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I.S. EN 12591:2009

Bitumen and bituminous binders - Specifications for paving grade bitumens

I.S. EN 12591:2009

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EUROPEAN STANDARD

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Supersedes EN 12591:1999

English Version

Bitumen and bituminous binders - Specifications for paving grade bitumens

Bitumes et liants bitumineux - Spécifications des bitumes routiers

Bitumen und bitumenhaltige Bindemittel - Anforderungen an Straßenbaubitumen

This European Standard was approved by CEN on 14 March 2009.

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 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 Management Centre has the same status as the official versions.

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Foreword

This document (EN 12591:2009) 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of an identical text or by endorsement, at the latest by October 2009, and conflicting national standards shall be withdrawn at the latest by October 2009.

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.

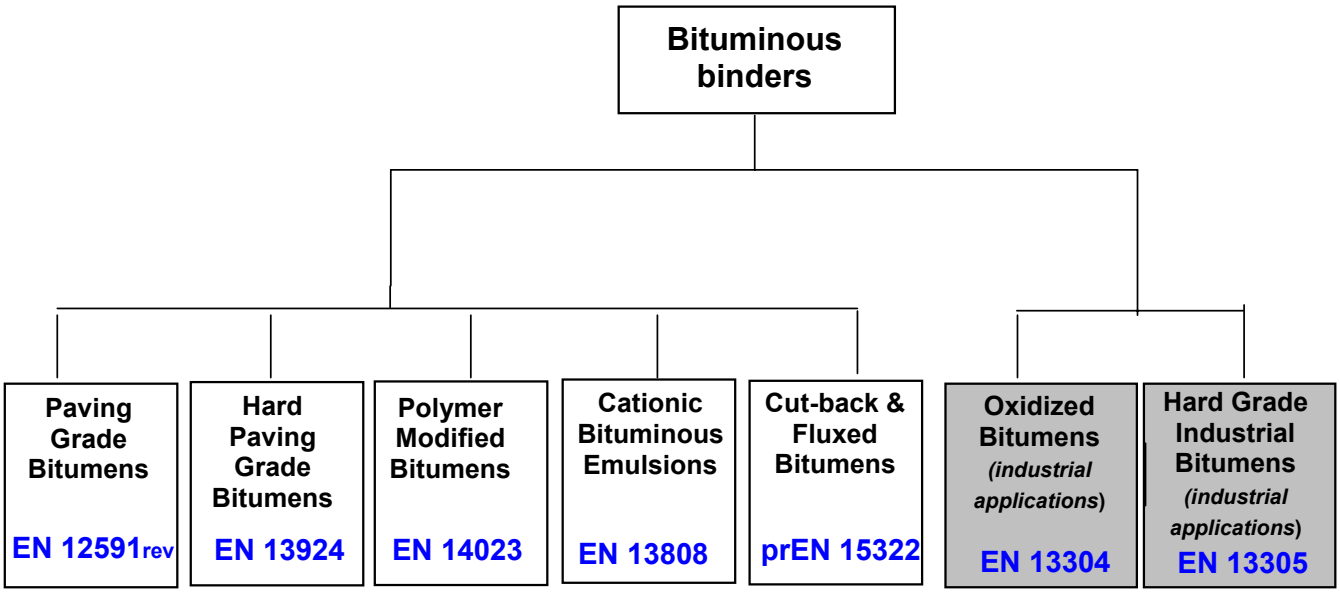
This document supersedes EN 12591:1999.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Construction Product Directive (89/106/EEC).

For relationship with EU Construction Product Directive (89/106/EEC), see informative Annex ZA, which is an integral part of this document.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

This European Standard is part of a family of European Standards for bitumen as follows:



NOTE Industrial applications are not covered by mandate M/124.

Introduction

This European Standard describes the performance required for a number of properties of bitumen and bituminous binders, as shown in Table 1 to Table 3 inclusive. Some of the properties are required by regulation in at least one EU or EFTA country (see Table ZA.1.1 and Table ZA.1.2) and some are included only for the benefit of industry to assist specifying appropriate performances for different end uses.

For paving grade bitumen, the testing of the following also gives an indication that its intrinsic cohesive properties are adequate for normal use.

a) Consistency at intermediate service temperature;

b) Consistency at elevated service temperature;

c) Durability of consistency.

The properties of "adhesion" and "setting ability" are indicated by tests used on either the finished asphalt mixtures or on aggregate-bitumen combinations, i.e. EN 12697–1, EN 12697–11, EN 12697–12, EN 12697–26 [1 to 4], rather than tests on the bitumen itself.

This European Standard still consists of specifications based upon traditional test methods. Work programs are being undertaken to evaluate alternative properties and test methods in order to develop new specifications that are more directly performance-related. The progress of those work programmes are reported in CEN/TR 15352 [17], and the results will be considered for future revisions of this European Standard.

1 Scope

This European Standard provides a framework for specifying a range of properties and relevant test methods for bitumens, which are suitable for use in the construction and maintenance of roads, airfields and other paved areas, together with requirements for evaluation of conformity.

This European Standard does not directly address 'cohesion, adhesion and setting ability' (see Introduction).

NOTE Although industrial bitumens are specified according to EN 13305, it should be underlined that paving grade bitumens, specified according to this European Standard, can also be used for industrial applications.

2 Normative references

The following referenced documents are indispensable for the application 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 1426, *Bitumen and bituminous binders – Determination of needle penetration*

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

EN 12592, *Bitumen and bituminous binders – Determination of solubility*

EN 12593, *Bitumen and bituminous binders – Determination of the Fraass breaking point*

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

EN 12595, *Bitumen and bituminous binders – Determination of kinematic viscosity*

EN 12596, *Bitumen and bituminous binders – Determination of dynamic viscosity by vacuum capillary*

EN 12597, *Bitumen and bituminous binders – Terminology*

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 15326, *Bitumen and bituminous binders – Measurement of density and specific gravity – Capillary-stoppered pyknometer method*

EN ISO 2592, *Determination of flash and fire points – Cleveland open cup method (ISO 2592:2000)*

EN ISO 2719, *Determination of flash point – Pensky-Martens closed cup method (ISO 2719:2002)*

EN ISO 4259, *Petroleum products – Determination and application of precision data in relation to methods of test (ISO 4259:2006)*

EN ISO 9001:2000, *Quality management systems – Requirements (ISO 9001:2000)*