
Tesnilne mase za stike, ki se vgrajujejo po vročem postopku – 13. del: Preskusna metoda za ugotavljanje prekinjenega raztezka (preskušanje adherence)

Hot applied joint sealants - Part 13: Test method for the determination of the discontinuous extension (adherence test)

Heiß verarbeitbare Fugenmassen - Teil 13: Prüfverfahren zur Bestimmung des Dehn- und Haftvermögens bei diskontinuierlicher Dehnung

Produits de scellement de joints appliqués a chaud - Partie 13: Méthode d'essai pour la détermination de la traction discontinue (essai d'adhérence)

[https://standards.iteh.ai/catalog/standards/sist/48808a66-8783-4c5d-b074-](https://standards.iteh.ai/catalog/standards/sist/48808a66-8783-4c5d-b074-d3f4149faf2d/sist-en-13880-13-2004)

[d3f4149faf2d/sist-en-13880-13-2004](https://standards.iteh.ai/catalog/standards/sist/48808a66-8783-4c5d-b074-d3f4149faf2d/sist-en-13880-13-2004)

Ta slovenski standard je istoveten z: EN 13880-13:2003

ICS:

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

SIST EN 13880-13:2004

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 13880-13:2004](#)

<https://standards.iteh.ai/catalog/standards/sist/48808a66-8783-4c5d-b074-d3f4149faf2d/sist-en-13880-13-2004>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13880-13

August 2003

ICS 93.080.20

English version

Hot applied joint sealants - Part 13: Test method for the determination of the discontinuous extension (adherence test)

Produits de scellement de joints appliqués à chaud - Partie
13: Méthode d'essai pour la détermination de la traction
discontinue (essai d'adhérence)

Heiß verarbeitbare Fugenmassen - Teil 13: Prüfverfahren
zur Bestimmung des Dehn- und Haftvermögens bei
diskontinuierlicher Dehnung

This European Standard was approved by CEN on 2 May 2003.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

[SIST EN 13880-13:2004](https://standards.iteh.ai/catalog/standards/sist/48808a66-8783-4c5d-b074-d3f4149faf2d/sist-en-13880-13-2004)

<https://standards.iteh.ai/catalog/standards/sist/48808a66-8783-4c5d-b074-d3f4149faf2d/sist-en-13880-13-2004>



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions.....	4
4 Principle	4
5 Apparatus	4
5.1 Tensile test rig.....	4
5.2 Cooling chamber,.....	5
6 Preparation and conditioning of test specimens	5
7 Storage of test specimens	5
7.1 Air conditioned test specimens.....	5
7.2 Water immersed test specimens.....	5
8 Procedure	5
9 Calculation and expression of results	6
9.1 Tensions	6
9.2 Failures	6
10 Precision	6
11 Test report	6

SIST EN 13880-13:2004
<https://standards.iteh.ai/catalog/standards/sist/48808a66-8783-4c5d-b074-d3f4149faf2d/sist-en-13880-13-2004>

Foreword

This document EN 13880-13:2003 has been prepared by Technical Committee CEN/TC 227 "Road materials", the secretariat of which is held by DIN.

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 **February 2004**, and conflicting national standards shall be withdrawn at the latest by **March 2005**.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

This European Standard is one of a series of standards as listed below:

EN 13880-1, *Hot applied joint sealants — Part 1: Test method for the determination of density at 25 °C.*

EN 13880-2, *Hot applied joint sealants — Part 2: Test method for the determination of cone penetration at 25 °C.*

EN 13880-3, *Hot applied joint sealants — Part 3: Test method for the determination of penetration and recovery (resilience).*

EN 13880-4, *Hot applied joint sealants — Part 4: Test method for the determination of heat resistance — Change in penetration value.*

EN 13880-5, *Hot applied joint sealants — Part 5: Test method for the determination of flow resistance.*

prEN 13880-6, *Hot applied joint sealants — Part 6: Test method for the preparation of samples for testing.*

EN 13880-7, *Hot applied joint sealants — Part 7: Function testing of joint sealants.*

EN 13880-8, *Hot applied joint sealants — Part 8: Test method for the determination of the change in weight of fuel resistance joint sealants after fuel immersion.*

EN 13880-9, *Hot applied joint sealants — Part 9: Test method for the determination of compatibility with asphalt pavements.*

EN 13880-10, *Hot applied joint sealants — Part 10: Test method for the determination of adhesion and cohesion following continuous extension and compression.*

EN 13880-11, *Hot applied joint sealants — Part 11: Test method for the preparation of asphalt test blocks used in the function test and for the determination of compatibility with asphalt pavements.*

EN 13880-12, *Hot applied joint sealants — Part 12: Test method for the manufacture of concrete test blocks for bond testing (recipe methods).*

EN 13880-13, *Hot applied joint sealants — Part 13: Test method for the determination of the discontinuous extension (adherence test).*

EN 13880-13:2003 (E)

1 Scope

This European Standard describes a method for determining the cohesive extensibility and the adhesion to concrete of hot applied sealant-systems with or without priming simulating the moving of concrete pavement slabs during cooling conditions in wintertime.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

prEN 13880-6, *Hot applied joint sealants — Part 6: Test method for the preparation of samples for testing.*

EN 13880-12, *Hot applied joint sealants — Part 12: Test method for the manufacture of concrete test blocks for bond testing (recipe methods).*

prEN 14188-1:2001, *Joint fillers and sealants — Part 1: Specifications for hot applied sealants.*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in prEN 14188-1:2001 and the following apply.

3.1 adhesion failures

surface area of the concrete test blocks from which the sealant is completely separated is to be evaluated for adhesive failure, calculated to the nearest 10 mm^2 .

3.2 cohesion failures

cohesion failures are the sum of the superficial areas of any ruptures on the faces of the material to the nearest 5 mm^2 and any cavity exceeding 3 mm in depth, measured normal to the face of the test specimen

4 Principle

The purpose of this test is to establish whether sealants will remain cohesive and bond to concrete when subjected to discontinuous accelerated extension steps in accordance with prEN 14188-1.

5 Apparatus

5.1 Tensile test rig

The tensile test rig consists of:

- an apparatus which allows the test specimen to be inserted into clamps, conveniently and without disturbing the specimen before, during or after removal. The test specimen shall be fastened in the clamps so that any separate movement is avoided;
- if the apparatus is capable of testing a number of test specimens simultaneously, it shall not be significantly affected by the premature failure of one or more test specimens;

- an appliance equipped with an electric motor capable of extending the test specimen in the tensile apparatus every (360 ± 20) s $(0,10 \pm 0,01)$ mm in less than 0,5 s. The uncertainty of the force measurement and recording shall not exceed 1 %.

5.2 Cooling chamber, suitable for conditioning the test specimens at a temperature of (-20 ± 1) °C or a temperature of (-25 ± 1) °C in accordance with prEN 14188-1.

6 Preparation and conditioning of test specimens

6.1 Prepare the test sample according to EN 13880-6.

6.2 Concrete test blocks in accordance with EN 13880-12 shall be used. The dimensions of the test blocks are (250 ± 1) mm length, (60 ± 1) mm width and $(30,0 \pm 0,5)$ mm height. The concrete test blocks shall have a moisture content within the limits of $(5,0 \pm 0,5)$ %.

6.3 Use a suitable mould to place two test blocks exactly opposite each other for a joint width of $(15,0 \pm 0,5)$ mm and joint length of $(200,0 \pm 0,5)$ mm.

6.4 If a primer is used, apply it to the sawn test faces of the test blocks in accordance with the manufacturer's instructions.

6.5 Place a top-mask on the mould so that the joint can be overfilled when the test sample is poured into it.

6.6 Any adhering to the borders of the joint of the test sample shall be avoided.

6.7 Allow the test specimens to cool under laboratory temperature for 2 h after which remove the excess test sample using a heated knife so that the test specimens are flush with the surface of the test blocks.

6.8 For each test, two test specimens shall be prepared.

<https://standards.iteh.ai/catalog/standards/sist/48808a66-8783-4c5d-b074-d3f4149faf2d/sist-en-13880-13-2004>

7 Storage of test specimens

7.1 Air conditioned test specimens

The test specimens shall be stored at room temperature for 24 h to 72 h.

7.2 Water immersed test specimens

Store water immersed test specimens completely covered with deionised water at room temperature for 14 days in a suitable container. Afterwards the test specimens shall be dried at a room temperature for 3 h to 5 h.

8 Procedure

Fix the test specimens in the clamps of the extension apparatus, positioned in the cooling chamber and cool them for at least 6 h at (-20 ± 1) °C or (-25 ± 1) °C in accordance with prEN 14188-1.

Extend the joint in steps of $(0,10 \pm 0,01)$ mm in less than 0,5 s, every (360 ± 20) s up to the total extension as specified in prEN 14188-1. Record the maximum force during this discontinuous extension.

After reaching the total extension, hold the position of the test specimen. Record the loss of force after 1 h and then at intervals of 30 min until a value is reached after which any further decrease will be less than 5 %. This shall be recorded as the final force.

The force and the extension shall be registered during the entire test procedure.

EN 13880-13:2003 (E)

After the discontinuous extension test all sides of the joint shall be examined for adhesive and cohesive failures in accordance with prEN 14188-1.

9 Calculation and expression of results**9.1 Tensions**

The maximum and final tension σ shall be calculated by the following formula:

$$\text{max/final } \sigma = \frac{\text{max/final } F}{A} \quad (1)$$

where

max/final σ is the maximum and final tension, in Newton per square millimetre (N/mm²);

max or/final F is the maximum or final force according to clause 7, in Newton (N);

A is the joint area = 200 mm × 30 mm = 6000 mm².

9.2 Failures

Report adhesive failures, calculated to the nearest 10 mm².

Report cohesive failures, calculated to the nearest 5 mm² and any cavity exceeding 3 mm in depth.

10 Precision

Estimates of the repeatability and reproducibility are not available yet but they will be included by amendment when available.

11 Test report

The report shall state that the test was carried out in accordance with this European Standard and shall include the following information:

- a) name of sample and sealant type;
- b) name of primer and type description, if applicable;
- c) batch number and date of manufacture where appropriate or enquiry date;
- d) type of storage before testing;
- e) the date of testing and results obtained;
- f) Force/Time- and Extension/Time-diagram for each test specimen;
- g) the name of analyst and test laboratory.