



**SLOVENSKI STANDARD**  
**oSIST prEN 13813:2017**  
**01-marec-2017**

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**Estrihi - Materiali za estrihe - Lastnosti in zahteve**

Screed material and floor screeds - Screed material - Properties and requirements

Estrichmörtel, Estrichmassen und Estriche - Estrichmörtel und Estrichmassen -  
Eigenschaften und Anforderungen

Matériau de chape et chapes - Matériau de chapes - Propriétés et exigences

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**Ta slovenski standard je istoveten z: prEN 13813**

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**ICS:**

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

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**en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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**DRAFT**  
**prEN 13813**

January 2017

ICS 91.100.10

Will supersede EN 13813:2002

English Version

## Screeed material and floor screeds - Screeed material - Properties and requirements

Matériau de chape et chapes - Matériau de chapes -  
Propriétés et exigences

Estrichmörtel, Estrichmassen und Estriche -  
Estrichmörtel und Estrichmassen - Eigenschaften und  
Anforderungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 303.

If this draft becomes a European Standard, 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.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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**prEN 13813:2017 (E)****European foreword**

This document (prEN 13813:2017) has been prepared by Technical Committee CEN/TC 303 “Floor screeds and screed materials”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13813:2002.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports basic work requirements for construction works of Regulation (EU) No 305/2011 on construction products.

For relationship with the Regulation, see informative Annex ZA, which is an integral part of this document.

The significant technical changes between this European Standard and the previous edition are listed herewith:

- Clause 1;
- Clause 4;
- Clause 5;
- Clause 6;
- Annex ZA (informative).

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## Introduction

The properties required of a screed are related to its use.

They are considered in two groups: those relating to the fresh, unhardened screed material and those relating to the hardened screed material.

The properties achieved depend essentially on the type or types of binder used and their respective proportions. The type of aggregates, admixtures and/or additions used can achieve special properties.

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**prEN 13813:2017 (E)****1 Scope**

This European Standard specifies requirements for the following types of screed material as defined in EN 13318:

- Cementitious;
- Calcium sulphate;
- Magnesite;
- Mastic asphalt;
- Synthetic resin.

All types of screed material may be used for internal applications.

Cementitious screed material may be used for both internal and external applications.

This European Standard specifies the performance for fresh and hardened screed materials.

The floor screed materials could be monolayer or multilayer.

This European Standard specifies the assessment and verification of the constancy of performance and the classification and designation of screed materials.

This European Standard does not provide criteria or recommendations for the design and installation of screed materials.

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**2 Normative references**

kSIST prEN 13813:2018

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 826, *Thermal insulating products for building applications — Determination of compression behaviour*

EN 1015-10, *Methods of test for mortar for masonry — Part 10: Determination of dry bulk density of hardened mortar*

EN 1081, *Resilient floor coverings — Determination of the electrical resistance*

EN 12086, *Thermal insulating products for building applications — Determination of water vapour transmission properties*

CEN/TS 12390-9, *Testing hardened concrete — Part 9: Freeze-thaw resistance - Scaling*

EN 12664, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Dry and moist products of medium and low thermal resistance*

EN 12697-19 *Bituminous mixtures — Test methods for hot mix asphalt — Part 19: Permeability of specimen*

EN 12697-20, *Bituminous mixtures — Test methods for hot mix asphalt — Part 20: Indentation using cube or cylindrical specimens (CY)*



EN 13318, *Screed material and floor screeds — Definitions*

EN 13412, *Products and systems for the protection and repair of concrete structures — Test methods — Determination of modulus of elasticity in compression*

EN 13454-2, *Binders, composite binders and factory made mixtures for floor screeds based on calcium sulfate — Part 2: Test methods*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13529, *Products and systems for the protection and repair of concrete structures — Test methods — Resistance to severe chemical attack*

EN 13892-1, *Methods of test for screed materials — Part 1: Sampling, making and curing specimens for test*

EN 13892-2, *Methods of test for screed materials — Part 2: Determination of flexural and compressive strength*

EN 13892-3, *Methods of test for screed materials — Part 3: Determination of wear resistance - Böhme*

EN 13892-4, *Methods of test for screed materials — Part 4: Determination of wear resistance-BCA*

EN 13892-5, *Methods of test for screed materials — Part 5: Determination of wear resistance to rolling wheel of screed material for wearing layer*

EN 13892-6, *Methods of test for screed materials — Part 6: Determination of surface hardness*

EN 13892-7, *Methods of test for screed materials — Part 7: Determination of wear resistance to rolling wheel of screed material with floor coverings*

EN 13892-8, *Methods of test for screed materials — Part 8: Determination of bond strength*

prEN 13892-9:2017, *Methods of test for screed materials — Part 9: Shrinkage and swelling*

EN ISO 178, *Plastics - Determination of flexural properties (ISO 178)*

EN ISO 6272-1, *Paints and varnishes — Rapid-deformation (impact resistance) tests — Part 1: Falling-weight test, large-area indenter (ISO 6272-1)*

EN ISO 10456, *Building materials and products — Hygrothermal properties — Tabulated design values and procedures for determining declared and design thermal values (ISO 10456)*

### 3 Terms and definitions

For the purpose of this document, the terms and definitions described in EN 13318 apply.

**prEN 13813:2017 (E)****4 Designation of screed materials and characteristics**

Screed materials shall be designated as one of the following types, according to the binder used and to the definitions given in EN 13318:

CT	cementitious screeds
CA	calcium sulfate screeds
MA	magnesite screeds
AS	mastic asphalt screeds
SR	synthetic resin screeds

For each type it is possible to have different classes, related to the different characteristics, designated with the following abbreviations:

C	for compressive strength
$\sigma_{10}$	for compressive stress at 10 % strain
F	for flexural strength
D	for density
A	for wear resistance "Böhme"
AR	for wear resistance "BCA"
RWA	for wear resistance to rolling wheel
SH	for surface hardness
IC	for resistance to indentation
IR	for impact resistance
B	for bond strength
SK	for shrinkage
EM	for elastic modulus
WP	for water permeability
CDF	for freeze-thaw resistance

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**5 Product characteristics****5.1 General**

The requirements and properties specified in this standard shall be defined in terms of the test methods and procedures referred to in this standard. For these tests the screed material shall be sampled and the test specimens made and cured in accordance with EN 13892-1.

The conformity criteria given in the following subclauses relate to type tests and production control.

The following classes for screed materials in this clause are definitive and may not be defined using intermediate values.

NOTE 1 The screed properties under site conditions cannot always be directly comparable with the screed material properties obtained under laboratory conditions, due for instance to variations of mixing, compaction or curing.

In Table 1 there are three different types of characteristics given.

Basic characteristics (B) and relevant characteristics (R) may be relevant for intended uses.

NOTE 2 Basic characteristics (B) generally identify a product whereas relevant characteristics (R) provide further information relevant to specific applications.

Special characteristics (S) provide further information about its general performance.

**Table 1 — Type related for physico-mechanical characteristics**

Characteristic	Test method	Abbreviation	Screed material					
			External use	Internal use				
				Cementitious CT	Cementitious CT	Calcium sulfate CA	Magnesite MA	Mastic asphalt AS
<b>Characteristics for all intended uses</b>								
Compressive Strength	EN 13892-2	C	B	B	B	B	-	R <sub>U</sub>
Flexural Strength	EN 13892-2 EN ISO 178 c	F	B	B	B	B	-	R <sub>U</sub>
Density	EN 1015-10	D	R	R	R	R	R	R
Wear Resistance a:								
“Böhme“	EN 13892-3	A	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>	-
“BCA“	EN 13892-4	AR	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>
“rolling wheel“	EN 13892-5	RWA	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>	R <sub>A</sub>
Surface Hardness	EN 13892-6	SH	-	-	-	R <sub>A</sub>	-	-
Resistance to indentation	EN 12697-20	IC	-	-	-	-	B	-
pH value	EN 13454-2	pH	-	-	B	-	-	-
Impact resistance	EN ISO 6272-1	IR	-	-	-	-	-	R <sub>A</sub>
Bond strength	EN 13892-8	B	R	R	R	R	-	R
Shrinkage	prEN 13892-9:2017	SK	R	R	R	R	-	R
Modulus of elasticity in compression	EN 13412	EM	R	R	R	R	-	R
Vertical Permeability Water	EN 12697-19	WP	B <sub>U</sub> b	-	-	-	-	-

## prEN 13813:2017 (E)

Freeze-thaw resistance	CEN/TS 12390-9	CDF	B <sup>b</sup>	-	-	-	-	-
Compressive Stress <sup>d</sup>	EN 826 <sup>d</sup>	$\sigma_{10}$	R	R	R	R		R
<b>Special Characteristics</b>								
Consistency	EN 13454-2	CON	S	S	S	S	-	S
Setting time	EN 13454-2	SET	S	S	S	S	-	-
Resistance to rolling wheel with floor covering	EN 13892-7	RWF C	S	S	S	S	S	S
Chemical resistance	EN 13529	CR	S	S	S	S	S	S
Water vapour permeability	EN 12086	WVP	S	S	S	S	S	S
Electrical resistance	EN 1081	ER	S	S	S	S	S	S
Thermal resistance	EN 12664	TR	S	S	S	S	S	S
Other characteristic	Indicate method used		S	S	S	S	S	S
<p><b>Key:</b></p> <p>- = not applicable characteristic</p> <p>A = screed material intended for wearing surface</p> <p>U = screed material intended for underlying layer</p> <p><sup>a</sup> The use of one of the wear resistance tests is sufficient.</p> <p><sup>b</sup> For underlying layers, the use of one of the two tests is sufficient.</p> <p><sup>c</sup> Only for synthetic resin with layer thickness &lt; 5 mm.</p> <p><sup>d</sup> Only for the identification of the lightweight screed material.</p>								

## 5.2 Characteristics related to mechanical resistance

In Tables 2 to 6 characteristics for mechanical resistance of different types of screed materials and different intended use are indicated.

**Table 2 — Characteristics for mechanical resistance of cementitious screed materials (CT)**

BASIC CHARACTERISTICS (B)		
<b>2 a INTERNAL USE</b>		
Characteristic	Abbreviation	Test Method
Compressive strength	C	EN 13892-2
Flexural strength	F	EN 13892-2
Density <sup>c</sup>	D	EN 1015-10
<b>2 b EXTERNAL USE</b>		
Characteristic	Abbreviation	Test Method
Compressive strength	C	EN 13892-2
Flexural strength	F	EN 13892-2
Vertical Water Permeability (only for underlying layer) <sup>a</sup>	WP	EN 12697-19
Freeze-thaw resistance <sup>a</sup>	CDF	CEN/TS 12390-9
<b>2 c RELEVANT CHARACTERISTICS (R)</b>		
Characteristic	Abbreviation	Test Method
<b>Wear resistance<sup>b</sup> (intended for wearing surface)</b>		
“Bohme”	A	EN 13892-3
“BCA”	AR	EN 13892-4
“rolling wheel	RWA	EN 13892-5
<b>Bond strength (intended for bonded screed)</b>	B	EN 13892-8
<b>Shrinkage</b>	SK	prEN 13892-9:2017
<b>Modulus of elasticity in compression</b>	EM	EN 13412
<b>Compressive stress at 10 % strain<sup>d</sup></b>	$\sigma_{10}$	EN 826
<sup>a</sup> For underlying layer use one of the two tests. <sup>b</sup> Use one of three wear resistance tests. <sup>c</sup> Only for the identification of the lightweight screed material. <sup>d</sup> Only for the identification of the lightweight screed material instead of testing compressive strength.		