

Bitumen and bituminous binders - Preparation of test samples

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Bitumen and bituminous binders - Preparation of test samples

Bitumes et liants bitumineux - Préparation des échantillons
d'essai

Bitumen und bitumenhaltige Bindemittel - Vorbereitung von
Untersuchungsproben

This European Standard was approved by CEN on 16 August 2014.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 12594:2014) has been prepared by Technical Committee CEN/TC 336 "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of an identical text or by endorsement, at the latest by May 2015 and conflicting national standards shall be withdrawn at the latest by May 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12594:2007.

In comparison with EN 12594:2007, the following significant changes have been made:

- changed/added wording of the Warning in the Scope;
- normative reference to ISO 5280 Xylene for industrial use – specification has been deleted;
- subclause 5.3: reference to xylene deleted;
- references to hot jacket oven (subclause 6.2) and hot air bath (subclause 7.2) have been deleted;
- changed wording of first paragraph of subclause 7.1.2;
- subclause 7.1.2: time unit added for sample size 2 l to 3 l containers;
- subclause 7.2: maximum temperature for cutbacks has been changed to 60 °C;
- subclause 7.4 has been rephrased.

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

1 Scope

This European Standard specifies a method for preparing samples of bituminous binders in order to test their properties.

WARNING — Use of this European Standard can involve hazardous materials, operations and equipment. This European Standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this European Standard to identify the hazards and assess the risks involved in performing this test method and to implement sufficient control measures to protect individual operators (and the environment). This includes appropriate safety and health practices and determination of the applicability of regulatory limitations prior to use.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 58:2012, *Bitumen and bituminous binders — Sampling bituminous binders*

EN 1425, *Bitumen and bituminous binders — Characterization of perceptible properties*

EN 1427, *Bitumen and bituminous binders — Determination of the softening point — Ring and Ball method*

EN 1429, *Bitumen and bituminous binders — Determination of residue on sieving of bituminous emulsions, and determination of storage stability by sieving*

EN 1431, *Bitumen and bituminous binders — Determination of residual binder and oil distillate from bitumen emulsions by distillation*

EN 12607-1, *Bitumen and bituminous binders — Determination of the resistance to hardening under the influence of heat and air — Part 1: RTFOT method*

EN 12607-2, *Bitumen and bituminous binders — Determination of the resistance to hardening under the influence of heat and air — Part 2: TFOT Method*

EN 12607-3, *Bitumen and bituminous binders — Determination of the resistance to hardening under the influence of heat and air — Part 3: RFT Method*

EN 12697-1, *Bituminous mixtures — Test methods for hot mix asphalt — Part 1: Soluble binder content*

EN 12697-2, *Bituminous mixtures — Test method for hot mix asphalt — Part 2: Determination of particle size distribution*

EN 12697-4, *Bituminous mixtures — Test methods for hot mix asphalt — Part 4: Bitumen recovery: Fractionating column*

EN 12847, *Bitumen and bituminous binders — Determination of settling tendency of bituminous emulsions*

EN 13074-1, *Bitumen and bituminous binders — Recovery of binder from bituminous emulsion or cut-back or fluxed bituminous binders — Part 1: Recovery by evaporation*

EN 13074-2, *Bitumen and bituminous binders — Recovery of binder from bituminous emulsion or cut-back or fluxed bituminous binders — Part 2: Stabilisation after recovery by evaporation*

EN 14023, *Bitumen and bituminous binders — Specification framework for polymer modified bitumens*

EN 14769, *Bitumen and bituminous binders — Accelerated long-term ageing conditioning by a Pressure Ageing Vessel (PAV)*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 58:2012 and the following apply.

3.1

laboratory sample

sample of bituminous binder intended for laboratory tests

Note 1 to entry: It may be a spot sample, a composite sample or a part thereof (a divided sample).

3.2

test sample

sample of bituminous binder produced by treatment or subdivision of a laboratory sample for individual testing

4 Principle

In order to produce the laboratory sample, the test material shall have been sampled in accordance with EN 58.

Perceptible properties of the test material shall be checked in accordance with EN 1425, prior to performing this European Standard.

Homogenize the laboratory sample before the test samples are taken.

For certain tests (7.3.2), transfer the laboratory sample directly to the test sample containers, and for other tests (7.3.3), sieve the laboratory sample prior to testing.

Store the laboratory sample from which the test samples are taken under controlled conditions. Stir gently to render it uniform and warm the sample, if necessary.

Prepare all test samples that are required for one property at the same time.

5 Reagents and materials

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

5.1 Solution S_a

Aqueous solution with a nominal 0,01 mol/l of sodium hydroxide (NaOH) containing a nominal 1 % mass fraction sodium oleate. This solution may be used for preparing anionic emulsion samples. The actual soap solution may be used if available on site, in case of routine tests or for simplicity.

NOTE S_a stands for "anionic solution" as this solution is used for preparing anionic emulsion samples.