

BS 594987:2015



BSI Standards Publication

# Asphalt for roads and other paved areas – Specification for transport, laying, compaction and product-type testing protocols

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## Foreword

### Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 March 2015. It was prepared by Subcommittee B/510/1, *Asphalt products* and under the authority of Technical Committee B/510, *Road materials*. A list of organizations represented on this committee can be obtained on request to its secretary.

### Supersession

This British Standard supersedes BS 594987:2010, which is withdrawn.

### Relationship with other publications

This British Standard is published concurrently with PD 6691:2015 as the two documents have been revised and cross reference each other.

### Information about this document

This edition takes into account the change from the Construction Products Directive to the Construction Products Regulation [1] and that CE marking in the UK is now mandatory.

It also clarifies errors and anomalies in the previous version and removes references to previous British standards which have been superseded by the European standards.

This British Standard specifies requirements for transporting asphalt mixtures, for preparatory site work and for laying and compacting asphalt mixtures, including the covering of concrete and sett paving. Annexes contain protocols to be used for initial product-type testing of asphalt materials in accordance with BS EN 13108-20.

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Annex A gives recommendations for delivery and rolling temperatures. Annex B provides indicative rates of spread for average mixture types. Annex C, Annex D, Annex E, Annex F and Annex G give recommendations on protocols for the initial product-type testing of asphalt materials in accordance with BS EN 13108-20; in particular, guidance is given on sampling by coring, assessing for target composition, voids, compaction and deformation resistance. Annex H provides recommendations for a mixture design that determines the design binder content of hot rolled asphalt surface course mixtures. Annex I provides advice on the calibration procedure for indirect density gauges. Annex J provides advice on the use of tack coats. Annex K gives a method for determining the maximum binder content that porous asphalt and other asphalt can carry without excessive binder drainage during transportation and subsequent laying. Annex L provides guidance on the design of BBA mixtures for airfield pavements.

### Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

*Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.*

Requirements in this standard are drafted in accordance with *Rules for the structure and drafting of UK standards*, subclause J.1.1, which states, "Requirements should be expressed using wording such as: 'When tested as described in Annex A, the product shall ...'". This means that only those products that are capable of passing the specified test shall conform to this standard.

### **Contractual and legal considerations**

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard cannot confer immunity from legal obligations.**

## 1 Scope

This British Standard specifies requirements for the transport, laying and compaction of asphalt mixtures conforming to BS EN 13108-1, BS EN 13108-4 and BS EN 13108-5, and described in PD 6691, from the time that they leave the mixing plant until they are placed on the road ready to receive a superimposed layer or traffic. It also includes requirements for preliminary work at the laying site needed to ensure that the substrate is fit to receive the asphalt and for the application of bond coats.

Although this standard does not contain explicit requirements for asphalt materials covered in other parts of BS EN 13108 or other proprietary asphalt mixtures, the general requirements of this standard can be applied to those mixtures, in addition to special requirements for particular mixtures specified in individual quality plans and/or method statements.

*NOTE 1 The term "asphalt" used in this standard is the generic term used to describe the wide range of mixtures of aggregate and bituminous binder individually known as asphalt concrete (AC), hot rolled asphalt (HRA), stone mastic asphalt (SMA), porous asphalt (PA) or mastic asphalt and other proprietary materials which are available for use in constructing and maintaining roads and other paved areas that are on the market in the UK.*

*NOTE 2 Methods for ensuring that the correct surface drainage characteristics are imparted to pavements with PA surface course are outside the scope of this British Standard.*

*NOTE 3 BS EN 13108-20 specifies tests for determining the conformity of a mix to any of the other parts of BS EN 13108. This is similar to a mix design validation or job mix trial. BS EN 13108-20 offers some choice in the way in which specimens are to be prepared for the purposes of product-type testing. Requirements for sample preparation for the demonstration of product-type test properties are given in PD 6691:2015, Clause 13 and are linked to the relevant protocols/annexes in this British Standard, as relevant.*

In the case of HRA, a mixture design protocol is provided as informative text in Annex H, and requirements are specified for providing a rough-textured surface on the surface course to provide skid-resistance.

This standard does not specify requirements for asphalt incorporating bitumen emulsion binders.

This standard does not cover additional or specific requirements relating to the laying and compaction of reduced temperature asphalts.

*NOTE 4 BS EN 13108 is being reviewed and it is anticipated that any revisions might cover low-temperature and cold mixtures.*

## 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.

BS 598-1:2011, *Sampling and examination of bituminous mixtures for roads and other paved areas – Part 1: Methods for the measurement of the rate of spread of coated chippings and the temperature of bituminous mixtures using non-contact temperature-measuring devices and for the assessment of the compaction performance of a roller*

BS 1707, *Specification for hot binder distributors for road surface dressing*

BS 2000-223, *Methods of test for petroleum and its products – Part 223: Determination of ash of petroleum products containing mineral matter*