SLOVENSKI STANDARD
SIST EN 13179-2:2002

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Preskus kamene moke za bitumenske zmesi - 2. del: Bitumensko število

Tests for filler aggregate used in bituminous mixtures - Part 2: Bitumen number

Prüfverfahren für mineralische Füller in bitumenhaltigen Mischungen - Teil 2: Bitumenzahl

Essais sur les fillers utilisés dans les mélanges bitumineux -Partie 2: Viscosité apparente (Nombre-bitume)

Ta slovenski standard je istoveten z: EN 13179-2:2000

ICS:

75.140	Voski, bitumni in drugi naftni proizvodi	Waxes, bituminous materials and other petroleum products

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This European Standard was approved by CEN on 13 July 2000.

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.

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

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Contents

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 154 "Aggregates", 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of an identical text or by endorsement, at the latest by February 2001, and conflicting national standards shall be withdrawn at the latest by December 2003.

This European Standard forms part of series of tests for bituminous bound filler aggregates.

Test methods for other properties of aggregates will be covered by parts of the following European Standards:

EN 932	Tests for general properties of aggregates
EN 933	Tests for geometrical properties of aggregates
EN 1097	Tests for mechanical and physical properties of aggregates
EN 1367	Tests for thermal and weathering properties of aggregates
EN 1744	Tests for chemical properties of aggregates

The other part of EN 13179 will be:

Part 1: Delta ring and ball 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies the procedure for determining the apparent viscosity of a water-filler aggregate mixture, expressed numerically.

The test procedure is applicable to filler aggregate used in bituminous mixtures to regulate production control.

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 932-2	*Tests for general properties of aggregates - Part 2: Methods for reducing laboratory samples*
EN 932-5	*Tests for general properties of aggregate - Part 5: Common equipment and calibration*
EN 1426	*Bitumen and bituminous binders - Determination of needle penetration*

3 Terms and definitions

For the purposes of this European Standard the following terms and definitions apply:

3.1
bitumen number
amount of water, when mixed with 100 g of filler aggregate, to give a mixture with a defined apparent viscosity.

3.2
laboratory sample
reduced sample derived from a bulk sample for laboratory testing.

3.3
test portion
sample used as a whole in a single test

4 Principle

A filler aggregate mixture placed in a cylindrical cup is penetrated for 5 s with an aluminium stamp 8 mm in diameter with a mass of 15 g. The amount of water required to give a penetration of the stamp in the mixture between 5,0 mm and 7,0 mm is determined.

5 Apparatus

5.1 All apparatus, unless otherwise stated, shall conform to the general requirements of EN 932-5.

5.2 Balance, accurate to 0,1 g.

5.3 Stainless steel dish, shaped like a truncated cone, height (65 ± 5) mm, upper edge (95 ± 5) mm in diameter, with a flat bottom (65 ± 5) mm in diameter.

5.4 50 ml burette.

5.5 Flexible spatula.

5.6 Cylindrical cup, inner diameter (30 ± 1) mm, height (30 ± 1) mm with a wall thickness of (2,0 ± 0,2) mm.

5.7 Penetrometer, complying with EN 1426

5.8 Round aluminium stamp, (8,0 ± 0,1) mm in diameter, mass (15,0 ± 0,2) g, fitting into the penetrometer in place of the needle holder.

5.9 Timer, accurate to 0,1 s.

5.10 Demineralized water.

6 Preparation of test portions

Reduce the undried laboratory sample to test portions in accordance with EN 932-2. At least three test portions with a mass of at least 50 g are required.

NOTE A mechanical sampler can be used.

7 Procedure

Weigh (50,0 ± 0,1) g of undried filler in the stainless steel dish and add x_1 ml of demineralized water from the burette. Mix and stir for (300 ± 10) s with the spatula.

NOTE 1 x_1 is the expected amount of water required to give a valid value of penetration of the stamp into the mixture.

NOTE 2 Care should be taken to spread the mixture as little as possible to prevent the water from evaporating.

Fill the cylindrical cup with the mixture, ensuring that no air bubbles are entrapped and smooth the surface. Place the cup with the mixture on the base of the penetrometer. Level the bottom of the stamp with the surface of the mixture, reset the dial to zero and allow the stamp to penetrate into the mixture for (5,0 ± 0,1) s. Measure the penetration to the nearest 0,1 mm and the amount of water from the burette (x_1 ml) to the nearest 0,1 ml.

If the penetration is smaller than 5,0 mm or greater than 7,0 mm, mix a further test portion with an adjusted volume of water (x_2 ml) and repeat the procedure specified in this clause.

8 Calculation and expression of results

Calculate the bitumen number *BN* in accordance with the following equation:

$$BN = 2x_n$$

where

x_n is the numerical value of the volume of water, in millilitres, used to give a test result with a penetration between 5, 0 mm and 7,0 mm.

Express the calculated value to the nearest whole number.

NOTE An indication of precision is given in annex **A**.

9 Test report

9.1 Required data

The test report shall include the following information:

a) the apparent viscosity (bitumen number);
b) reference to this European Standard;
c) the name or the brand of the filler aggregate;
d) the date of the test.

9.2 Optional data

The test report can include the following information:

a) Name and location of sample source;
b) a description of the material;
c) a description of the sampling procedure.