

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

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COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (prEN 12594:2023) 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 CEN Enquiry.

This document will supersede EN 12594:2014.

In comparison with the previous edition, the main technical changes are:

- definitions of laboratory sample and test sample have been reviewed;
- definitions of test specimen and of melting have been added;
- reference to most reagents and materials have been deleted as already covered in other standards;
- description of apparatus has been completed;
- procedure in paragraph 7 has been modified to ensure consistency with test standards and to better precise conditions in particular heating time and heating temperatures;
- recommendation on storage of emulsions have been added.

1 Scope

This document specifies a method for preparing samples of bitumen and bituminous binders in order to test their properties.

WARNING — The use of this document can 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 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 1429:2013, *Bitumen and bituminous binders - Determination of residue on sieving of bituminous emulsions, and determination of storage stability by sieving*

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

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

ISO 565:1990, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

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:

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

3.1 laboratory sample

sample of bitumen or bituminous binder incoming into laboratory for tests

Note 1 to entry: Sampling is conducted according to EN 58.

Note 2 to entry: Incoming material containing bitumen or bituminous binders, e.g. asphalt mixtures, are taken according to other procedures than the ones described in EN 58; therefore, they are here not used with the term laboratory sample.

Note 3 to entry: The laboratory sample 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

Note 1 to entry: the same test sample can be treated to prepare various tests in parallel; some test methods need preparation of test specimen, while for others a portion of the test sample will be used directly.

3.3**test specimen**

specimen for specific tests prepared from a test sample

Note 1 to entry: In principle, details on the test specimen preparation are described in the respective test standards, where applicable, and are not within the scope of EN 12594. However, EN 12594 is covering common areas like temperatures or duration of preparation.

3.4**melting**

heating the sample to lower its viscosity and ensure homogeneity while preparing test samples and test specimen

4 Principle

Incoming laboratory samples are prepared for testing depending on their types and their sizes, in as-is state.

5 Reagents and materials

Only reagents of recognized standard analytical grade and water conforming to grade 3 of EN ISO 3696:1995 shall be used.

6 Apparatus**6.1 General**

Usual laboratory apparatus and glassware, together with the following.

6.2 Ventilated laboratory oven with a maximum permissible measurement error of ± 5 °C, checked at midpoint and working space at suitable intervals.

6.3 Indirect heating apparatus, e.g. heating jacket, oil bath with thermometer or equivalent

6.4 Container of appropriate materials (i.e heat resistant and not interacting with the sample) to heat the sample.

6.5 Lid or aluminium foil for container (6.4).

6.6 Any appropriate stirrer, e.g. manual (such as spatula), mechanical equipped with a propeller or magnetic.

6.7 Metal sieve, mesh size 0,500 mm, as described in ISO 565:1990.

6.8 Test sample container of appropriate material with a lid or other closure, or glass conical flask with a ground glass stopper.