
Hidroizolacijski trakovi - Hidroizolacija betonskih premostitvenih objektov in drugih betonskih povoznih površin - Ugotavljanje obnašanja hidroizolacijskih trakov pri nanašanju zaščitne plasti litega asfalta

Flexible sheets for waterproofing - Waterproofing of concrete bridge decks and other concrete surfaces trafficable by vehicles - Determination of the behaviour of waterproofing sheets during application of mastic asphalt

Abdichtungsbahnen - Abdichtung von Betonbrücken und anderen Verkehrsflächen auf Beton - Bestimmung des Verhaltens von Bitumenbahnen bei Anwendung von Gussasphalt

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Feuilles souples d'étanchéité - Étanchéité des tabliers de ponts en béton et autres surfaces en béton circulables par les véhicules - Détermination du comportement des feuilles d'étanchéité lors de l'application de l'asphalte coulé

Ta slovenski standard je istoveten z: EN 14693:2017

ICS:

91.100.50 Veziva. Tesnilni materiali Binders. Sealing materials

SIST EN 14693:2017**en,fr,de**

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EUROPEAN STANDARD

EN 14693

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2017

ICS 91.100.50

Supersedes EN 14693:2006

English Version

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This European Standard was approved by CEN on 6 February 2017.

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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.

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COMITÉ EUROPÉEN DE NORMALISATION
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| Contents | Page |
|--|-------------|
| European foreword..... | 3 |
| Introduction | 4 |
| 1 Scope..... | 5 |
| 2 Normative references..... | 5 |
| 3 Terms and definitions | 5 |
| 4 Test methods | 5 |
| 4.1 Principle | 5 |
| 4.2 Apparatus and materials..... | 5 |
| 4.3 Preparation of test specimens..... | 6 |
| 4.4 Procedure..... | 6 |
| 4.5 Measurements..... | 7 |
| 4.5.1 Determination of surface proportion of any sheet compound specks on the surface of the mastic asphalt | 7 |
| 4.5.2 Determination of the thickness of the sheet after pouring the mastic asphalt | 8 |
| 4.5.3 Determination of sheet compound inclusions in the mastic asphalt..... | 8 |
| 4.6 Evaluation and expression of results..... | 9 |
| 4.6.1 Sheet compound specks on the surface of the mastic asphalt..... | 9 |
| 4.6.2 Changes in thickness of the sheet after pouring of the mastic asphalt..... | 9 |
| 4.6.3 Sheet compound inclusions in the mastic asphalt | 10 |
| 4.7 Precision of the test method | 10 |
| 4.8 Test report..... | 10 |

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SIST EN 14693:2017
<https://standards.iteh.ai/catalog/standards/sist/a2a3d9dc-0ae1-40fb-8b05-fb41b86f939f/sist-en-14693-2017>

European foreword

This document (EN 14693:2017) has been prepared by Technical Committee CEN/TC 254 “Flexible sheets for waterproofing”, the secretariat of which is held by NEN.

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 October 2017, and conflicting national standards shall be withdrawn at the latest by October 2017.

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 14693:2006.

The significant technical change are the new reference to prEN 17048 at Clause 2, Normative references, and substitution of the terms “bitumen sheet” with the generic wording “waterproofing sheet” at every clause where needed, including the title.

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. (standards.iteh.ai)

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EN 14693:2017 (E)

Introduction

The purpose of the test is to determine the behaviour of the waterproofing sheet which is in contact with the mastic asphalt during application.

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1 Scope

This European Standard is applicable to waterproofing sheets intended for use with a layer of mastic asphalt.

This European Standard specifies a test method for the evaluation of the resistance of waterproofing sheets to the rising of the sheet at the application of mastic asphalt in a non-floating manner.

NOTE This European Standard can also be used for waterproofing sheets intended for use with other asphalt types as a protection layer.

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 1849-1, *Flexible sheets for waterproofing - Determination of thickness and mass per unit area - Part 1: Bitumen sheets for roof waterproofing*

EN 13375, *Flexible sheets for waterproofing - Waterproofing of concrete bridge decks and other concrete surfaces trafficked by vehicles - Specimen preparation*

EN 13416, *Flexible sheets for waterproofing - Bitumen, plastic and rubber sheets for roof waterproofing - Rules for sampling*

EN 14695, *Flexible sheets for waterproofing - Reinforced bitumen sheets for waterproofing of concrete bridge decks and other trafficked areas of concrete - Definitions and characteristics*

prEN 17048, *Flexible sheets for waterproofing - Plastic and rubber sheets for waterproofing of concrete bridge decks and other trafficked areas of concrete - Definitions and characteristics*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13375, EN 14695 and prEN 17048.

4 Test methods

4.1 Principle

Mastic asphalt, with a temperature of 220 °C, is poured on the waterproofing sheet and the following points are determined:

- quantity of sheet-compound specks on the surface of the mastic asphalt;
- quantity of sheet-compound inclusions within the mastic asphalt;
- changes in thickness of the waterproofing sheet.

4.2 Apparatus and materials

4.2.1 Mastic asphalt, in accordance with EN 13375, with a substitution of 4 % to 5 % by mass of filler by iron oxide powder (Fe_2O_3).

4.2.2 Mastic asphalt boiler, with motor-driven stirring device and indirect heating.

EN 14693:2017 (E)

4.2.3 Stereo optical measuring instrument, with tenfold magnification and a reading accuracy of 0,1 mm.

4.2.4 UV lighting equipment.

4.2.5 Concrete slab, in accordance with EN 13375 (400 ± 10) mm × (400 ± 10) mm, thickness (45 ± 5) mm.

4.2.6 Frame, internal dimensions (350 ± 10) mm × (350 ± 10) mm, height of frame (40 ± 2) mm.

4.2.7 Equipment for measuring the temperature, with an accuracy of 1 °C.

4.2.8 Layer of dry sand, with a depth of 80 mm to 100 mm natural sand.

4.2.9 Spirit level.

4.2.10 Saw.

4.2.11 Float for mastic asphalt.

4.2.12 Screw clamps.

4.2.13 Transparent foil.

4.3 Preparation of test specimens

Take samples and test specimens in accordance with EN 13416, the dimensions of the test specimens are (400 ± 10) mm × (400 ± 10) mm. Ensure that the test specimens are without any mechanical damage.

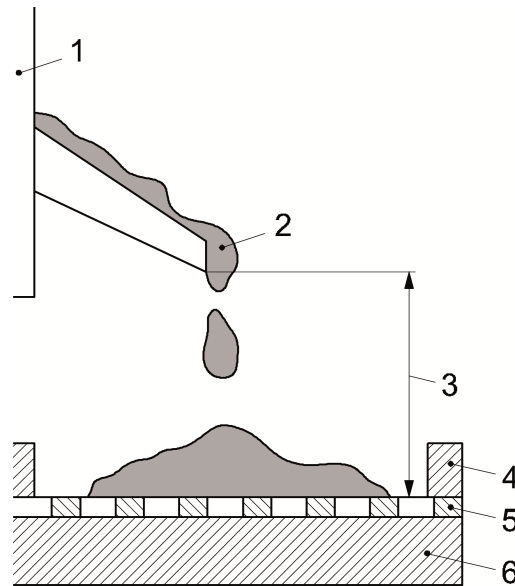
The thickness of the sheet, determined in accordance with EN 1849-1, shall be known (reference thickness).

Two concrete slabs are required.

4.4 Procedure

4.4.1 Condition the sand layer, the concrete slab and the test specimen for at least 24 h at (23 ± 2) °C.

4.4.2 Place the test specimen onto the concrete slab. Position the frame on top of the test specimen and concrete slab, and fix it with screw clamps.

**Key**

- 1 mastic asphalt boiler
- 2 mastic asphalt
- 3 pouring height
- 4 frame
- 5 test specimen
- 6 concrete slab

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Figure 1 — Illustration of pouring

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4.4.3 Lay the concrete slab with test specimen on the sand layer, and level it by means of the spirit level.

4.4.4 Pour the mastic asphalt and distribute it softly using the float to fill the frame.

4.4.5 Ensure that the temperature of the mastic asphalt on leaving the boiler is $(220 \pm 3) ^\circ\text{C}$ before pouring, and also that the pouring height of the mastic asphalt from the upper surface of the test specimen is between 100 mm and 150 mm. Complete the pouring of the mastic asphalt within two minutes, and leave to cool for at least eight hours after pouring. After cooling, remove the frame.

4.5 Measurements

4.5.1 Determination of surface proportion of any sheet compound specks on the surface of the mastic asphalt

4.5.1.1 Determine the mass of the square partial surface of the transparent foil with an area of $(50 \pm 1) \text{ mm} \times (50 \pm 1) \text{ mm}$, m_1 .

4.5.1.2 Visually determine a square partial surface of $(50 \pm 1) \text{ mm} \times (50 \pm 1) \text{ mm}$ of the mastic asphalt surface, on which the total area taken up by the sheet compound specks holds the biggest share. In case of doubt, the use of UV illumination is recommended.

4.5.1.3 Mark the sheet compound specks of this partial surface on transparent foil and cut out the specks.