



# SLOVENSKI STANDARD

## SIST EN 12003:1998

01-april-1998

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### Lepila za ploščice - Ugotavljanje strižne adhezijske trdnosti reakcijskih smolnih lepil

Adhesives for tiles - Determination of shear adhesion strength of reaction resin adhesives

Mörtel und Klebstoffe für Fliesen und Platten - Bestimmung der Scherfestigkeiten von Reaktionsharz-Klebstoffen

Colles a carrelage - Détermination de la résistance au cisaillement des colles réactives

Ta slovenski standard je istoveten z: **EN 12003:1997**

#### ICS:

83.180	Lepila	Adhesives
91.100.23	Keramične ploščice	Ceramic tiles

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

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English version

## Adhesives for tiles - Determination of shear adhesion strength of reaction resin adhesives

Colles à carrelage - Détermination de la  
résistance au cisaillement des colles réactives

Mörtel und Klebstoffe für Fliesen und Platten  
- Bestimmung der Scherfestigkeiten von  
Reaktionsharz-Klebstoffen

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This European Standard was approved by CEN on 1997-02-27. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

# 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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 1997, and conflicting national standards shall be withdrawn at the latest by September 1997.

This Standard is one of a series of Standards for tests on tile adhesives including:

EN 1308	Adhesives for tiles - Determination of slip
EN 1322	Adhesives for tiles - Definitions and terminology
EN 1323	Adhesives for tiles - Concrete slab for test
EN 1324	Adhesives for tiles - Determination of shear adhesion strength of dispersion adhesives
EN 1346	Adhesives for tiles - Determination of open time
EN 1347	Adhesives for tiles - Determination of wetting capability
EN 1348	Adhesives for tiles - Determination of tensile adhesion strength for cementitious adhesives
EN 12002	Adhesives for tiles - Determination of transverse deformation for cementitious adhesives and grouts
EN 12003	Adhesives for tiles - Determination of shear adhesion strength of reaction resin adhesives
prEN 12004	Adhesives for tiles - Specifications and requirements
prEN.....	(W.I. 00067057) Adhesives and grouts for tiles- Determination of chemical resistance of reaction resin mortars

It is intended that other European standards should call up EN 12002 test methods as the basis of evaluation of conformity. (Nevertheless it is not intended that all adhesives for tiles should be subjected regularly to all the listed tests. Specifications in other standards should call up only relevant test methods).

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This document does not supersede any existing European standard.

According to the CEN/CENELEC Internal Regulations, the national standards 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.

## 1 Scope

This European Standard specifies the test method to be used to determine the shear adhesion strength of reaction resin ceramic tile adhesives.

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

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 kinds of tiles (natural and agglomerated stones, etc.), where these do not adversely affect the stones.

## 2 Normative References

This European Standard incorporates, by dated or undated reference, provisions from other publications. These 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 draft European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 176	Dust-pressed ceramic tiles with low water absorption ( $E \leq 3\%$ )-Group BI
EN 1322	Adhesives for tiles - Definitions and terminology
prEN 1066	Adhesives - Sampling
prEN 1067	Adhesives - Examination and preparation of samples for testing

## 3 Sampling

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

[SIST EN 12003:1998](#)

## 4 Test conditions

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Standard conditions shall be  $(23 \pm 2)^\circ \text{C}$  and  $(50 \pm 5)\% \text{ R.H.}$  and an air velocity in the working area less than 0,2 m/s.

## 5 Test materials

Condition all test materials for at least 24 hours under standard conditions. The adhesive to be tested shall be within its shelf life, where this is specified.

### 5.1 Ceramic tiles

The tiles shall be clean and dry.

The tiles used for this method shall be of:

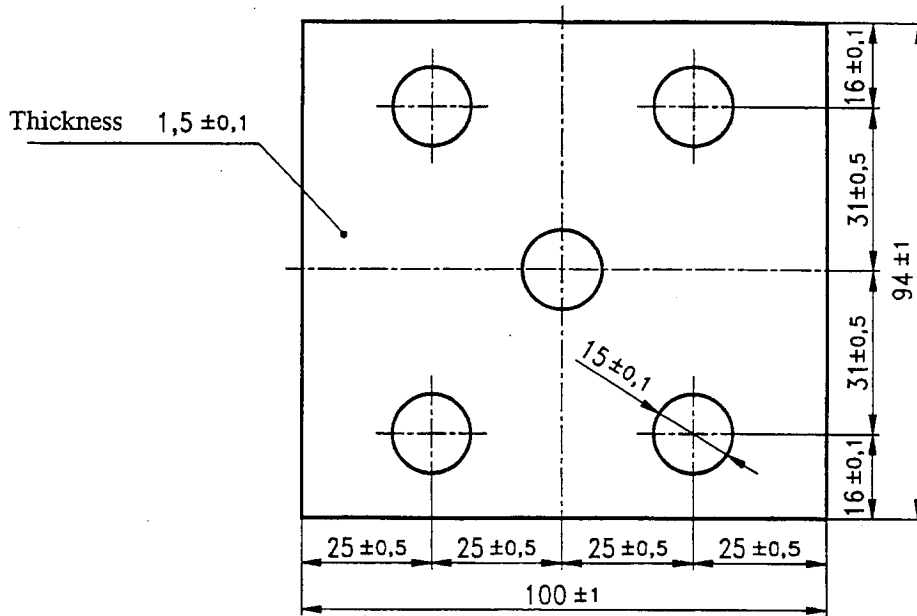
**type V2:** fully vitrified tiles in accordance with EN 176, of water absorption ( $E$ )  $\leq 0,2\%$  by mass, unglazed with plane adhering surface with facial dimensions of  $(100 \pm 1) \text{ mm} \times (100 \pm 1) \text{ mm}$ .

## 6 Apparatus

### 6.1 Template

The template shall be of polytetrafluoroethylene and shall conform to the measurements shown in figure 1.

All dimensions in millimetres

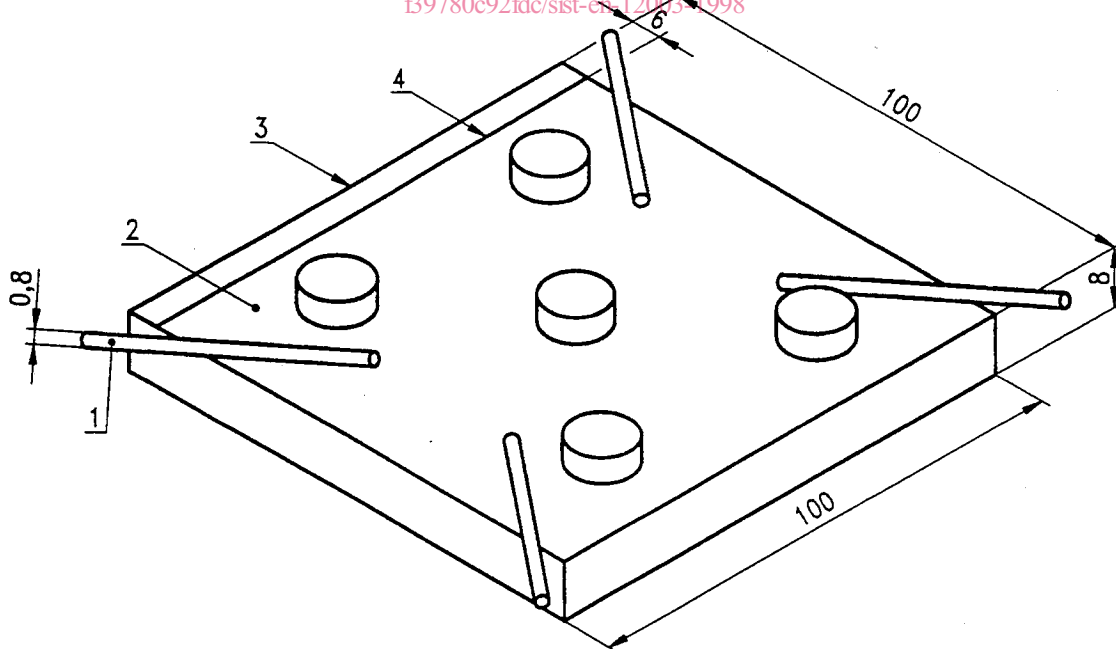


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Figure 1 - Template for the preparation of test tile units

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- 1 Spacer rods
- 2 Ceramic test tile
- 3 Force direction
- 4 Pencil guide line

**Figure 2 - Tile with the applied adhesive and the spacer rods****6.2 Spacers**

Spacer rods shall have a diameter of  $(0,8 \pm 0,1)$  mm and a length of approximately 40 mm.

**6.3 Weight**

A weight of cross section  $(97 \pm 3)$  mm x  $(97 \pm 3)$  mm capable of exerting a force of  $(70 \pm 0,15)$  N.

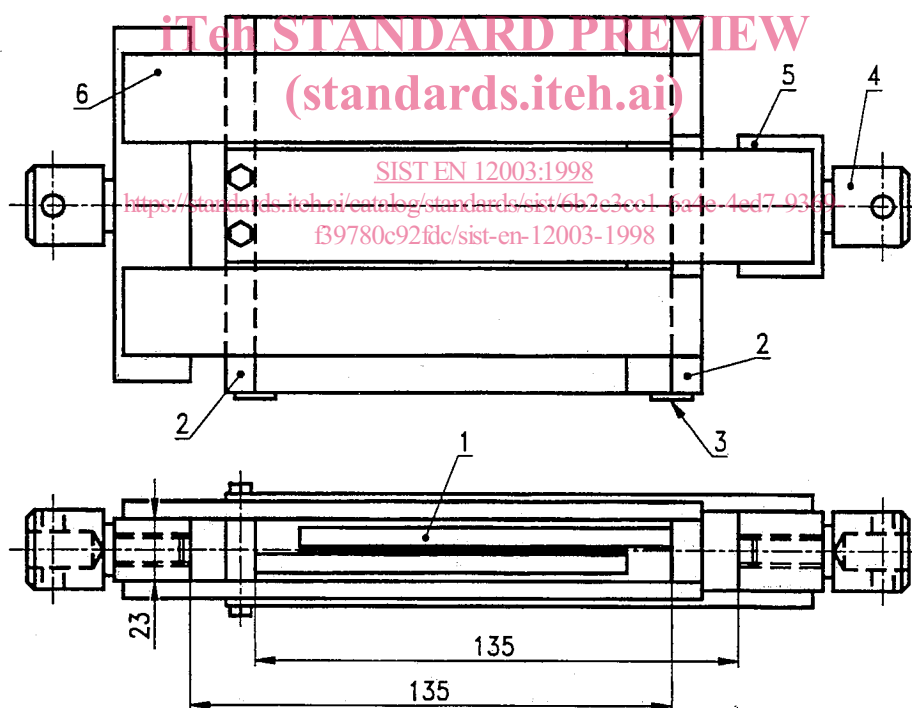
**6.4 Test machine**

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 6.5).

**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 figure 2 and figure 3.

All dimensions in millimetres

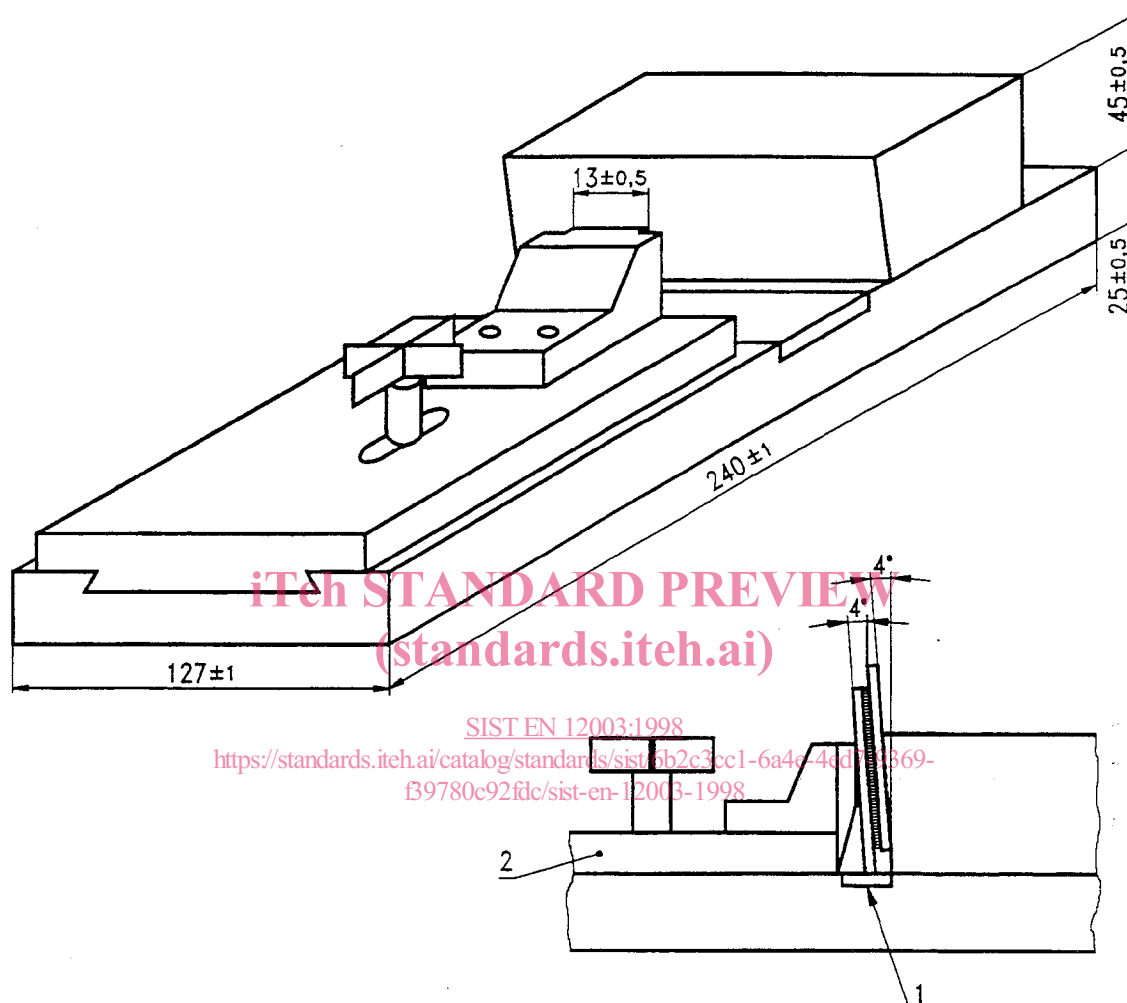


- 1 Test unit
- 2 Pressure plate
- 3 Stops
- 4 Adapter
- 5 "U" section frame
- 6 Box section frame



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

All dimensions in millimetres



- 1 Hardened insert
- 2 Adjustable jaws from 12 to 45 mm

Figure 4 - Jig for shear adhesion test using a vertical compression machine

## 7 Test method

### 7.1 Mixing of adhesive

Mix the adhesive in accordance with the adhesive manufacturer's instructions.

### 7.2 Preparation of test pieces

The test pieces shall be prepared with type V2 tiles.