

## **Bituumen ja bituumensideained. Kivistumisjärgude spetsifikatsioonid**

Bitumen and bituminous binders - Specifications for  
hard paving grade bitumens

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13924:2006 sisaldab Euroopa standardi EN 13924:2006+AC:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 29.06.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13924:2006 consists of the English text of the European standard EN 13924:2006+AC:2006.</p> <p>This document is endorsed on 29.06.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This document provides a framework for specifying the properties and relevant test methods for hard paving grade bitumens which are suitable for use in the construction and maintenance of roads, airfields and other paved areas.</p>	<p><b>Scope:</b></p> <p>This document provides a framework for specifying the properties and relevant test methods for hard paving grade bitumens which are suitable for use in the construction and maintenance of roads, airfields and other paved areas.</p>
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ICS 93.080.20

English Version

## Bitumen and bituminous binders - Specifications for hard paving grade bitumens

Bitumes et liants bitumineux - Spécifications des bitumes  
routiers de grade dur

Bitumen und bitumenhaltige Bindemittel - Anforderungen  
an harte Straßenbaubitumen

This European Standard was approved by CEN on 23 March 2006.

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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 Central Secretariat has the same status as the official versions.

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## Foreword

This document (EN 13924:2006) 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 November 2006, and conflicting national standards shall be withdrawn at the latest by December 2008.

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 Products Directive 89/106/EEC.

For relationship with EU Directive, 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, 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 United Kingdom.

This standard is part of a family of European Standards for bitumens as follows:

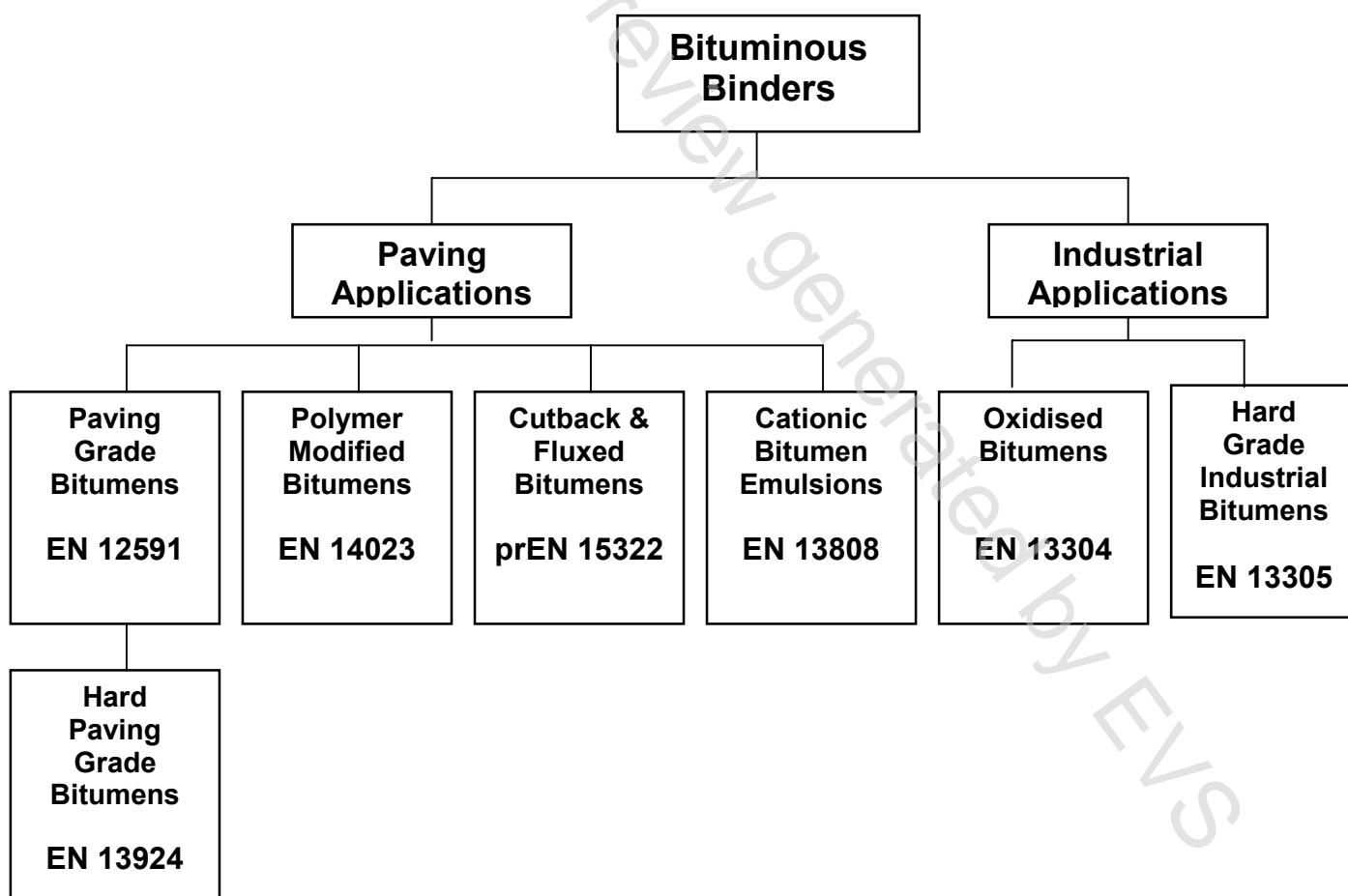


Figure 1 — European Standards for Bitumens

## Introduction

This document is closely related to EN 12591 [1]. This introduction gives information on the basis for selection of the grades defined in this document, the status of certain of the properties and test methods, and proposed development of this document.

The general principle adopted in the development of EN 12591 [1] was to provide a range of grades suitable for the manufacture of the materials for road construction and maintenance used, and the climatic and traffic conditions encountered, in all the Member States. This document extends the range of grades specified in EN 12591 [1], following the wider use of materials for road construction and maintenance having very high modulus values.

This standard can be read in conjunction with National Guidance Documents, where they exist, which have the opportunity to identify the appropriate grade in the territory of use.

This document has been based on the regional requirements identified when the process started. It is a first step in harmonising the so-called "empirical" specifications and it is intended to evaluate alternative properties and test methods to develop new specifications that are more directly performance-related. To this end, work programmes are being undertaken and the results will be considered for a future revision of this document. The progress of those work programmes are reported in CEN/TR 15352 [2], and the results will be considered for future revisions of this European Standard.

For paving grade bitumen the testing of the three essential characteristics, according to the mandate M/124, also gives an indication that its intrinsic cohesive properties are adequate for its normal use. The properties of "adhesion" and "setting ability" are indicated by tests used on the finished asphalt mixtures, EN 12697-1, EN 12697-11, EN 12697-12, EN 12697-26 (respectively [3] to [6]), rather than tests on the bitumen itself.

The introduction of technical classes of convenience (see Table 1) enables the selection of the most suitable specification for the bitumen taking account of local conditions of climate and use.

Hard paving grade bitumens are designated by the penetration range at 25 °C, e.g. 10/20 pen or 15/25 pen (see Table 1).

Table B.1 (Annex B) lists informative properties which suppliers of hard paving grades of bitumen are encouraged to produce as "Supplier Declared Values". It is hoped that the data so provided will form the basis for developing performance-related specifications in the future.

## 1 Scope

This document provides a framework for specifying the properties and relevant test methods for hard paving grade bitumens which are suitable for use in the construction and maintenance of roads, airfields and other paved areas.

This framework covers three essential characteristics according to the mandate M/124: EU Construction Products Directive 89/106/EEC :

- "Consistency at intermediate service temperature";
- "Consistency at elevated service temperature";
- "Durability" of the above.

## 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 12607-3, *Bitumen and bituminous binders – Determination of the resistance to hardening under influence of heat and air – Part 3: RFT method*

prEN 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 4259, *Petroleum products - Determination and application of precision data in relation to methods of test (ISO/DIS 4259:2004)* EN ISO 9001, *Quality management systems - Requirements (ISO 9001:2000)*

## 3 Terms and definitions

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