

## **Hot applied joint sealants - Test methods - Part 3: Determination of penetration and recovery (resilience)**

Hot applied joint sealants - Test methods - Part 3:  
Determination of penetration and recovery  
(resilience)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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| <p>Käesolev Eesti standard EVS-EN 13880-3:2003 sisaldab Euroopa standardi EN 13880-3:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 14.08.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p> | <p>This Estonian standard EVS-EN 13880-3:2003 consists of the English text of the European standard EN 13880-3:2003.</p> <p>This document is endorsed on 14.08.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p> |
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| <p><b>Käsitlusala:</b><br/>This European Standard specifies a procedure for the determination of the penetration and recovery (resilience) of hot applied joint sealants using a standard penetrometer fitted with a ball penetration tool.</p> | <p><b>Scope:</b><br/>This European Standard specifies a procedure for the determination of the penetration and recovery (resilience) of hot applied joint sealants using a standard penetrometer fitted with a ball penetration tool.</p> |
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**ICS** 93.080.20

**Võtmesõnad:** construction, construction materials, definition, definitions, elastic properties, elastic properties (fluids), elastic recovery, joint filling, joint sealings, penetration, penetration depths, resilience, road construction, testing, testing conditions

English version

## Hot applied joint sealants - Part 3: Test method for the determination of penetration and recovery (resilience)

Produits de scellement de joints appliqués à chaud - Partie 3: Méthode d'essais pour la détermination de la pénétrabilité et du retour élastique

Heiß verarbeitbare Fugenmassen - Teil 3: Prüfverfahren zur Bestimmung der Kugel-Penetration und des elastischen Rückstellvermögens

This European Standard was approved by CEN on 25 March 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.



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## Foreword

This document (EN 13880-3:2003) 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 December 2003, and conflicting national standards shall be withdrawn at the latest by March 2005.

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

|               |  |
|---------------|--|
| prEN 13880-1  | Hot applied joint sealants — Part 1: Test method for the determination of density at 25 °C   |
| prEN 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  |
| prEN 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  |
| prEN 13880-7  | Hot applied joint sealants — Part 7: Function testing of joint sealants  |
| prEN 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   |
| prEN 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 |
| prEN 13880-12 | Hot applied joint sealants — Part 12: Test method for the manufacture of concrete test blocks for bond testing (recipe methods)  |
| prEN 13880-13 | Hot applied joint sealants — Part 13: Test method for the determination of the discontinuous extension (adherence test)  |

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.

## 1 Scope

This European Standard describes a method for determining of the penetration and recovery (resilience) of hot applied joint sealants using a standard penetrometer fitted with a ball penetration tool.

## 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).

EN 1426, *Bitumen and bituminous binders — Determination of needle penetration*.

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

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*.

## 3 Term and definition

For the purposes of this European Standard the following term and definition applies.

### 3.1

#### **resilience value**

percentage of recovery recorded under standard test conditions resulting from a measurement of the product's elastomeric properties

## 4 Principle

A portion of the test sample is poured into two metal containers (see 5.4) to provide the test specimens; these are cooled in air and then lidded prior to immersion in a constant temperature water bath. After the period of conditioning, the specimens are taken from the water bath, the lids are removed and the test shall be performed immediately.

It is not allowed to carry out the test under water.

## 5 Apparatus

### 5.1 Penetrometer

Penetrometer, conforming to EN 1426, which allows the ball penetration tool holder to move vertically without measureable friction and allows the penetration to be measured to the nearest 0,1 mm. The ball penetration tool holder shall be readily detachable from the apparatus and shall weigh  $(47,50 \pm 0,05)$  g.

### 5.2 Ball penetration tool

Ball penetration tool, conforming to Figure 1. The penetration ball shall be made of steel and weigh  $(27,5 \pm 0,1)$  g. The total mass of the ball penetration tool and standard penetrometer holder shall be  $(75,0 \pm 0,1)$  g.