



# SLOVENSKI STANDARD

## SIST EN 12808-2:2009

01-april-2009

Nadomešča:

SIST EN 12808-2:2002

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**Lepila in fugirne malte za ploščice - 2. del: Ugotavljanje odpornosti proti obrabi**

Grouts for tiles - Part 2: Determination of resistance to abrasion

Mörtel und Klebstoffe für Fliesen und Platten - Teil 2: Bestimmung der Abriebfestigkeit

Mortiers de joints pour carrelages - Partie 2: Détermination de la résistance à l'abrasion  
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**Ta slovenski standard je istoveten z: EN 12808-2:2008**

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**ICS:**

83.180	Lepila	Adhesives
91.100.10	Cement. Mavec. Apno. Malta	Cement. Gypsum. Lime. Mortar
91.100.23	Keramične ploščice	Ceramic tiles

**SIST EN 12808-2:2009**

**en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 12808-2**

October 2008

ICS 91.100.10

Supersedes EN 12808-2:2001

English Version

**Grouts for tiles - Part 2: Determination of resistance to abrasion**

Mortiers de joints pour carrelages - Partie 2: Détermination  
de la résistance à l'abrasion

Mörtel und Klebstoffe für Fliesen und Platten - Teil 2:  
Bestimmung der Abriebfestigkeit

This European Standard was approved by CEN on 29 August 2008.

CEN members are bound to comply with the CEN/GENELEC 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 CEN Management Centre or to any CEN member.

This European Standard exists 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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.

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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 (EN 12808-2:2008) 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 April 2009, and conflicting national standards shall be withdrawn at the latest by April 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12808-2:2001.

This document is one of a series of European Standards for ceramic 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, *Adhesive 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, *Grouts for tiles – Part 1: Determination of chemical resistance of reaction resin mortars*

EN 12808-2, *Grouts for tiles – Part 2: Determination of resistance to abrasion*

EN 12808-3, *Grouts for tiles – Part 3: Determination of flexural and compressive strength*

EN 12808-4, *Grouts for tiles – Part 4: Determination of shrinkage*

EN 12808-5, *Grouts for tiles – Part 5: Determination of water absorption*

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 the United Kingdom.

## EN 12808-2:2008 (E)

### 1 Scope

This European Standard applies to all ceramic tile grouts used for internal and external tile installations on walls and floors.

This European Standard specifies the test method to be used to determine the abrasion resistance of ceramic tile grouts.

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

NOTE Ceramic tile grouts may also be used for other types of tiles (natural and agglomerated stones, etc.), where these 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 ISO 10545-6, *Ceramic tiles – Part 6: Determination of resistance to deep abrasion for unglazed tiles (ISO 10545-6:1995)*

<https://standards.iteh.ai/catalog/standards/sist/cf4792a9-aba4-45e3-aa57-15605-2000>

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

### 3 Sampling

Take a sample of at least 2 kg of the product to be tested in accordance with EN ISO 15605 and EN 1067.

### 4 Test conditions

Standard conditions shall be  $(23 \pm 2)$  °C and  $(50 \pm 5)$  % R.H. and a speed of air in the working area less than 0,2 m/s.

### 5 Test materials

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

### 6 Apparatus

**6.1** Abrasion apparatus consisting essentially of a rotating disk, a storage hopper, a test specimen support and a counterweight in accordance with EN ISO 10545-6 (see Figure 1).

**6.2** Abrasive material white fused aluminium oxide of grain size 80 (see EN ISO 10545-6).

**6.3** Measuring gauge capable of measuring to 0,1 mm (see EN ISO 10545-6).

**6.4** Template: a smooth, square, rigid, non absorbent frame (e.g. in polyethylene or PTFE), with internal dimensions of  $(100 \pm 1)$  mm x  $(100 \pm 1)$  mm and thickness of  $(10 \pm 1)$  mm.

## 7 Procedure

### 7.1 Mixing of grouts

The amount of water and/or liquid admix required for preparing the cementitious grout shall be as stated by the manufacturer in parts by weight, i.e. liquid to dry powder.

Prepare at least 2 kg of the grout in a mixer of the type described in Clause 4.4 of EN 196-1:2005, using the slow speed settings,  $(140 \pm 5)$  r/min rotation and  $(62 \pm 5)$  r/min 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 grout mature as specified in the manufacturer's instructions, and then mix for a further 15 s.

In the case of reaction resin grouts follow the manufacturer's instructions.

### 7.2 Preparation of test specimens

Place the template over a polyethylene film.

Trowel a sufficient quantity of grout across the template and then screed clean so as to fill neatly and completely the hole in the template. Cover with a glass plate according to EN 196-1. After 24 h remove the template carefully.

Condition the units according to the test requirements.

Prepare two specimens for each grout sample.

### 7.3 Conditioning

The test units are conditioned for 27 days in standard conditions:  $(23 \pm 2)$  °C and  $(50 \pm 5)$  % R.H.

### 7.4 Test procedure

Place a test specimen in the apparatus, with the trowelled face against the wheel, so that it is tangential against the rotating disc. Ensure that the feed of abrasive material into the grinding zone is uniform at a rate of  $(200 \pm 10)$  g per 100 revolutions.

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Rotate the steel disc for 50 revolutions.

Remove the test sample from the apparatus and measure the chord length of the groove by means of the measuring gauge to the nearest 0,5 mm.

Test each sample in at least two places on its trowelled surface.

**8 Expression of results**

The resistance to abrasion is expressed as the volume  $V$  of material removed, in cubic millimetres.

This is calculated from the chord length of the groove by means of the expression:

$$V = \left( \frac{\pi\alpha}{180} - \sin \alpha \right) \cdot \frac{h \cdot d^2}{8}$$

where

$\sin (\alpha / 2) = L / d$ ;

$d$  is the diameter of the rotating disc (in mm);

$h$  is the thickness of the rotating disc (in mm);

$\alpha$  is the angle (in degrees) subtended at the centre of the rotating disc by the chord (see Figure 2);

$L$  is the length of the chord (in mm).

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Some equivalent values are given in Table 1.

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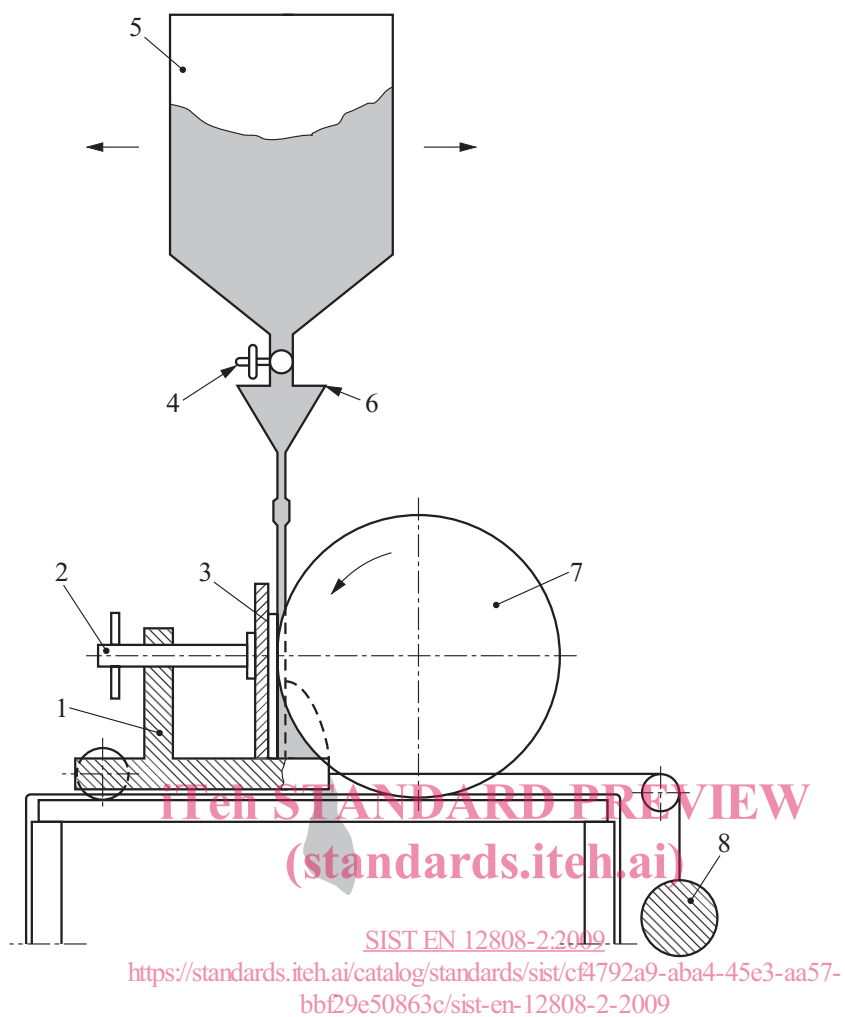
**9 Test report**

<https://standards.iteh.ai/catalog/standards/sist/cf4792a9-aba4-45e3-aa57-bbf29e50863c/sist-en-12808-2-2009>

The test report shall provide the following information:

- a) number, title and issue of this European Standard;
- b) place and date of sampling;
- c) type of grout, commercial designation and manufacturer name;
- 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 grout;
- i) test results (volume  $V$  for each individual groove and the mean value, in cubic millimetres);
- j) any other factor that could have influenced the result.



**Key**

- 1 Test specimen clamp
- 2 Fixing screw
- 3 Test specimen
- 4 Valve
- 5 Storage hopper for abrasive material
- 6 Even-flow tunnel
- 7 Steel disc
- 8 Counterweight

**Figure 1 — Abrasion apparatus**