



SLOVENSKI STANDARD

SIST EN 14187-5:2019

01-maj-2019

Nadomešča:
SIST EN 14187-5:2004

Hladno nanosljive tesnilne mase za stike - Preskusne metode - 5. del: Ugotavljanje odpornosti proti hidrolizi

Cold applied joint sealants - Test methods - Part 5: Determination of the resistance to hydrolysis

Kalt verarbeitbare Fugenmassen - Prüfverfahren - Teil 5: Bestimmung des Aushärtungsgrades

Mastics pour joints appliqués à froid - Méthodes d'essai - Partie 5 : Détermination de la résistance à l'hydrolyse

STANDARD PREVIEW
(standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/sist/f03bf03-8532-4cd5-b9bd-2b47066fea52/sist-en-14187-5-2019>

Ta slovenski standard je istoveten z: EN 14187-5:2019

ICS:

91.100.50	Veziva. Tesnilni materiali	Binders. Sealing materials
93.080.20	Materiali za gradnjo cest	Road construction materials

SIST EN 14187-5:2019

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 14187-5:2019

<https://standards.iteh.ai/catalog/standards/sist/f03bfe03-8532-4cd5-b9bd-2b47066fea52/sist-en-14187-5-2019>

EUROPEAN STANDARD

EN 14187-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2019

ICS 93.080.20

Supersedes EN 14187-5:2003

English Version

Cold applied joint sealants - Test methods - Part 5: Determination of the resistance to hydrolysis

Mastics pour joints appliqués à froid - Méthodes d'essai
- Partie 5 : Détermination de la résistance à l'hydrolyse

Kalt verarbeitbare Fugenmassen - Prüfverfahren - Teil
5: Bestimmung des Aushärtungsgrades

This European Standard was approved by CEN on 25 July 2018.

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.

<https://standards.iteh.ai/catalog/standards/sist/f03bfe03-8532-4cd5-b9bd-2b47066fea52/sist-en-14187-5-2019>



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents		Page
European foreword.....		3
1	Scope	4
2	Normative references	4
3	Terms and definitions	4
4	Principle	4
5	Apparatus and materials	4
6	Preparation of test specimens.....	4
7	Conditioning.....	5
8	Procedure.....	5
8.1	Test temperature	5
8.2	Test period.....	5
8.3	Test procedure	5
8.4	Calculation and expression of results.....	5
9	Test report.....	6

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 14187-5:2019](https://standards.iteh.ai/catalog/standards/sist/f03bfe03-8532-4cd5-b9bd-2b47066fea52/sist-en-14187-5-2019)
<https://standards.iteh.ai/catalog/standards/sist/f03bfe03-8532-4cd5-b9bd-2b47066fea52/sist-en-14187-5-2019>

European foreword

This document (EN 14187-5:2019) has been prepared by Technical Committee CEN/TC 227 "Road materials", the secretariat of which is held by DIN.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

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 14187-5:2003.

Apart from editorial changes no major changes have been made in this revision.

This document is one of a series of standards as listed below:

- EN 14187-1, *Cold applied joint sealants — Test methods — Part 1: Determination of rate of cure*;
- EN 14187-2, *Cold applied joint sealants — Test methods — Part 2: Determination of tack free time*;
- EN 14187-3, *Cold applied joint sealants — Test methods — Part 3: Determination of self-levelling properties*;
- EN 14187-4, *Cold applied joint sealants — Test methods — Part 4: Determination of the change in mass and volume after immersion in test fuels and liquid chemicals*;
- EN 14187-5, *Cold applied joint sealants — Test methods — Part 5: Determination of the resistance to hydrolysis*;
- EN 14187-6, *Cold applied joint sealants — Test method — Part 6: Determination of the adhesion/cohesion properties after immersion in test fuels and liquid chemicals*;
- EN 14187-7, *Cold applied joint sealants — Test methods — Part 7: Determination of the resistance to flame*;
- EN 14187-8, *Cold applied joint sealants — Test methods — Part 8: Determination of the artificial weathering by UV-irradiation*;
- EN 14187-9, *Cold applied joint sealants — Test methods — Part 9: Function testing of joint sealants*.

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.

EN 14187-5:2019 (E)**1 Scope**

This document describes a test method for determining the resistance to hydrolysis of cold applied joint sealants after treatment at elevated temperature and high humidity.

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.

EN ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868)*

EN ISO 6927, *Buildings and civil engineering works — Sealants — Vocabulary (ISO 6927)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 6927 apply.

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

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

4 Principle

Test specimen of the cold applied joint sealant is prepared in a round mould and treated for 14 days in an autoclave at elevated temperature and high humidity. The hardness of the test specimen is recorded before and after treatment at high humidity and temperature.

5 Apparatus and materials

- 5.1 Round moulds of polyethylene**, with a diameter of 50 mm to 70 mm and a depth of 10 mm.
- 5.2 Autoclave from stainless steel**, for treatment of the specimens of the cold applied joint sealant at elevated temperature and high humidity.
- 5.3 Convection type oven**, controllable between 60°C to 100°C and accurate to $\pm 2^\circ\text{C}$.
- 5.4 Apparatus for the measurement of Shore A hardness** conforming to EN ISO 868.

6 Preparation of test specimens

Clean the round moulds (5.1) and fill with sealant previously conditioned for 24 h at $(23 \pm 2)^\circ\text{C}$. The test is carried out with each three test specimens.

The following precautions shall be taken:

- avoid the formation of air bubbles;
- trim the sealant surface so that it is flush with the border of the round mould.

7 Conditioning

Condition the test specimen for 28 days at $(23 \pm 2) ^\circ\text{C}$ and $(50 \pm 5) \%$ relative humidity to allow the complete cure.

8 Procedure

8.1 Test temperature

Carry out the test at one of the following temperatures:

- $(60 \pm 2) ^\circ\text{C}$;
- $(70 \pm 2) ^\circ\text{C}$;
- $(80 \pm 2) ^\circ\text{C}$.

8.2 Test period

Test over a period of 14 days.

8.3 Test procedure

After the conditioning of the test specimen, determine its hardness (Shore A hardness) in accordance with EN ISO 868 (reference value). Fill the autoclave (5.2) with water so that there is a layer of water between 20 mm and 50 mm on the bottom. Place the specimens into the autoclave with a support so that they do not touch the water. Close the autoclave (5.2) and place it into the convection type oven (5.3) at the selected test temperature (8.1) for 14 days. During this time the level of the water is controlled regularly.

After this time take the specimens from the autoclave (5.2) and condition them for 24 h at $(70 \pm 2) ^\circ\text{C}$. After reconditioning for 24 h at $(23 \pm 2) ^\circ\text{C}$ subject them to the test of Shore A hardness in accordance with EN ISO 868.

8.4 Calculation and expression of results

Calculate the resistance to hydrolysis, ΔH , expressed in percentage in relation to the reference value, using the following formula:

$$\Delta H = \frac{H_1}{H_2} \times 100 \quad (1)$$

where

ΔH is the resistance to hydrolysis, expressed in percent (%);

H_1 is the arithmetic mean of the hardness Shore A of the test specimens before the test procedure;

H_2 is the arithmetic mean of the hardness Shore A of the test specimens after the test procedure.

EN 14187-5:2019 (E)**9 Test report**

The test report shall include the following information:

- a) reference to this document;
- b) name and type of the cold applied joint sealant;
- c) batch of sealant from which the test specimens were produced;
- d) time of conditioning of the test specimens;
- e) conditioning temperature of the test specimens;
- f) value of the resistance to hydrolysis; details of any change of the specimen;
- g) any deviations from the specified test conditions;
- h) date of test.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 14187-5:2019

<https://standards.iteh.ai/catalog/standards/sist/f03bfe03-8532-4cd5-b9bd-2b47066fea52/sist-en-14187-5-2019>