SLOVENSKI STANDARD
kSIST FprEN 1428:2011

01-september-2011

Bitumen in bitumenska veziva - Določevanje vode v bitumenskih emulzijah - Metoda azeotropske destilacije

Bitumen and bituminous binders - Determination of water content in bituminous emulsions - Azeotropic distillation method

Bitumen und bitumenhaltige Bindemittel - Bestimmung des Wassergehaltes von Bitumenemulsionen - Azeotropisches Destillationsverfahren

Bitumes et liants bitumineux - Détermination de la teneur en eau dans les émulsions de bitume - Méthode de distillation azéotropique

Ta slovenski standard je istoveten z: **FprEN 1428**

ICS:

75.140	Voski, bitumni in drugi naftni proizvodi	Waxes, bituminous materials and other petroleum products
91.100.50	Veziva. Tesnilni materiali	Binders. Sealing materials

kSIST FprEN 1428:2011 **en,fr,de**

EUROPEAN STANDARD

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FINAL DRAFT
FprEN 1428

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ICS 75.140; 91.100.50

Will supersede EN 1428:1999

English Version

Bitumen and bituminous binders - Determination of water content in bituminous emulsions - Azeotropic distillation method

Bitumes et liants bitumineux - Détermination de la teneur en eau dans les émulsions de bitume - Méthode de distillation azéotropique

Bitumen und bitumenhaltige Bindemittel - Bestimmung des Wassergehaltes von Bitumenemulsionen - Azeotropisches Destillationsverfahren

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If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Foreword

This document (FprEN 1428:2011) has been prepared by Technical Committee CEN/TC 336 “Bituminous binders”, the secretariat of which is held by AFNOR.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 1428:1999.

1 Scope

This European Standard specifies a method for the determination of the water content in bituminous emulsions by means of distillation.

WARNING — The use of this standard may involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

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.

EN 58, *Bitumen and bituminous binders — Sampling bituminous binders*

EN 12594, *Bitumen and bituminous binders — Preparation of test samples*

EN ISO 3696:1995, *Water for analytical laboratory use — Specification and test methods (ISO 3696:1987)*

ISO 5272, *Toluene for industrial use — Specifications*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
water content
mass percentage of water determined in accordance with the method specified in this standard

4 Principle

The water contained in a bituminous emulsion is distilled over by means of a carrier vapour from a water immiscible solvent-carrier liquid.

Condensed solvent-carrier liquid and water are separated continuously in a graduated receiver; the water settles in the graduated section of the receiver and the condensed solvent-carrier liquid returns to the flask.

5 Reagents and materials

Use only reagents of recognized analytical grade and water conforming to grade 3 of EN ISO 3696:1995.

5.1 Distillation regulators, with a higher density than the liquid under test such as, for instance, anhydrous anti-bumping granules (e.g. boiling sand), glass beads.

5.2 Suitable solvent-carrier liquid.

Xylene conforming to ISO 5280 is recommended for routine tests. Other petroleum distillates, conforming to the following distillation requirements: 98% distils between 120°C and 250ºC, are suitable.

In the event of dispute, toluene conforming to ISO 5272 shall be used.

NOTE In selecting a solvent-carrier liquid, attention is drawn to any relevant safety regulations.

6 Apparatus

Usual laboratory apparatus and glassware, together with the following:

6.1 Distillation apparatus (see Figure 1) consisting of the following: flask, receiver and condenser being connected with suitable ground glass joints:

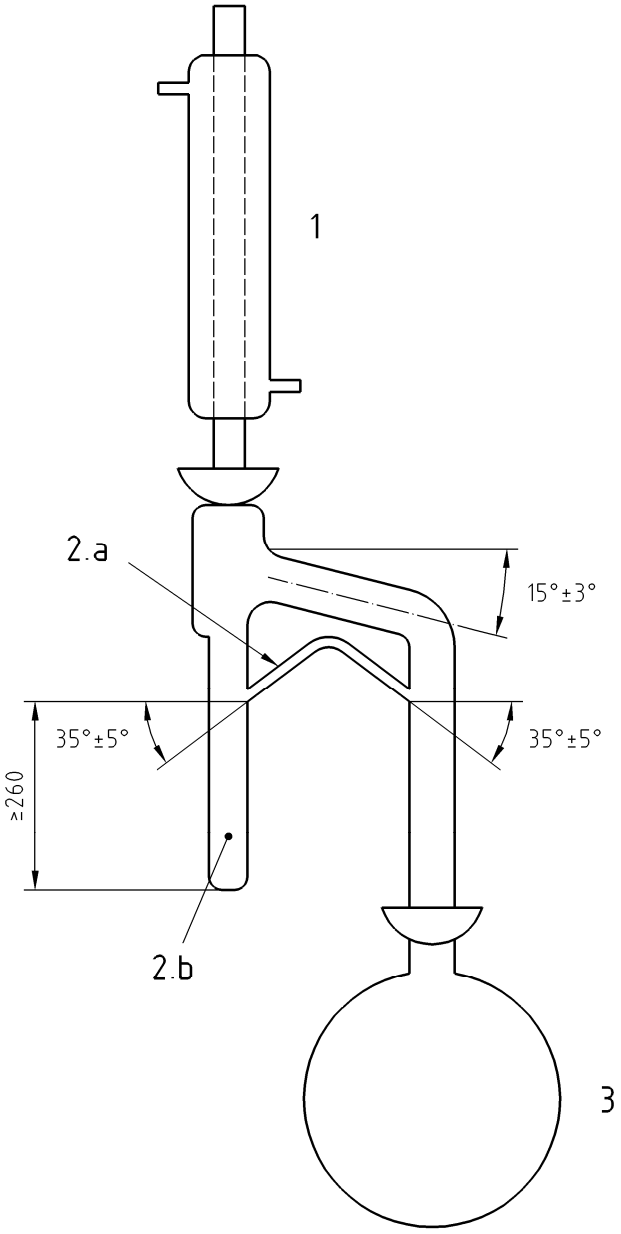
6.1.1 Flask, 500 ml round bottomed with a short neck capable of accommodating the reflux tube of the receiver.

6.1.2 Receiver or **trap,** with a 25 ml nominal capacity graduated to 0,1 ml.

6.1.3 Vertical condenser, water-cooled with a minimum length of jacket of 300 mm.

6.1.4 Heater.

NOTE An electric flask heater with electronic power regulation is recommended in order to obtain controlled distillation.



1. Reflux condenser
2. Receiver
   a With or without this tube
   b Capacity: 25 ml
3. Round bottomed flask

Figure 1 – Typical assembly

6.2 Stainless wire, with looped-end or fitted with a rubber stopper.

6.3 Balance, of sufficient capacity, accurate to 0,01 g.