



SLOVENSKI STANDARD

kSIST prEN 13888:2008

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Grout for tiles - Requirements, evaluation of conformity, classification and designation

Fugenmörtel für Fliesen und Platten - Anforderungen, Konformitätsbewertung,
Klassifikation und Bezeichnung

Mortiers de jointoiement pour carreaux et dalles céramiques - Exigences, évaluation de
conformité, classification et désignation

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ICS:

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91.100.10	Cement. Mavec. Apno. Malta Mortar	Cement. Gypsum. Lime. Mortar

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English Version

Grout for tiles - Requirements, evaluation of conformity, classification and designation

Mortiers de jointoiement pour carreaux et dalles
céramiques - Exigences, évaluation de conformité,
classification et désignation

Fugenmörtel für Fliesen und Platten - Anforderungen,
Konformitätsbewertung, Klassifikation und Bezeichnung

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 67.

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Foreword

This document (prEN 13888:2008) 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 13888:2002

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Introduction

The characteristics of the construction products defined in this European Standard have to consider that the normal stresses due to the works for which they are intended, assembled or installed, can be properly accommodated. Some special characteristics will take into account the type of substrate and that the grouts should resist the degrading actions of climate, environment, etc.

Many properties of grouts for tiles are mainly determined by the type of binders used.

Tile grouts are defined in different types depending on the chemical nature of their binders.

The different types have specific characteristics in terms of application properties and final performance.

The relationship between characteristics and the working conditions (dry or humid conditions, hot climate, fast setting, etc.) is not given in this standard.

The manufacturer gives information about the use of the product and the correct conditions of use.

The specifier evaluates the state of the job site (mechanical, thermal and chemical influences) and chooses the appropriate product considering all the possible risks.

1 Scope

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

This standard gives the terminology concerning the products, working methods, application properties, etc., for ceramic tile grouts.

This European Standard specifies the performance requirements for cementitious and reaction resin grouts for ceramic tiles.

This European Standard does not contain criteria 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 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 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 for shrinkage*

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 General

3.1.1

wall and floor tiles

tiles made out of ceramic or natural and agglomerated stones

3.1.2

grouting a tile surface

process of filling the joints between all types of tiles, with the exception of movement joints

3.2 Products

3.2.1

ceramic tile grout

any suitable product to be used to fill the joints between all types of ceramic tile

3.2.2

cementitious grout (CG)

mixture of hydraulic binding agents, aggregates, inorganic and organic additives

NOTE The grout has only to be mixed with water or liquid admix just before use.

3.2.3

reaction resin grout (RG)

mixture of synthetic resin, aggregates, inorganic and organic additives in which hardening occurs by chemical reaction

NOTE They are available in one or more component forms.

3.2.4

liquid admix or latex additive

special aqueous polymer dispersion to be mixed with a cementitious grout on site

3.3 Tools and working methods

There are three possible working methods for filling the joints between tiles:

- 1) manually with a rubber float or suitable tool;
- 2) with an air pressurized- or handgun from a cartridge or an appropriate container (often done with reaction resin grouts);
- 3) mechanically with a suitable machinery.

The cleaning of tiles after the application of the grout can be performed manually or mechanically with appropriate tools.

prEN 13888:2008 (E)**3.4 Application properties****3.4.1****shelf life**

time of storage under stated conditions during which a grout may be expected to maintain its working properties

3.4.2**maturing time**

interval between the time when the cementitious grout is mixed and the time when it is ready for use

3.4.3**pot-life**

maximum time interval during which the grout can be used after mixing

3.4.4**grouting time**

minimum time interval after installation of tiles, after which the grout can be applied into the joints

3.4.5**cleaning time**

time interval between filling the joints and starting to clean the tiles

3.4.6**service time**

minimum time interval after which the tile installation can be put into service

3.5 Final properties**3.5.1****flexural strength**

maximum value of a grout prism failure determined by exerting a force in flexure at three points. It is measured according to EN 12808-3

3.5.2**compressive strength**

maximum value of a grout prism failure determined by exerting a force in compression on two opposite points. It is measured according to EN 12808-3

3.5.3**water absorption**

amount of water absorbed by capillary action when the surface of the grout prism is in contact with water without any additional pressure. It is measured according to EN 12808-5

3.5.4**abrasion resistance**

capability of the grout surface to resist wear. It is measured according to EN 12808-2

3.5.5**shrinkage**

reduction in length of a grout prism during hardening. It is measured according to EN 12808-4

3.5.6**chemical resistance**

capability of a grout to resist chemical agents. It is measured according to EN 12808-1

3.6 Characteristics

3.6.1

fundamental characteristics

characteristics that a grout shall have

3.6.2

additional characteristics

characteristics for specific service conditions where enhanced levels of performance are required

4 Specifications

4.1 Cementitious grouts

The cementitious grouts shall comply with the characteristics reported in Table 1a.

Table 1b reports the additional characteristics that might be required for special service conditions.

The amount of water and/or liquid admix required for preparing the cementitious grout shall be the same for all tests.

Table 1 — Specification for Cementitious grouts

1 a	FUNDAMENTAL CHARACTERISTICS		
	Characteristic	Requirement	Test Method
	Abrasion resistance	$\leq 2\,000\text{ mm}^3$	EN 12808-2
	Flexural strength after dry storage	$\geq 2,5\text{ N/mm}^2$	EN 12808-3
	Flexural strength after freeze-thaw cycles	$\geq 2,5\text{ N/mm}^2$	EN 12808-3
	Compressive strength after dry storage	$\geq 15\text{ N/mm}^2$	EN 12808-3
	Compressive strength after freeze-thaw cycles	$\geq 15\text{ N/mm}^2$	EN 12808-3
	Shrinkage	$\leq 3\text{ mm/m}$	EN 12808-4
	Water absorption after 30 min	$\leq 5\text{ g}$	EN 12808-5
	Water absorption after 240 min	$\leq 10\text{ g}$	EN 12808-5

1 b	ADDITIONAL CHARACTERISTICS		
	Characteristic	Requirement	Test Method
	High abrasion resistance	$\leq 1\,000\text{ mm}^3$	EN 12808-2
	Reduced water absorption after 30 min	$\leq 2\text{ g}$	EN 12808-5
	Reduced water absorption after 240 min	$\leq 5\text{ g}$	EN 12808-5

4.2 Reaction resin grouts

The reaction resin grouts shall comply with the characteristics reported in Table 2.

Regarding the characteristic of chemical resistance there is no indication of limit value or chemical agent. The test media shall consist of the media to which the chemical resistant materials are to be exposed in service

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and the test conditions (temperature, etc.) shall simulate the anticipated service and exposure conditions as closely as possible.

Table 2 — Specification for reaction resin grouts

FUNDAMENTAL CHARACTERISTICS		
Characteristic	Requirement	Test Method
Abrasion resistance	$\leq 250 \text{ mm}^3$	EN 12808-2
Flexural strength after dry storage	$\geq 30 \text{ N/mm}^2$	EN 12808-3
Compressive strength after dry storage	$\geq 45 \text{ N/mm}^2$	EN 12808-3
Shrinkage	$\leq 1,5 \text{ mm/m}$	EN 12808-4
Water absorption after 240 min	$\leq 0,1 \text{ g}$	EN 12808-5

5 Evaluation of conformity

5.1 Principle

The scheme for the evaluation of conformity includes the following tasks:

- Initial tests
- Factory Production Control (FPC)
- Registration and traceability.

Manufacturers having a Quality System complying with EN ISO 9001 meet the requirements related to Factory Production Control systems by including this standard in the Quality System.

5.2 Conditioning of the test specimen

When the test specimens have to be conditioned according to the test method, the tolerances in the time of conditioning for all test specimens shall be as follows:

Conditioning	Tolerance
24 hours	$\pm 0,5 \text{ h}$
7 days	$\pm 3 \text{ h}$
14 days	$\pm 6 \text{ h}$
21 days	$\pm 9 \text{ h}$
28 days	$\pm 12 \text{ h}$

5.3 Initial type testing

On first evaluation of a product to the requirements of this standard, or before the beginning of sale of a new product, appropriate initial type testing shall be carried out to confirm that the characteristics of the product meet the requirements of this standard. Tests which have previously been performed in accordance with the provisions of this standard (same product, same characteristic, test method, sampling procedure, etc.) may be taken into account for the purpose of demonstrating satisfactory initial type testing.

Initial tests shall also be carried out on existing products after any change in raw materials or manufacturing procedures that can modify the declared values of the characteristics or application properties.