SLOVENSKI STANDARD
SIST EN 15820:2011

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Bitumenske debeloslojne prevleke za tesnjenje, modificirane s polimeri - Določanje vodotesnosti

Polymer modified bituminous thick coatings - Determination of watertightness

Kunststoffmodifizierte Bitumendickbeschichtungen - Bestimmung der Wasserdichtheit

Ta slovenski standard je istoveten z: **EN 15820:2011**

ICS:

91.100.50 Veziva. Tesnilni materiali Binders. Sealing materials

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English Version

Polymer modified bituminous thick coatings for waterproofing - Determination of watertightness

Revêtements bitumineux épais modifiés aux polymères pour imperméabilisation - Détermination de l'étanchéité à l'eau

Kunststoffmodifizierte Bitumendickbeschichtungen zur Bauwerksabdichtung - Bestimmung der Wasserdichtheit

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Foreword

This document (EN 15820:2011) has been prepared by Technical Committee CEN/TC 361 “Project Committee — Polymer modified bituminous thick coatings for waterproofing — Definitions/requirements and test methods”, 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of an identical text or by endorsement, at the latest by September 2011, and conflicting national standards shall be withdrawn at the latest by September 2011.

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1 Scope

This European Standard specifies a procedure for determining the watertightness of polymer modified bituminous thick coatings for waterproofing (i.e. the resistance to hydraulic pressure).

2 Normative references

The following referenced documents are indispensable for the application 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.

FprEN 15814:2011, *Polymer modified bituminous thick coatings for waterproofing — Definitions and requirements*

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in FprEN 15814:2011 apply.

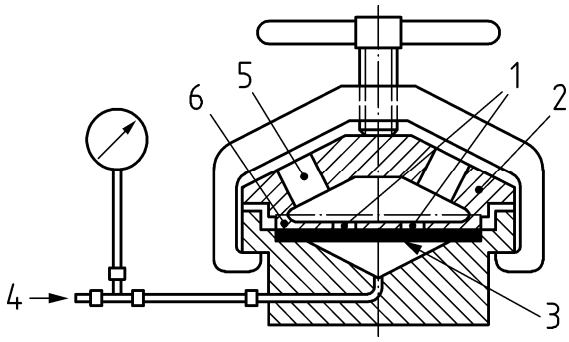
3.1
watertightness
the coating can be deemed watertight if the side of the specimen that is not exposed to water does not exhibit any leakage of water

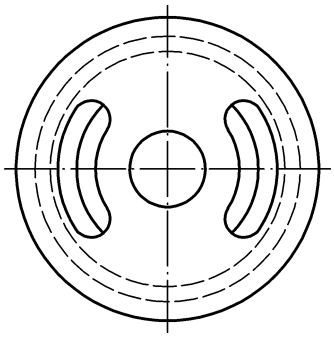
4 Principle

Test procedure for polymer modified bituminous thick coatings intended for use in pressure application, e.g. pressured water in soil. Submission of a test specimen to a specified water pressure for at least 24 h against a disk containing four slots of specified form and dimensions. The test specimen is observed to establish whether it remains watertight.

5 Apparatus

The apparatus consists of a device (see Figures 1 and 2) by which a pressure can be applied to one side of a test specimen.





Key

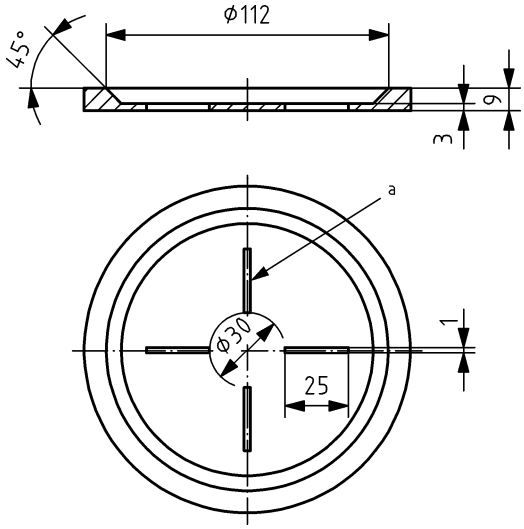
1 slots
2 cover
3 test specimen
4 hydrostatic pressure
5 observation gap
6 slotted plate

Figure 1 — Slot pressure testing device for watertightness at high pressures

Figure 2 — Device for the slot pressure test: sketch of the cover

The test specimen is covered by a circular disk containing four slots. The form and dimensions of the slots are specified by the requirements indicated in Figure 3.

Dimensions in millimetres



Key

[a] all edges of the slotted plate are rounded to a radius of 0,5 mm approximately

Figure 3 — Slotted plate

6 Test specimens

6.1 General

3 circular test specimen with a diameter equal to the extend diameter of the slotted plate (approximately 130 mm).

6.2 Preparation

Production of a membrane from the polymer modified bituminous thick coatings in accordance with classes defined in FprEN 15814:2011, Table 1. In case reinforcement is used the first layer is placed on a release layer with approximately half the thickness of the bitumen layer. Subsequently the reinforcement is incorporated and finally the second layer of bitumen is applied. The wet layer has to be that thick, that after drying process the designated dry layer thickness will be achieved. To provide the designated dry layer thickness the wet coating has to be levelled off with the help of a frame or gauge of accordant height.

6.3 Conditioning of test specimens

The test specimens shall be stored for at least 28 days at a normal climate of (23 ± 2) °C and a relative humidity of (50 ± 5) % in accordance with ISO 554 prior to testing.

6.4 Dimensions of the test specimens

The thickness of the dry layer shall be measured using vernier callipers permitting a reading to 0,1 mm. 12 readings shall be taken. The highest and lowest values shall be ignored and the mean value calculated from the remaining 10 values.

7 Procedure

7.1 Test conditions

The test shall be carried out at (23 ± 2) °C.

The test pressure shall be specified in the product specification. It shall be ensured that the margins are watertight.

7.2 Procedure

Fill the apparatus in accordance with Figure 1 with water until overflowing. Place the test specimen with its upper side downwards in the apparatus and cover with the specified slotted plate. Place the cover and progressively tighten until the specimen is tightly in place. Pressurise progressively to the specified test pressure.

Once the test pressure is reached, maintain the pressure for a period according to the product specific but minimum 24 h.

Observe the watertightness of the test specimen after the testing time (sudden pressure drop or presence of water on the non exposed face of the test specimen).

8 Expression of results and precision

8.1 Expression of results

The watertightness test is considered passed if all test specimens remain watertight on the side subjected to the test pressure after the specified testing time.

8.2 Precision

Precision data are currently not available.

9 Test report

The test report shall include at least the following information:

a) all details necessary to identify the product tested;

b) a reference to this European Standard (i.e. EN 15820) and any deviation from it;

c) details of preparation of test specimens in accordance with Clause 6;

d) test procedure including:

- test pressure;
- test period;
- specimen thickness;
- deviation of test conditions;