

# Bitumen and bituminous binders — Framework for specification of hard industrial bitumens

ICS 75.140, 91.100.50

## National foreword

This British Standard is the UK implementation of EN 13305:2009. It supersedes BS EN 13305:2003 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/510/19, Bitumen and related products.

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

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## Bitumen and bituminous binders - Framework for specification of hard industrial bitumens

Bitumes et liants bitumineux - Cadre de spécifications des bitumes industriels durs

Bitumen und bitumenhaltige Bindemittel - Spezifikationsrahmen für Hartbitumen für industrielle Anwendungen

This European Standard was approved by CEN on 10 February 2009.

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## Foreword

This document (EN 13305:2009) 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of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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## 1 Scope

This European Standard provides a framework for the specification of hard industrial bitumens used mainly in flooring, varnishes, mineral rubber, roofing and mastic.

Within Europe several types of hard industrial bitumen are used, and dependent upon traditional practices, different grades may be used for the same purpose. The framework given in this European standard provides a basis for quality agreements to be established between supplier and client.

The hard industrial bitumen products are graded by the limits of the ring and ball softening point values, expressed as multiples of 5, and are characterised by an H in front of the values.

## 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 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 13303, *Bitumen and bituminous binders – Determination of the loss in mass after heating of industrial bitumen*

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

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

## 3 Properties and test methods

Hard industrial bitumens are specified according to the limits of softening point values. The specification of hard industrial bitumens with stated values shall be made according to the rules given in Table 1:

**Table 1 — Properties and test methods**

Property	Test methods	Unit	Limits and tolerance
Ring and ball softening point <sup>a</sup>	EN 1427	°C	± 5 of mid-point value <sup>e</sup>
Penetration at 25 °C <sup>b</sup>	EN 1426	0,1 mm	c
Solubility in toluene <sup>d</sup>	EN 12592	%	≥ 99,0
Loss in mass after heating	EN 13303	%	NR <sup>c</sup>
Flash point	EN ISO 2592	°C	> 250
Density	EN 15326	kg/m <sup>3</sup>	NR <sup>c</sup>
<p>a Ring and ball softening point testing for hard industrial bitumens are carried out in glycerol, as the values typically are above 80 °C.</p> <p>b Taking into account the precision of the test method and the specification limits, it may be necessary to carry out the test at 40 °C.</p> <p>c NR: No requirements. Values can be agreed between the clients and the suppliers</p> <p>d If other solvents are used, it shall be stated in the test report.</p> <p>e Mid-point value: value which defines the ring and ball softening point class</p>			

#### 4 Typical grades

Typical grades for hard industrial bitumen are:

H 80/90;  
H 85/95;  
H 90/100;  
H 100/110;  
H 155/165.

EXAMPLE H 85/95 means that the softening point of the product is between 85 °C and 95 °C.

NOTE This list does not imply that all grades are available in all countries, neither is it intended to be comprehensive or limiting. Other grades may be supplied in accordance with the local practices, and by agreement between client and supplier.

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