



SLOVENSKI STANDARD

SIST EN 1324:1998

01-april-1998

Adhézifs pour carrelage - Détermination de l'adhérence par cisaillement d'un adhésif en dispersion

Adhesives for tiles - Determination of shear adhesion strength of dispersion adhesives

Mörtel und Klebstoffe für Fliesen und Platten - Bestimmung der Haftfestigkeit von Dispersionsklebstoffen

Adhésifs pour carrelage - Détermination de l'adhérence par cisaillement d'un adhésif en dispersion

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ICS:

83.180	Lepila	Adhesives
91.100.10	Cement. Mavec. Apno. Malta	Cement. Gypsum. Lime. Mortar

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en

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ICS 83.180; 91.100.10; 91.100.20

Descriptors: tiles, ceramics, glue, tests, adhesion, adhesives, shear strength, testing conditions

English version

Adhesives for tiles - Determination of shear adhesion strength of dispersion adhesives

Adhésifs pour carrelage - Détermination de l'adhérence par cisaillement d'un adhésif en dispersion

Mörtel und Klebstoffe für Fliesen und Platten - Bestimmung der Haftfestigkeit von Dispersionsklebstoffen für innen

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

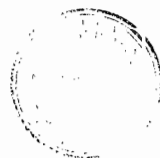
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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 67 "Ceramic tiles", the secretariat of which is held by UNI.

This European Standard is one of the series of European Standards for ceramic tile adhesives and has been produced to meet the Essential Requirements laid down in the Construction Products Directive (89/106 EEC).

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 1997, and conflicting national standards shall be withdrawn at the latest by June 1997.

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

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1 Scope

This European standard specifies the test method to be used to determine the shear adhesion strength of dispersion ceramic tile adhesives.

This European standard applies to all dispersion, ceramic tile adhesives for internal 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 be used also for other kinds of tiles (natural and agglomerated stones, etc.).

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references subsequent amendments to, or revisions of, any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1066	Adhesives - Sampling
EN 1067	Adhesives - Examination and preparation of samples for testing
EN 159	Dust-pressed ceramic tiles with water absorption $E > 10\%$ - Group BIII

3 Sampling

Take at least 2 kg sample of the adhesive in accordance with prEN 1066 and prEN 1067.

4 Test conditions

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

5 Test materials

Condition all test materials other than adhesive to be tested for at least 24 h under standard conditions.

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

5.1 Ceramic tiles

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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:

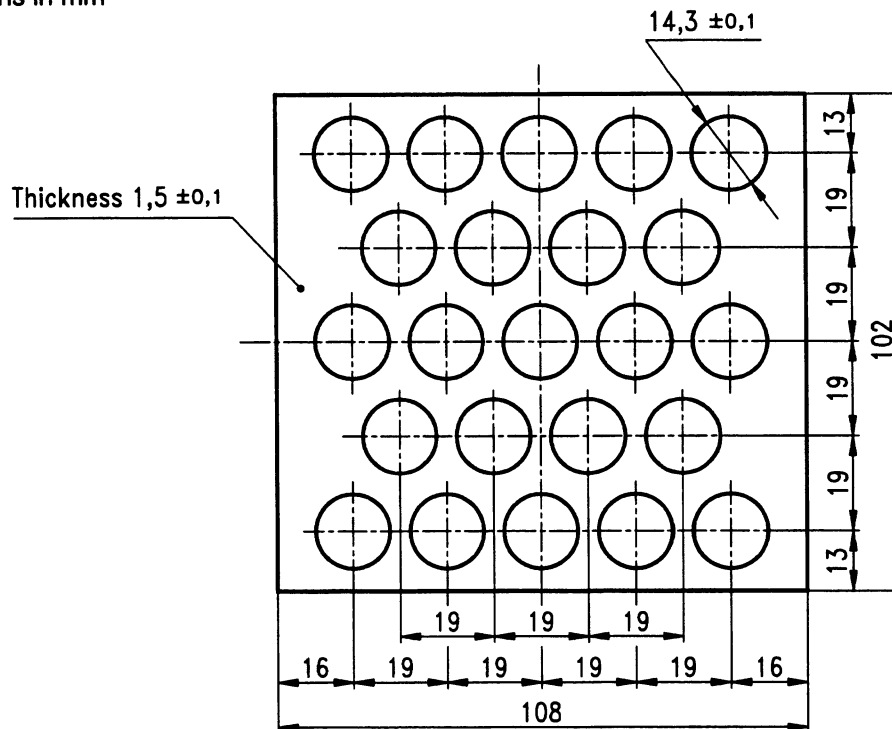
type P2: porous body tiles according with EN 159, of water absorption $(15 \pm 3)\%$ by mass, with plane adhering surface, with facial dimensions of (108 ± 1) mm x (108 ± 1) mm and at least 6 mm thick.

6 Apparatus

6.1 Template

A smooth non absorbent frame in accordance with figure 1.

All dimensions in mm



Material: PTFE or similar material with non-stick properties
Hole diameter: $(14,3 \pm 0,1)$ mm
Actual coverage: $(50 \pm 5)\%$
Thickness: $(1,5 \pm 0,1)$ mm

Figure 1 : Template

6.2 Spacers

Spacer rods 0,8 mm diameter approximately 40 mm long.

6.3 Weight

A weight of less than 100 mm x 100 mm cross sectional area capable of exerting a force of $(70 \pm 0,15)$ N.

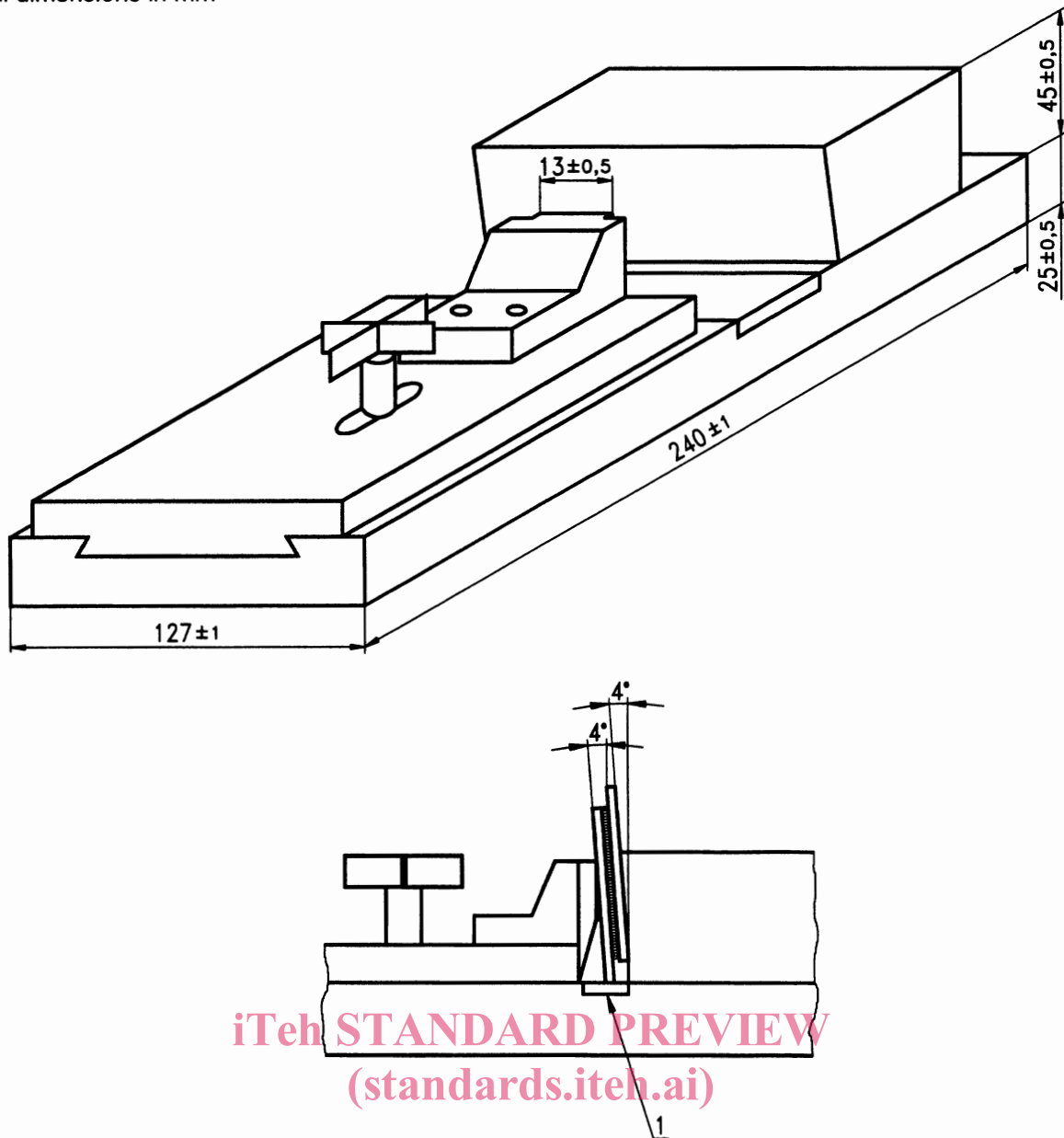
6.4 Loading machine

A test machine with suitable capacity and sensitivity for the test and with a variable testing speed. The machine shall be capable of applying the load to the tile through a suitable jig (see figure 2).

6.5 Shear test jig

Any suitable jig used to transfer into shear from the compression or tensile load exerted by the testing machine. Examples of suitable jigs are shown in figures 2 and 3.

All dimensions in mm



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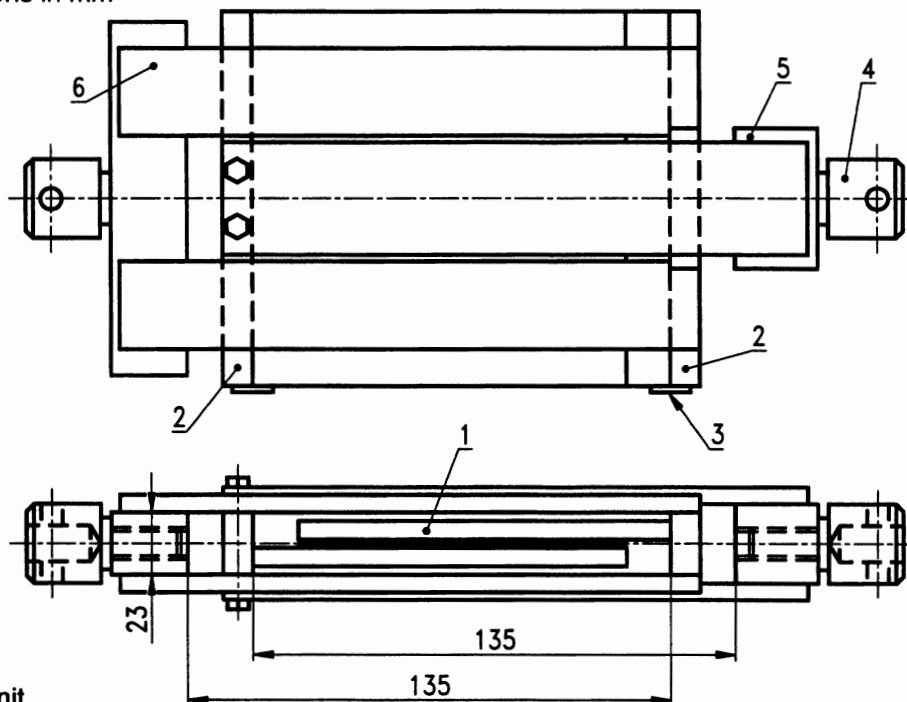
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- 1 Hardened insert, adjustable jaws from 12 mm to 45 mm

Figure 2 : Jig for shear adhesion test using a vertical compression machine

All dimensions in mm



- 1 Test unit
- 2 Pressure plate
- 3 Slops
- 4 Adapter
- 5 "U" section frame
- 6 Box section frame

Figure 3 : Jig for shear adhesion test using a tensile machine

6.6 Air circulating oven

An air circulating oven capable of controlling the temperature to within $\pm 2\%$.

7 Procedure

7.1 Preparation of test units

Each test unit shall be prepared with two type P2 tiles.

Draw a straight line on the porous side of one tile 6 mm from the tile edge. (To serve as a guide for overlapping the tile as explained as follows)

Place the template (see figure 1) over the unglazed back of the first test tile. Trowel sufficient adhesive across the template and then screed clean so as to neatly and completely fill the holes in the template. Carefully remove the template vertically (see figure 4).

Place spacer rods 0,8 mm thick at each corner of the first tile, approximately 20 mm over the tile . After 2 min place a second standard test tile over the coated tile, offset to provide an overlap between tiles with displacement of 6 mm, using the previously scribed line as a guide and ensuring that the edges of the tiles are parallel.

Place the test units on a plane surface and carefully load with $(70 \pm 0,15)$ N for 3 min. Carefully remove the spacer rods, without disturbing the relative position of the tiles in the test units. A total of ten test units is required per conditioning.