SLOVENSKI STANDARD
oSIST prEN 14891-2:2022

01-marec-2022

Tekoče vgrajevani za vodo neprepustni izdelki za uporabo pod keramičnimi ploščicami, lepljenimi z lepili - 2. del: Terminologija, specifikacije, opisovanje in označevanje

Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives - Part 2: Terminology, specifications, designation and marking

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Flüssig aufzubringende wasserundurchlässige Produkte zur Verwendung unter keramischen Fliesen und Platten, die mit Klebstoffen verbunden sind - Teil 2: Terminologie, Spezifikationen, Bezeichnung und Kennzeichnung

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Produits d'imperméabilisation appliqués en phase liquide utilisés sous carrelage collé - Partie 2 : Terminologie, spécifications, désignation et marquage

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Ta slovenski standard je istoveten z: prEN 14891-2

ICS:

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

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2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 14891-2

December 2021

ICS 91.100.10; 91.100.23

Will supersede EN 14891:2017

English Version

Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives - Part 2: Terminology, specifications, designation and marking

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

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

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European foreword

This document (prEN 14891-2:2021) 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 CEN Enquiry.

This document with FprEN 14891-1:2021 will supersede EN 14891:2017.

In comparison with the previous edition, the following technical modifications have been made. Splitting the former document in two parts:

— *Part 1: Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives — Essential characteristics and AVCP*

— *Part 2 : Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives — Terminology, specifications, designations and marking*

The series of EN 14891 consists of the following parts, under the general title of *Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives*:

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— *Part 1: Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives — Essential characteristics and AVCP*

— *Part 2: Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives — Terminology, specifications, designations and marking*

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1 Scope

This document 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 document specifies the test methods and the requirements for the non-harmonized characteristic and the designation and marking of liquid-applied water impermeable products beneath ceramic tiling.

This document 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 are also 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 are referred to in the text in such a way that some or all of their content constitutes requirements 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.

prEN 12004-3:2021, *Adhesives for ceramic tiles — Part 3: Terminology, specifications, designation and marking*

FprEN 14891-1:2021, *Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesives — Part 1: Essential characteristics and AVCP*

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in FprEN 14891-1:2021 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

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- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

4 Product specifications

4.1 Characteristics

When needed for special service condition(s) the assessment of the characteristics are determined in accordance with Table 1.

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Table 1 — Characteristics – Requirements

Characteristic	Threshold value	Test method
Normal liquid-applied water impermeable product		
Initial tensile adhesion strength	≥ 0,5 N/mm^2	FprEN 14891-1:2021, A.6.2
Tensile adhesion strength after water contact	≥ 0,5 N/mm^2	FprEN 14891-1:2021, A.6.3 or A.6.4
Tensile adhesion strength after heat ageing	≥ 0,5 N/mm^2	FprEN 14891-1:2021, A.6.5
Tensile adhesion strength after freeze–thaw cycles	≥ 0,5 N/mm^2	FprEN 14891-1:2021, A.6.6
Tensile adhesion strength after contact with lime water	≥ 0,5 N/mm^2	FprEN 14891-1:2021, A.6.9
Waterproofing	No penetration	FprEN 14891-1:2021, A.7
Crack bridging ability under standard conditions	≥ 0,75 mm	FprEN 14891-1:2021, A.8.2
Improved liquid-applied water impermeable product		
Crack bridging ability at low temperature (- 5°C) **(O1)** Crack bridging ability at very low temperature (- 20 °C) **(O_2)**	≥ 0,75 mm	FprEN 14891-1:2021, A.8.3
Liquid-applied water impermeable product – Special characteristic		
Tensile adhesion strength after contact with chlorinated water **(P)**	≥ 0,5 N/mm^2	5.2

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5 Sampling and testing methods and test materials

5.1 General

Sampling methods and test materials shall be as set out in FprEN 14891-1:2021.

5.2 Tensile adhesion strength after contact with chlorinated water

5.2.1 Tensile adhesion strength after contact with chlorinated water (reference method)

Prepare the test pieces in accordance with FprEN 14891-1:2021, A.6.3.

Condition for 28 days before pouring an approximate 6 mm depth of chlorinated water into the reservoir. After seven days pour away the chlorine water, rinse with clean tap water, wipe with a cloth and bond the pull head plates to the tiles. After a further 24 h under standard conditions, carry out the tensile adhesion test in accordance with FprEN 14891-1:2021, A.6.2.

Report the results in Newton (N).

The testing solution, with a chloride and sulphate content of 200 mg/l each, shall be prepared with the addition of sodium chloride and sodium sulphate to fresh water.

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The water shall be chlorinated by addition of technically pure sodium hypochlorite.

The chlorinated water concentration shall be kept constant within the range 0,3 mg/l to 0,6 mg/l checking the active chlorine content in water by titration.

The pH value shall be determined daily and shall be kept in the range 6,5 to 7,8; any correction required should be carried out by increasing pH with the addition of sodium hydroxide, or by decreasing it with the addition of hydrochloric acid, daily.

The immersion time of the test pieces shall be extended for the time the active chlorine content was below the limit value of 0,3 mg/l (for example on Sundays and holidays).

5.2.2 Alternative method for tensile adhesion strength after contact with chlorinated water

Prepare the test pieces in accordance with 5.2.1.

All remaining faces of the slab, including the underside, shall then be sealed with an impervious, waterproof coating material, such as an epoxide or polyester based product, ensuring complete integrity of the coating on all the edges and at the junction with the liquid-applied water impermeable product on the upper face.

Condition the test pieces under standard conditions for 28 days, and immerse them in chlorinated water at the standard temperature.

After 7 days remove the test pieces from the chlorinated water, wipe with a cloth and bond the pull head plates to the tiles.

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After a further 24 h under standard conditions, carry out the tensile adhesion test in accordance with FprEN 14891-1:2021, A.6.2.

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The testing solution, with a chloride and sulphate content of 200 mg/l each, shall be prepared with the addition of sodium chloride and sodium sulphate to fresh water.

The water shall be chlorinated by addition of technically pure sodium hypochlorite.

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The chlorinated water concentration shall be kept constant within the range 0,3 mg/l to 0,6 mg/l checking the active chlorine content in water by titration.

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The pH value shall be determined daily and shall be kept in the range 6,5 to 7,8; any correction required should be carried out by increasing pH with the addition of sodium hydroxide, or by decreasing it with the addition of hydrochloric acid, daily.

The immersion time of the test pieces shall be extended for the time the active chlorine content was below the limit value of 0,3 mg/l (for example on Sundays and holidays).

6 Designation

The liquid-applied water impermeable products are designated into one of the three types, according to the definitions given in Clause 3:

— **CM**cementitious liquid-applied water impermeable products;

— **DM** dispersion liquid-applied water impermeable products;

— **RM** reaction resin liquid-applied water impermeable products.

For each type it is possible to have a different subtypes, related to the characteristics crack bridging ability at low or very low temperature given in FprEN 14891-1:2021, Table 1 and related to the installation characteristic given in Table 2. These subtypes are designated by the following abbreviations:

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— **O1** with improved crack bridging ability at low temperature (−5 °C);

— **O_2** with improved crack bridging ability at very low temperature (−20 °C);

— **P** resistant to contact with chlorinated water (i.e. for use in swimming pools).

The product is designated by the symbol for the type (CM, DM or RM), followed by the abbreviation of the subtype or subtypes it belongs to. Table 2 describes the designation of the products types and subtypes which shall be used.

Table 2 — Designation of liquid-applied water impermeable products

SYMBOL		DESCRIPTION
TYPE	SUBTYPE	
CM		Normal cementitious liquid-applied water impermeable product
DM		Normal dispersion liquid-applied water impermeable product
RM		Normal reaction resin liquid-applied water impermeable product
CM	O1	Cementitious liquid-applied water impermeable product with improved crack bridging ability at low temperature (−5 °C)
CM	O_2	Cementitious liquid-applied water impermeable product with improved crack bridging ability at very low temperature (−20 °C)
DM	O1	Dispersion liquid-applied water impermeable product with improved crack bridging ability at low temperature (−5 °C)
DM	O_2	Dispersion liquid-applied water impermeable product with improved crack bridging ability at low temperature (−20 °C)
RM	O1	Reaction resin liquid-applied water impermeable product with improved crack bridging ability at low temperature (−5 °C)
RM	O_2	Reaction resin liquid-applied water impermeable product with improved crack bridging ability at very low temperature (−20 °C)
CM	P	Cementitious liquid-applied water impermeable product resistant to contact with chlorinated water
DM	P	Dispersion liquid-applied water impermeable product resistant to contact with chlorinated water
RM	P	Reaction resin liquid-applied water impermeable product resistant to contact with chlorinated water
CM	O1P	Cementitious liquid-applied water impermeable product with improved crack bridging ability at low temperature (−5 °C) and resistant to contact with chlorinated water
CM	O2P	Cementitious liquid-applied water impermeable product with improved crack bridging ability at very low temperature (−20 °C) and resistant to contact with chlorinated water
DM	O1P	Dispersion liquid-applied water impermeable product with improved crack bridging ability at low temperature (−5 °C) and resistant to contact with chlorinated water
DM	O2P	Dispersion liquid-applied water impermeable product with improved crack

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SYMBOL		DESCRIPTION
TYPE	SUBTYPE	
		bridging ability at very low temperature (−20 °C) and resistant to contact with chlorinated water
RM	O1P	Reaction resin liquid-applied water impermeable product with improved crack bridging ability at low temperature (−5 °C) and resistant to contact with chlorinated water
RM	O2P	Reaction resin liquid-applied water impermeable product with improved crack bridging ability at very low temperature (−20 °C) and resistant to contact with chlorinated water

7 Marking and labelling

Products complying with the requirements of this document shall be clearly marked with the following information:

a) name of the product;

b) manufacturer's mark and place of origin;

c) date or code of production, shelf life and conditions of storage;

d) number of this document, i.e. EN 14891-2 and date of issue;

e) type of product according to Clause 6 (using symbols given in Table 2);

f) instructions for use:

   1) mix proportions (where applicable);

   2) maturing time (where applicable);

   3) pot life;

   4) mode of application (including recommended primer and/or reinforcement mesh);

   5) minimum quantity or thickness of the product;

   6) delay for installing ceramic tiles;

   7) specified adhesive, type and class in accordance with prEN 12004-3:2021;

   8) field of application (external, wall, floor, swimming pool).

In the designation of a liquid-applied water impermeable product, information about special properties may be included when the product is intended for use in specific applications.

This information shall be marked on the packaging and/or on the product's technical data sheet.

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