BRITISH STANDARD

BS EN 12607-1:2000
BS 2000-460.1:2000

Methods of test for petroleum and its products — BS 2000-460.1: Bitumen and bituminous binders — Determination of the resistance to hardening under the influence of heat and air —

Part 1: RTFOT method (Identical with IP 460.1:2000)

The European Standard EN 12607-1:1999 has the status of a British Standard

ICS 75.140; 91.100.50

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee PTI/13, Petroleum testing and terminology, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

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

The Institute of Petroleum publishes and sells all parts of BS 2000, and all BS EN petroleum test methods that would be part of BS 2000, both in its annual publication "Standard methods for analysis and testing of petroleum and related products and British Standard 2000 Parts" and individually.

Further information is available from:

The Institute of Petroleum, 61 New Cavendish Street, London W1M 8AR. Tel: 020 7467 7100. Fax: 020 7255 1472.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled "International Standards Correspondence Index", or by using the "Find" facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 13 and a back cover.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12607-1

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English version

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

Bitumes et liants bitumineux - Détermination de la résistance au durcissement sous l'effet de la chaleur et de l'air - Partie 1: Méthode RTFOT

Bitumen und bitumenhaltige Bindemittel - Bestimmung der Beständigkeit gegen Verhärtung unter Einfluß von Wärme und Luft - Teil 1: RTFOT Verfahren

This European Standard was approved by CEN on 5 September 1999.

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 19, Petroleum products, lubricants and related products, the Secretariat of which is held by NNI.

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 April 2000, and conflicting national standards shall be withdrawn at the latest by April 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This European Standard is based on ASTM D 2872-88.

This European Standard EN 12607 consists of the following parts under the general title, Bitumen and bituminous binders - Determination of the resistance to hardening under the influence of heat and air:

- Part 1: RTFOT method;
- Part 2: TFOT method;
- Part 3: RFT method.

In this standard, Annex A is normative.

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1 Scope

This European Standard specifies a method for measuring the combined effects of heat and air on a moving thin film of bitumen or bituminous binder simulating the hardening which a bituminous binder undergoes during mixing in an asphalt mixing plant.

The method described is not applicable to some modified binders or to those whose viscosity is too high to provide a moving film.

The method is referred to as RTFOT i.e. Rolling Thin Film Oven Test.

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

2 Normative References

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 58,	*Sampling bituminous binders*.
EN 1425,	*Bitumen and bituminous binders - Characterization of perceptible properties*.
EN 1426,	*Bitumen and bituminous binders - Determination of needle penetration*.
EN 1427,	*Bitumen and bituminous binders - Determination of softening point - Ring and ball method.*
EN 12594,	*Bitumen and bituminous binders - Preparation of test samples.*
EN 12596,	*Bitumen and bituminous binders - Determination of dynamic viscosity by vacuum capillary.*
prEN 12735-1:1997	*Copper and copper alloys - Seamless, round copper tubes for air conditioning and refrigeration - Part 1: Tubes for piping systems*.

3 Principle

A moving film of bituminous binder is heated in an oven to a specified temperature for a given period of time with a constant supply of air.

The effects of heat and air are determined on the basis of the change in mass (expressed as a percentage) or as the change in the bituminous binder's characteristics such as penetration (EN 1426), softening point (EN 1427) or dynamic viscosity (EN 12596) before and after the period in the oven.

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