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BS EN 1426:2015
BS 2000-49:2015



BSI Standards Publication

Bitumen and bituminous binders — Determination of needle penetration

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This British Standard is the UK implementation of EN 1426:2015. It supersedes BS EN 1426:2007/BS 2000-49:2007 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PTI/13, Petroleum Testing and Terminology.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Amendments/corrigenda issued since publication

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July 2015

ICS 75.140; 91.100.50

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English Version

Bitumen and bituminous binders - Determination of needle penetration

Bitumes et liants bitumineux - Détermination de la pénétrabilité à l'aiguille

Bitumen und bitumenhaltige Bindemittel - Bestimmung der Nadelpenetration

This European Standard was approved by CEN on 27 May 2015.

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Foreword

This document (EN 1426:2015) has been prepared by Technical Committee CEN/TC 336 "Bituminous binders", the secretariat of which is held by AFNOR.

This document supersedes EN 1426:2007.

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of an identical text or by endorsement, at the latest by January 2016, and conflicting national standards shall be withdrawn at the latest by January 2016.

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.

The major changes to the standard at this revision have been:

- the normative reference to mercury thermometers has been deleted (see 5.7 and Annex A) and
- Table 1 and the description of 6.4 have been clarified and improved.

Apart from this various smaller adjustments have been made.

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, 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.

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1 Scope

This European Standard specifies a method for determining the consistency of bitumen and bituminous binders. Normal procedure is described for penetrations up to $(330 \times 0,1)$ mm, but for penetrations above this value, up to $(500 \times 0,1)$ mm, different operating parameters are necessary.

WARNING — Use of this European Standard may 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 establish appropriate safety and health practices and determine 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, *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 10088-3, *Stainless steels - Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes*

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

EN 12597, *Bitumen and bituminous binders - Terminology*

EN ISO 6508-1, *Metallic materials - Rockwell hardness test - Part 1: Test method (ISO 6508-1)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12597 and the following applies.

3.1 penetration
consistency, expressed as the distance in tenths of a millimetre that a standard needle will penetrate vertically into a sample of the material under specified conditions of temperature, load and loading duration

4 Principle

The penetration of a standard needle into a conditioned test sample shall be measured. For penetrations up to approximately $(330 \times 0,1)$ mm the operating parameters shall be a test temperature of 25 °C, an applied load of 100 g, and a loading duration of 5 s. For penetrations expected above approximately $(330 \times 0,1)$ mm, the test temperature shall be reduced to 15 °C but the operating parameters of the applied load and the loading duration remain unchanged. Other conditions can be applied; also to reflect different purposes – e.g. 200 g, 60 s and 5 °C may be used as indicative for low temperature performance.