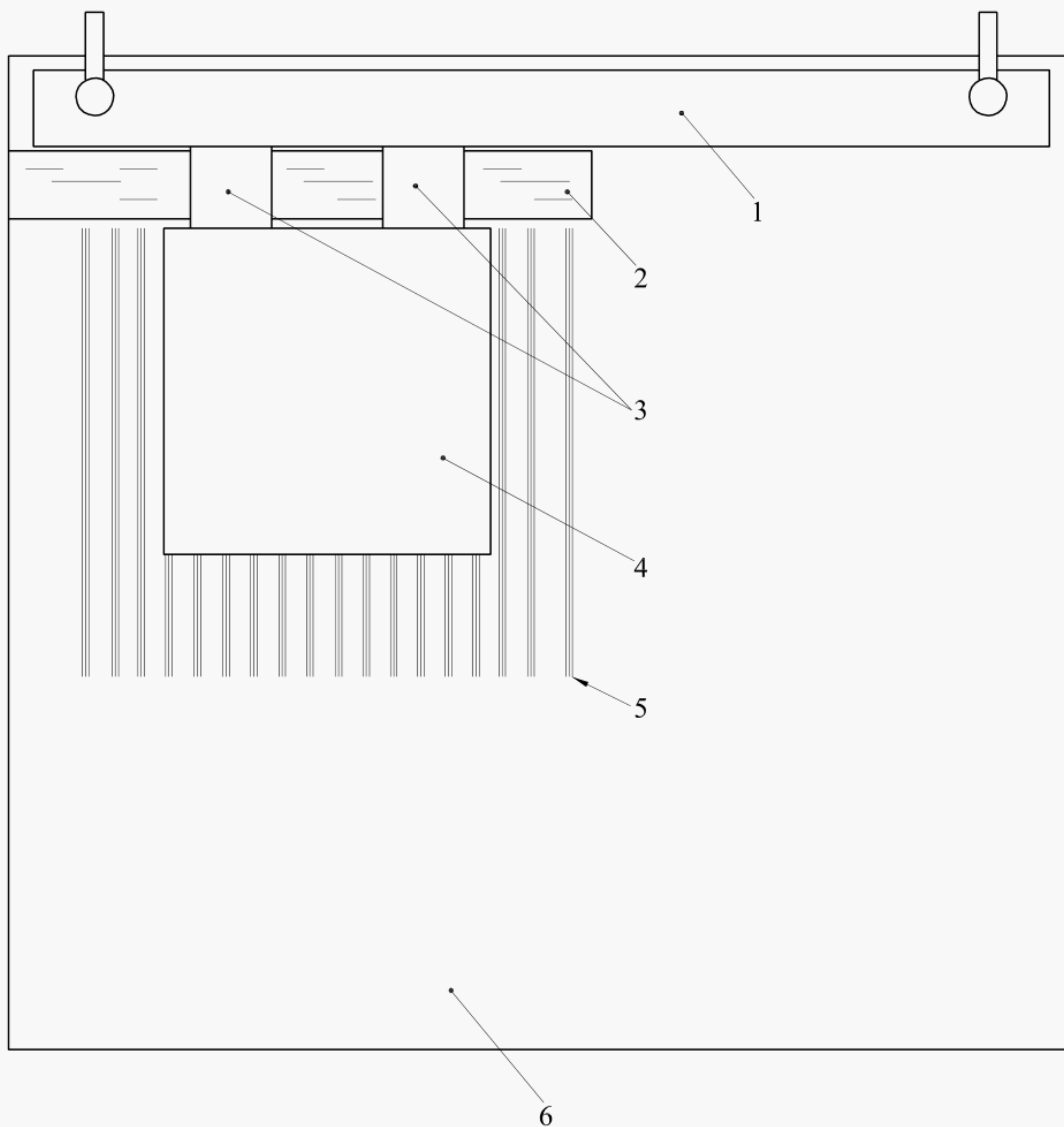
9 Test report

The test report shall provide the following information:

- a) the number and year of issue of this European Standard, i.e. EN 1308:2007;
- b) the place, date and time of sampling;
- c) type of adhesive, commercial designation and manufacturer;
- d) identification of test sample;
- e) handling and storage of samples before testing;
- f) test conditions;

- g) date of test;
- h) amount of water or liquid used for preparing the adhesive (for cementitious adhesives);
- i) slip in mm (individual and mean values);
- j) any other factor that could have influenced the result.

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Key

- 1 steel straight edge
- 2 masking tape 25 mm wide
- 3 25 mm x 25 mm x 10 mm thick spacers
- 4 tile: 100 mm x 100 mm
- 5 adhesive
- 6 concrete slab

Figure 1 — Slip test

