SLOVENSKI STANDARD
SIST EN 14891:2017

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Nadomešča:
SIST EN 14891:2012
SIST EN 14891:2012/AC:2013

Tekoče vgrajevani za vodo neprepustni izdelki za uporabo pod keramičnimi ploščicami, lepljenimi z lepili - Zahteve, preskusne metode, ocenjevanje in preverjanje nespremenljivosti lastnosti, razvrščanje in označevanje

Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives - Requirements, test methods, assessment and verification of constancy of performance, classification and marking

Flüssig zu verarbeitende wasserundurchlässige Produkte im Verbund mit keramischen Fliesen und Plattenbelägen - Anforderungen, Prüfverfahren, Bewertung und Überprüfung der Leistungsbeständigkeit, Klassifizierung und Bezeichnung

Produits d'imperméabilisation appliqués en phase liquide utilisés sous carrelage collé - Spécifications, méthodes d'essai, évaluation et vérification de la constance de performance, classification et marquage

Ta slovenski standard je istoveten z: **EN 14891:2017**

ICS:

91.100.23	Keramične ploščice	Ceramic tiles
91.100.50	Veziva. Tesnilni materiali	Binders. Sealing materials

SIST EN 14891:2017 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14891

February 2017

ICS 91.100.23; 91.100.25; 91.100.50

Supersedes EN 14891:2012

English Version

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This European Standard was approved by CEN on 7 November 2016.

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 CEN-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

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European foreword

This document (EN 14891:2017) 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 August 2017, and conflicting national standards shall be withdrawn at the latest by December 2018.

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

This document supersedes EN 14891:2012.

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

For relationship with this 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 3.7 replacement of the term “Fundamental” with “Basic”;

— Clause 4, Tables 1;

— New Clause 5;

— New Clause 6 in accordance with CEN Guidance documents;

— New Annex ZA (informative) in accordance with the CPR (Regulation (EU) No. 305/2011) and the Commission Delegated Regulations (EU) No. 568/2014 relative to the assessment and verification of constancy of performance.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard applies to all liquid-applied water impermeable products, based on polymer modified cementitious mortars, dispersions and reaction resin coatings, used beneath ceramic tiling, for external tile installations on walls and floors and in swimming pools.

This European Standard gives the terminology concerning the products and specifies the test methods and the values of performance requirements for liquid-applied water impermeable products associated with tile adhesives.

This European Standard specifies the assessment and verification of constancy of performance, and the classification and marking of liquid-applied water impermeable products beneath ceramic tiling.

This European Standard does not contain recommendations for the design and installation of ceramic tiles and grouts in combination with water impermeable products.

NOTE Liquid-applied water impermeable products may also be used beneath other types of tiles (natural and agglomerated stones, etc.), where they do not adversely affect these materials.

2 Normative references

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 196-1:2016, *Methods of testing cement - Part 1: Determination of strength*

EN 197-1:2011, *Cement - Part 1: Composition, specifications and conformity criteria for common cements*

EN 480-1:2014, *Admixtures for concrete, mortar and grout - Test methods - Part 1: Reference concrete and reference mortar for testing*

EN 1008, *Mixing water for concrete - Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete*

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

prEN 12004-1:2014, *Adhesives for tiles — Part 1: Requirements, evaluation of conformity, classification and designation*

EN 12004-2:2016, *Adhesives for tiles — Part 2: Test methods*

EN 12390-2, *Testing hardened concrete - Part 2: Making and curing specimens for strength tests*

EN 12620:2002+A1:2008, *Aggregates for concrete*

EN 14411:2016, *Ceramic tiles — Definitions, classification, characteristics, evaluation of conformity and marking*

EN ISO 15605, *Adhesives - Sampling (ISO 15605)*

3 Terms and definitions

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

3.1
liquid-applied water impermeable product
single- or multicomponent waterproofing material applied in a uniform layer, beneath ceramic tiling

Note 1 to entry: The water impermeable layer can include a reinforcing cloth or mesh.

3.2
polymer modified cementitious liquid-applied water impermeable product
CM
mixture of hydraulic binding agents, aggregates and organic additives that has only to be mixed with water or liquid admixture just before use

3.3
dispersion liquid-applied water impermeable product
DM
ready for use mixture of organic binding agent(s) in the form of an aqueous polymer dispersion, organic additives and mineral fillers

3.4
reaction resin liquid-applied water impermeable product
RM
one or more component mixture of synthetic resin, mineral fillers and organic additives in which hardening occurs by chemical reaction

3.5
crack bridging ability
ability of the hardened waterproofing material to withstand propagation of the cracks without deterioration

3.6
primer
liquid coating applied to the surface, prior to the application of a liquid product, to improve adhesion and durability of the bond

3.7
basic characteristics
characteristics that a liquid-applied water impermeable product absolutely has to have

3.8
optional characteristics
characteristics for specific service conditions where enhanced levels of performance are required or which provide further information about its general performance

4 Product characteristics

4.1 General

Characteristics of the liquid-applied water impermeable products shall comply with the requirements specified in Table 1, Section 1.a.

When needed for special service condition(s) of liquid-applied water impermeable products, its optional characteristics shall comply with the requirements specified in Table 1, Section 1.b.

The amount of water and/or liquid admixture required for preparing the cementitious liquid-applied water impermeable products shall be the same for all tests.

Table 1 — Product requirements

1 a BASIC CHARACTERISTICS (CM – DM – RM)		
Characteristic	**Requirement**	**Test method**
Initial tensile adhesion strength	≥ 0,5 N/mm²	A.6.2
Tensile adhesion strength after water contact	≥ 0,5 N/mm²	A.6.3 or A.6.4
Tensile adhesion strength after heat ageing	≥ 0,5 N/mm²	A.6.5
Tensile adhesion strength after freeze–thaw cycles	≥ 0,5 N/mm²	A.6.6
Tensile adhesion strength after contact with lime water	≥ 0,5 N/mm²	A.6.9
Waterproofing	No penetration and ≤ 20 g weight gain	A.7
Crack bridging ability under standard conditions	≥ 0,75 mm	A.8.2
1 b OPTIONAL CHARACTERISTICS		
Characteristic	**Requirement**	**Test method**
Tensile adhesion strength after contact with chlorinated water **(P)**	≥ 0,5 N/mm²	A.6.7 or A.6.8
Crack bridging ability at low temperature (- 5°C) **(O1)**	≥ 0,75 mm	A.8.3
Crack bridging ability at very low temperature (- 20°C) **(O2)**	≥ 0,75 mm	A.8.3

4.2 Release of dangerous substances

Materials used in products shall not release any dangerous substances in excess of the maximum permitted levels specified in a relevant European Standard for the material or permitted in the national regulations of the member state of destination.

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, when construction products covered by this standard are placed on those markets. In the absence of European harmonized test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Construction website on EUROPA accessed through: http://ec.europa.eu/growth/tools-databases/cp-ds/

5 Testing, assessment and sampling methods

Testing and assessment methods and requirements for sampling shall be as set out in Annex A.

6 Assessment and verification of constancy of performance (AVCP)

6.1 General

The compliance of liquid-applied water impermeable products with the requirements of this standard and with the performances declared by the manufacturer in the DoP shall be demonstrated by:

— determination of the product type on the base of type testing;

— factory production control by the manufacturer, including product assessment.

The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the conformity of the product with its declared performances.

6.2 Type testing

6.2.1 General

All performances related to characteristics included in this standard shall be determined when the manufacturer intends to declare the respective performances unless the standard gives provisions for declaring them without performing tests (e.g. use of previously existing data, CWFT and conventionally accepted performance).

Assessment previously performed in accordance with the provisions of this standard, may be taken into account provided that they were made to the same or a more rigorous test method, under the same AVCP system on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.

For the purposes of assessment, the liquid applied water impermeable products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for the same characteristics for all products within that same family.

NOTE 1 Products are grouped in different families for different characteristics.

NOTE 2 The assessment method standards are chosen to allow the selection of a suitable representative sample.

In addition, the determination of the product type shall be performed for all characteristics included in the standard for which the manufacturer declares the performance:

— at the beginning of the production of a new liquid applied water impermeable product (unless a member of the same product range), or

— at the beginning of a new or modified method of production (where this may affect the stated properties), or

— they shall be repeated for the appropriate characteristic(s), whenever a change occurs in the product design, in the raw material or in the supplier of the components, or in the method of production (subject to the definition of a family), which would affect significantly one or more of the characteristics.

Where components (e.g. cement) are used whose characteristics have already been determined by the component supplier on the basis of conformity with other product standards, these characteristics need

not be re-assessed to demonstrate compliance with the European Standard. The specifications of these components shall be documented.

Products bearing regulatory marking in accordance with appropriate harmonized European specifications may be presumed to have the performances declared in the DoP, although this does not replace the responsibility on the liquid-applied water impermeable products manufacturer to ensure that liquid-applied water impermeable products as a whole is correctly manufactured and its component products have the declared performance values.

6.2.2 Test samples, testing and compliance criteria

The number of samples of liquid-applied water impermeable product and the testing method to be tested/assessed shall be in accordance with Annex A (A.6, A.7 and A.8) and Table 2.

Table 2 — Number of samples to be tested and compliance criteria

Characteristic	Requirement	Assessment method	No. of samples	Compliance criteria
Initial tensile adhesion strength	Clause 4	A.6	1	Table 1.a of Clause 4
Tensile adhesion strength after water contact	Clause 4	A.6	1	Table 1.a of Clause 4
Tensile adhesion strength after heat ageing	Clause 4	A.6	1	Table 1.a of Clause 4
Tensile adhesion strength after freeze–thaw cycles	Clause 4	A.6	1	Table 1.a of Clause 4
Tensile adhesion strength after contact with lime water	Clause 4	A.6	1	Table 1.a of Clause 4
Waterproofing	Clause 4	A.7	1	Table 1.a of Clause 4
Crack-bridging ability under standard conditions	Clause 4	A.8	1	Table 1.a of Clause 4
Tensile adhesion strength after contact with chlorinated water	Clause 4	A.6	1	Table 1.b of Clause 4
Crack-bridging ability at low temperature	Clause 4	A.8	1	Table 1.b of Clause 4

6.2.3 Test reports

The results of the determination of the product type shall be documented in test reports. All test reports shall be retained by the manufacturer for at least 10 years after the last date of production of the liquid-applied water impermeable product to which they relate.

6.2.4 Shared other party results

A manufacturer may use the results of the product type determination obtained by someone else (e.g. by another manufacturer, as a common service to manufacturers, or by a product developer), to justify his own declaration of performance regarding a product that is manufactured according to the same design (e.g. dimensions) and with raw materials, constituents and manufacturing methods of the same kind, provided that:

— the results are known to be valid for products with the same essential characteristics relevant for the product performance;

— in addition to any information essential for confirming that the product has such same performances related to specific essential characteristics, the other party who has carried out the determination of the product type concerned or has had it carried out, has expressly accepted (by licence, contract, or any other type of written consent) to transmit to the manufacturer the results and the test report to be used for the latter's product type determination, as well as information regarding production facilities and the production control process that can be taken into account for FPC;

— the manufacturer using other party results accepts to remain responsible for the product having the declared performances and he also:

  — ensures that the product has the same characteristics relevant for performance as the one that has been subjected to the determination of the product type, and that there are no significant differences with regard to production facilities and the production control process compared to that used for the product that was subjected to the determination of the product type; and

  — keeps available a copy of the determination of the product type report that also contains the information needed for verifying that the product is manufactured according to the same design and with raw materials, constituents and manufacturing methods of the same kind.

6.3 Factory Production Control (FPC)

6.3.1 General

The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market comply with the declared performance of the essential characteristics.

The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures.

This factory production control system documentation shall ensure a common understanding of the evaluation of the constancy of performance and enable the achievement of the required product performances and the effective operation of the production control system to be checked. Factory production control therefore brings together operational techniques and all measures allowing maintenance and control of the compliance of the product with the declared performances of the essential characteristics.

In case the manufacturer has used shared or cascading product type results, the FPC shall also include the appropriate documentation as foreseen in 6.2.4.

6.3.2 Requirements

6.3.2.1 General

The manufacturer is responsible for organizing the effective implementation of the FPC system in line with the content of this product standard. Tasks and responsibilities in the production control organization shall be documented and this documentation shall be kept up-to-date.

The responsibility, authority and the relationship between personnel that manages, performs or verifies work affecting product constancy, shall be defined. This applies in particular to personnel that need to