

Bitumen and bituminous binders - Determination of the distillation characteristics of cut-back and fluxed bituminous binders made with mineral fluxes

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Bitumen and bituminous binders - Determination of the distillation characteristics of cut-back and fluxed bituminous binders made with mineral fluxes

Bitumes et liants bitumineux - Détermination des caractéristiques de distillation des bitumes fluidifiés et fluxés par des fluxants d'origine minérale

Bitumen und bitumenhaltige Bindemittel - Bestimmung der Destillationseigenschaften von mit Mineralölfluxmitteln verschnittenen und gefluxten bitumenhaltigen Bindemitteln

This European Standard was approved by CEN on 19 May 2019.

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 13358:2019) has been prepared by Technical Committee CEN/TC 336 “Bitumen and bituminous binders”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by January 2020, and conflicting national standards shall be withdrawn at the latest by January 2020.

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 13358:2010.

The main technical changes in comparison to the previous edition are:

- Clause 5: an electric heating plate or heating mantle may be used as alternatives to the gas burner;
- Clause 5: mercury stem thermometers are replaced by temperature measuring devices allowing similar temperature determinations to be made. Annex A (characteristics of mercury stem thermometer) becomes informative;
- Subclause 6.4.2: requirements on distillation rate (drops per minute) may be replaced by a minimum rate of temperature increase in cases where the distillation process has a very low yield;
- Subclause 6.4.3: volumes of distillate are to be recorded at least at the reference corrected temperatures mentioned in EN 15322;
- Clauses 6.4.3 and 10: the possibility to record volumes of distillate to a precision of 0,1 ml is abandoned.

This document is based on ASTM D 402-97.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document specifies a method for the determination of the distillation characteristics of cut-back and fluxed bituminous binders made with mineral fluxes.

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

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1 distillation

process of evaporation and condensation of a liquid

3.2 mineral flux

flux which may be of carbochemical or petrochemical origin or a mixture of both

4 Principle

Petroleum cut-back and fluxed bituminous binders are distilled at a controlled rate until the temperature of the liquid reaches 360 °C. The volumes of distillate and residue obtained over specified temperature ranges are measured. The residue from the distillation and also the distillate can be tested as required.

5 Apparatus

Usual laboratory apparatus and glassware, together with the following:

5.1 Distillation flask, 500 ml and with side-arm, of dimensions given in Figure 1.

5.2 Heating system. Equipment needed when using a gas burner or equivalent (see Figure 3).

5.2.1 Shield, of steel, lined with 3 mm of suitable thermal insulation material and fitted with transparent mica windows of the form and dimensions shown in Figure 2, which is used to protect the distillation flask from air currents and to reduce radiation.