



# SLOVENSKI STANDARD

kSIST prEN 12002:2008

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Adhezivni materiali za cementne adhezive in zapolnilne masne  
za obližne in ploščne

Adhesives for tiles - Determination of transverse deformation for cementitious adhesives and grouts

Mörtel und Klebstoffe für Fliesen und Platten - Bestimmung der Verformung zementhaltiger Mörtel und Fugenmörtel

Colles à carrelage - Détermination de la déformation transversale d'un mortier-colle ou d'un mortier de joint pour carrelages

**Ta slovenski standard je istoveten z: prEN 12002**

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English Version

## Adhesives for tiles - Determination of transverse deformation for cementitious adhesives and grouts

Colles à carrelage - Détermination de la déformation  
transversale d'un mortier-colle ou d'un mortier de joint pour  
carrelages

Mörtel und Klebstoffe für Fliesen und Platten - Bestimmung  
der Verformung zementhaltiger Mörtel und Fugenmörtel

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

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## Foreword

This document (prEN 12002:2008) has been prepared by Technical Committee CEN/TC 67 “Ceramic tiles”, the secretariat of which is held by UNI.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 12002:2002.

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

EN 1308, *Adhesives for tiles - Determination of slip*

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

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*

EN 12004, *Adhesives for tiles – Requirements evaluation of conformity, classification and designation*

EN 12808-1, *Adhesives and grouts for tiles – Part 1: Determination of chemical resistance of reaction resin mortars*

## 1 Scope

This European Standard specifies the test method to be used to determine the transverse deformation of cementitious ceramic tile adhesives and grouts.

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

It is not applicable to ceramic tile adhesives and grouts which possess elastomeric properties, such as many dispersions and reaction resin adhesives and grouts.

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 these materials.

## 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 459-2, *Building lime – Part 2: Test methods*

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

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

## 3 Principle

The test described in this European Standard measures the deformability of cementitious adhesives and grouts, when subjected to a 3-point bending load, performed on test specimens of the stated dimension. The specimens are prepared and conditioned in accordance with the specific conditions described.

## 4 Sampling

Take a sample of at least 2 kg of the adhesive or grout in accordance with EN ISO 15605 and EN1067.

## 5 Test conditions

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

## 6 Test materials

### 6.1 General

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

### 6.2 Substrate

Shall be polyethylene film of minimum thickness 0,15 mm.

### 6.3 Plastic container

A plastic container that is capable of being sealed to make it air tight, with an internal volume of  $(26 \pm 5)$  l, e.g. a container with dimensions  $(600 \pm 20)$  mm x  $(400 \pm 10)$  mm x  $(110 \pm 10)$  mm.

### 6.4 Support

Rigid, smooth and flat support for the polyethylene film.

## 7 Apparatus

### 7.1 Anvil

A metallic construction conforming to the dimensions. See Figure 1.

### 7.2 Test jig

Two metallic cylindrical supports, of diameter  $(10 \pm 0,1)$  mm, spaced  $(200 \pm 1)$  mm centre to centre, of length 60 mm minimum. See Figure 2.

### 7.3 Template A

A smooth, rigid, non absorbent rectangular frame of internal dimensions  $(280 \pm 1)$  mm x  $(45 \pm 1)$  mm and thickness  $(5 \pm 0,1)$  mm; e.g. made from polytetrafluoroethylene (PTFE) or metal.

NOTE A round hole of approximately 2 mm diameter drilled at each internal corner is recommended to ease production of the test piece. See Figure 3.

### 7.4 Template B

A smooth, rigid, non-absorbent mould (see Figure 4) or similar device capable of producing a test specimen of dimensions  $(300 \pm 1)$  mm x  $(45 \pm 1)$  mm x  $(3 \pm 0,05)$  mm.

### 7.5 Test machine

The test machine shall be a press, capable of applying the anvil ( 7.1 ) to the test piece at a rate of 2 mm/min.

### 7.6 Flow table

The flow table used for the compaction of  $(280 \pm 1)$  mm x  $(45 \pm 1)$  x  $(5 \pm 0,1)$  mm specimen shall comply with EN 459-2.

## 8 Mixing of adhesive or grout

The amount of water and/or liquid admix required for preparing the adhesive or grout 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 mean shall be used).

Prepare a minimum of 2 kg of powder in a mixer of the type described in clause 4.4 of EN 196-1:2005, using the slow speed settings,  $(140 \pm 5) \text{ min}^{-1}$  rotation and  $(62 \pm 5) \text{ min}^{-1}$  planetary movement using the following procedure:

- pour the liquid into the pan;
- scatter the dry powder over the liquid;
- mix for 30 seconds;
- take out the mixing paddle;
- scrape down the paddle and pan within 1 minute;
- replace the paddle and mix for 1 minute.

If required by the adhesive or grout manufacturer's instructions, let the adhesive or grout mature and then mix for a further 15 seconds.

## 9 Procedure

### 9.1 Preparation of substrate

Fix the polyethylene film (6.2) firmly to the rigid support (6.4), ensuring the surface, to which the adhesive is to be applied, is not distorted, e.g. without pleats or wrinkles.

### 9.2 Preparation of test units

Hold the template A firmly onto the polyethylene film.

Trowel sufficient adhesive across the template and then screed clean so as to neatly and completely fill the hole in the template.

Clamp the mould firmly to the flow table and compact the sample using 70 jolts.

Lift the mould gently from the flow table and carefully remove the template vertically.

Apply a layer of release agent to the template B and position it centrally over the specimen. Load the template with a weight capable of exerting a force of  $(100 \pm 0,1) \text{ N}$  and an approximate cross-sectional area of  $(290 \times 45) \text{ mm}$ . The applied pressure ensures that the material fully fills the recess of the template to the required thickness. Remove any excess material from the sides of the template and one hour later remove the weight.

After 48 hours remove the template B.

Prepare six samples for each test.

Condition the units according to the test requirements.