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SIST EN 14693:2006

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English Version

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

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

Abdichtungsbahnen - Abdichtungen für Betonbrücken und
andere Verkehrsflächen auf Beton - Bestimmung des
Verhaltens von Bitumenbahnen bei Anwendung von
Gussasphalt

This European Standard was approved by CEN on 14 November 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

[SIST EN 14693:2006](https://standards.iteh.ai/catalog/standards/sist/be5ba60f-0ea8-4181-9991-f4d15286-571a/cen-14693-2006)

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This European Standard (EN 14693:2006) has been prepared by Technical Committee CEN/TC 254 “Flexible sheets for waterproofing”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by March 2007, and conflicting national standards shall be withdrawn at the latest by March 2007.

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

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Introduction

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

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1 Scope

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

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

Note This European Standard could also be used for bitumen sheets intended for use with other asphalt types as a protection layer.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. 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 13375:2004, *Flexible sheets for waterproofing — Waterproofing of concrete bridge decks and other concrete surfaces trafficable by vehicles — Specimen preparation*

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

prEN 14695:2003, *Flexible sheets for waterproofing — Reinforced bitumen sheets for waterproofing of concrete bridge decks and other concrete surfaces trafficable by vehicles — Definitions and characteristics*

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3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 13375:2004 and prEN 14695:2003 apply.

4 Test methods

4.1 Principle

Mastic asphalt, with a temperature of 250 °C, is poured on bitumen 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 bitumen sheet.

4.2 Apparatus and materials

4.2.1 *Mastic asphalt*, in accordance with EN 13375, with an addition of 4 % to 5 % by mass iron oxide powder (Fe_2O_3).

4.2.2 *Mastic asphalt boiler*, with motor-driven stirring device and oil-fired jacket heating.

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

4.2.4 *UV-C 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*.

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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.

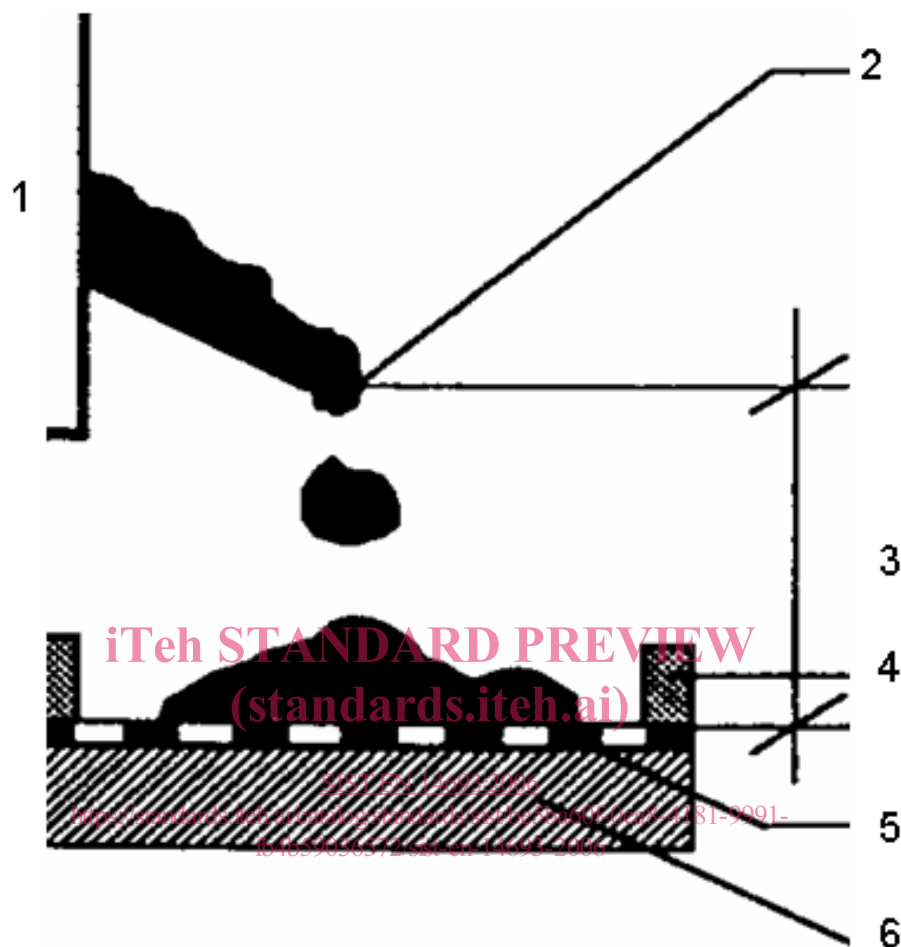
The thickness of the sheet, determined in accordance with EN 1849-1, shall be known (reference thickness).

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 | 4 frame |
| 2 mastic asphalt | 5 test specimen |
| 3 pouring height | 6 concrete slab |

Figure 1 — Illustration of pouring

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 $(250 \pm 3) ^\circ\text{C}$ 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.