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Bitumen and bituminous binders - Determination of the pH value of bituminous emulsions



EESTI STANDARDI EESSÕNA

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ICS 75.140, 91.100.50

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EUROPEAN STANDARD

EN 12850

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2022

ICS 75.140; 91.100.50

Supersedes EN 12850:2009

English Version

Bitumen and bituminous binders - Determination of the pH value of bituminous emulsions

Bitumes et liants bitumineux - Détermination du pH
des émulsions bitumineuses

Bitumen und bitumenhaltige Bindemittel -
Bestimmung des pH-Wertes von Bitumenemulsionen

This European Standard was approved by CEN on 13 June 2022.

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

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

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

Contents	Page
European foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Principle	4
5 Reagents and materials	4
6 Apparatus	5
7 Sampling	5
8 Procedure	5
9 Expression of results	6
10 Precision	6
10.1 General	6
10.2 Repeatability	6
10.3 Reproducibility	6
11 Test report	6
Bibliography	7

European foreword

This document (EN 12850:2022) 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of an identical text or by endorsement, at the latest by January 2023, and conflicting national standards shall be withdrawn at the latest by January 2023.

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 12850:2009.

The main technical changes are:

- the number of required standard buffer solutions is at least two which bracket the expected pH value to be measured (5.4 and Clause 8);
- the requirement to use certified buffer solutions and to follow manufacturer’s instructions for their verification and storage conditions (5.4);
- the requirement to calibrate according to the manufacturer’s instructions for the used pH meter and with the obligation to test pH = 7 and to frame the expected pH value (Clause 8);
- the requirement that the calibration temperatures are compliant with those indicated for each buffer solution (Clause 8).

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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 measuring the pH value of bituminous emulsions.

It is applicable to anionic, cationic bituminous emulsions and bituminous emulsions prepared by means of non-ionic surfactant.

NOTE In certain circumstances, the pH value can provide an indication of the ionic character of a bituminous emulsion when confirmed by a particle polarity test conforming to EN 1430 [1].

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 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)*

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

3.1

pH value

negative logarithm to the base of 10 of the concentration of hydrogen ions in moles per litre of solution

4 Principle

A pH meter and electrode are calibrated using standard buffer solutions. The pH value of the test solution is then determined.

5 Reagents and materials

5.1 Water, conforming to grade 3 of EN ISO 3696:1995.

5.2 Xylene or toluene, or any cleaning agent enabling the dissolution of the bitumen. Use general purpose reagents.