SLOVENSKI STANDARD
SIST EN 12808-2:2002

01-november-2002

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

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

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

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

Ta slovenski standard je istoveten z: **EN 12808-2:2001**

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 12808-2:2002 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12808-2

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ICS 91.100.10

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

Klebstoffe und Fugenmörtel für Fliesen und Platten - Teil 2: Bestimmung der Abriebbeständigkeit

This European Standard was approved by CEN on 3 November 2001.

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 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 Management Centre has the same status as the official versions.

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

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Ref. No. EN 12808-2:2001 E

Contents

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of an identical text or by endorsement, at the latest by June 2002, and conflicting national standards shall be withdrawn at the latest by June 2002.

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

1 Scope

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

This 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 can also be used for other types 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 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 (including amendments).

EN 1066, *Adhesives – Sampling.*

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

EN 196-1:1994, *Methods of testing cement - Determination of strength.*

EN ISO 10545-6, *Ceramic tiles - Determination of resistance to deep abrasion for unglazed tiles (ISO 10545-6:1995).*

3 Sampling

Take a sample of at least 2 kg of the product to be tested in accordance with EN 1066 and EN 1067.

4 Test conditions

Standard conditions shall be (23 ± 2) °C and (50 ± 5) % R.H. and a circulation of air 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.

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 ± 1) mm x (100 ± 1) mm and thickness of (10 ± 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 4.4 of EN 196-1:1994, using the slow speed settings, (140 ± 5) rpm rotation 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

Let the grout mature if and 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 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 196-1:1994. After 24 hours remove carefully the template.

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 °C ± 2 °C and 50 % ± 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 (100 ±10) g per 100 revolutions.

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:

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

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);

α 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).

Some equivalent values are given in Table 1.

9 Test report

The test report shall provide the following information:

a) number, title and issue of this European Standard;

b) the 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;

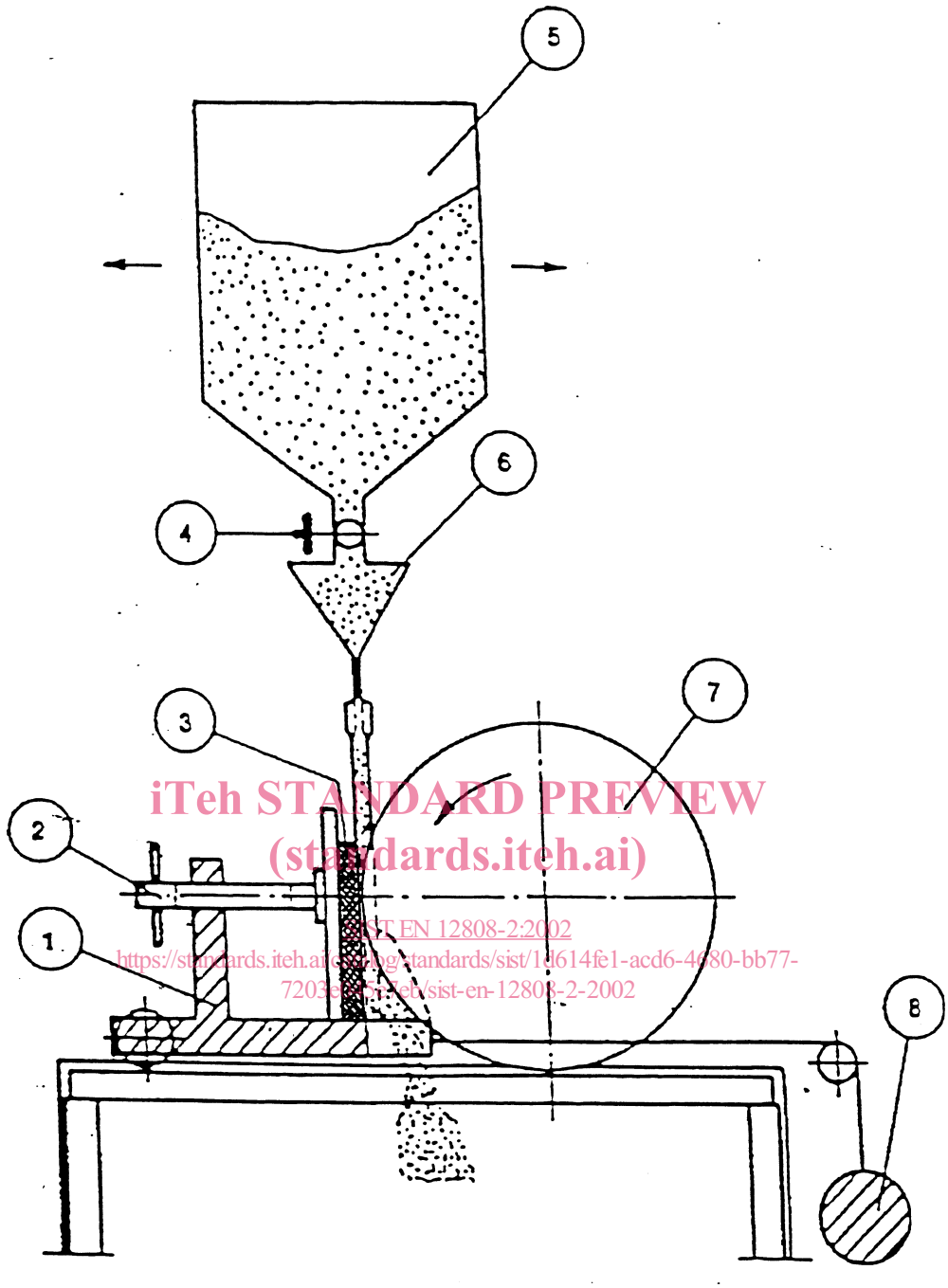
f) test conditions;

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