

English Version

Adhesives for tiles - Determination of wetting capability

Colles à carrelage - Détermination du pouvoir mouillant

Mörtel und Klebstoffe für Fliesen und Platten - Bestimmung
der Benetzungsfähigkeit

This European Standard was approved by CEN on 11 June 2007.

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Foreword

This document (EN 1347:2007) 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of an identical text or by endorsement, at the latest by February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.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 1347:1996.

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 wetting capability of ceramic tile adhesives.

This European Standard is applicable to all ceramic tile adhesives for internal or external tile installations on walls and floors.

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

NOTE Ceramic tile adhesives can also be used for other types 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, *Method 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 test*

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

3 Sampling

Take a sample of at least 2 kg 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 $(50 \pm 5) \% \text{ R.H.}$ and a speed of air in the testing area less than 0,2 m/s.

5 Test materials and apparatus

5.1 General

Condition all test materials (adhesive etc.) 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 Glass plates

Clean, dry glass plates of dimensions $(100 \pm 1) \text{ mm} \times (100 \pm 1) \text{ mm} \times (6 \pm 0,5) \text{ mm}$, with ground edges.

5.3 Concrete slab

The concrete slab shall comply with EN 1323.

5.4 Notched trowel

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

5.5 Weight

A mass capable of exerting a force of $(50 \pm 0,5)$ N with a cross sectional area of less than (100 ± 1) mm × (100 ± 1) mm.

6 Mixing of adhesive

The amounts 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). If 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) rpm and (62 ± 5) rpm 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.

If required, let the adhesive mature in accordance with the manufacturer's instructions, followed by a further mixing for 15 s.

In the case of ready-to-use dispersion adhesives or reaction resin adhesives follow the manufacturer's instructions.

7 Procedure

Apply a thin layer of the adhesive, mixed in accordance with Clause 6, to the concrete slab (5.3) with a straight edge trowel. Then apply a thicker layer and comb with a notched trowel (5.4).

Hold the trowel at an angle of approximately 60° to the substrate at a right angle to one edge of the slab and drawn across the slab parallel to that edge (in a straight line).

Place the glass plates on the adhesive immediately and, after 10 min, 20 min and 30 min, load each plate with $(50 \pm 0,5)$ N for 30 s. Care shall be taken to align the adhesive ribs parallel with the edge of the glass plate, ensuring that the outer rib is flush with one edge of the glass plate.

Determine the contact surface between the combed adhesive layer and the glass plate in terms of the percentage of the total area of the glass plate (e.g. by planimetry).

Each test requires three glass plates.

Report the results in percent.

8 Test report

The test report shall provide the following information:

- a) title, number and date of this European Standard, i.e. EN 1347:2007;
- b) place, date and time of sampling;
- c) type of adhesive, commercial designation and manufacturer;
- d) identification of the test sample;
- e) handling and storage of samples before testing;
- f) test conditions;
- g) date of testing;
- h) amount of water or liquid used for preparing the adhesive;
- i) wetting capability (%) for each time interval (individual and mean values);
- j) any other factor that could have influenced the result.

