

Specification for

Mastic asphalt for building and civil engineering (limestone aggregate)

ICS 75.140

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Elements and Components (of Diverse Materials) for Buildings Standards Committee (ECB/-) to Technical Committee ECB/31 upon which the following bodies were represented:

- Association of Consulting Scientists
- British Tar Industry Association
- Department of the Environment (Property Services Agency)
- Federation of Civil Engineering Contractors
- Institution of Civil Engineers
- Low Temperature Coal Distillers' Association of Great Britain
- Mastic Asphalt Council and Employers' Federation
- Mastic Asphalt Producers' Association
- Royal institute of British Architects
- Society of Chemical Industry

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Foreword

This revision of BS 988, BS 1076, BS 1097 and BS 1451 has been prepared under the direction of the Elements and Components (of Diverse Materials) for Buildings Standards Committee. It supersedes BS 988, BS 1076, BS 1097, BS 1451:1973, which is withdrawn.

This standard has been revised under a new BS number, however the original BS numbers, preceded by a letter, are retained to classify the types of mastic asphalt. In revising this standard all requirements relating to flux oils have been deleted as they are no longer used. Appendix A gives guidance on the grades and thicknesses of mastic asphalt flooring recommended for a variety of applications. The recommendations relating to the on-site remelting of mastic asphalt, the addition of coarse aggregate to the heavy duty grade of flooring during remelting and the hardness numbers to be obtained on material at the time of laying, are given in Appendix B. Information on the mass per unit area of mastic asphalt is given in Appendix C. The opportunity has been taken to update terminology, to adjust certain specification limits to take account of current practices, and to cross-refer to BS 5284 in respect of sampling and testing procedures for mastic asphalt.

Information regarding the methods of application is given in the relevant British Standard Codes of Practice, viz: CP 102, CP 144-4 and CP 204-2.

Product certification. Users of this British Standard are advised to consider the desirability of third party certification of product conformity with this British Standard based on testing and continuing surveillance, which may be coupled with assessment of a supplier's quality systems against the appropriate Part of BS 5750.

Enquiries as to the availability of third party certification schemes may be forwarded by BSI to the Association of Certification Bodies. If a third party certification scheme does not already exist, users should consider approaching an appropriate body from the list of Association members.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard specifies requirements for roofing, tanking and flooring grades of mastic asphalt for building and civil engineering purposes, composed of ground limestone, coarse aggregate and pigment if required, incorporated with asphaltic cements.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard the following definitions apply.

2.1

bitumen

a viscous liquid, or a solid, consisting essentially of hydrocarbons and their derivatives, which is soluble in carbon disulphide¹⁾; and is substantially non-volatile and softens gradually when heated. It is black or brown in colour and possesses waterproofing and adhesive properties. It is obtained by refinery processes from petroleum, and is also found as a natural deposit or as a component of naturally occurring asphalt in which it is associated with mineral matter

2.2

asphaltite

a naturally occurring substance allied to bitumen, substantially soluble in carbon disulphide¹⁾ and characterized by a high softening point

2.3

asphalt

a mixture of bitumen with a substantial proportion of inert mineral matter

NOTE This term is normally qualified by the indication of the origin, e.g. natural rock asphalt, Trinidad Lake asphalt; or type, e.g. mastic asphalt, rolled asphalt.

2.4

refined lake asphalt

a naturally occurring mixture of bitumen and finely divided mineral matter, which is found in well-defined surface deposits, and from which unwanted components such as water and vegetable matter have been removed

2.5

lake asphalt-bitumen mixture

a homogeneous mixture of refined lake asphalt and bitumen, with or without the addition of flux oil, used in the manufacture of asphalts and other coated materials

2.6

asphaltic cement

bitumen or a mixture of refined lake asphalt with bitumen and/or asphaltite having adhesive qualities suitable for the manufacture of mastic asphalt

2.7

limestone

a naturally occurring consolidated stratified calcareous rock

NOTE The term is used here in a restricted geological sense.

2.8

pigment

finely ground metallic oxide

2.9

mastic asphalt

a type of asphalt composed of suitably graded mineral matter and asphaltic cement in such proportions as to form a coherent, voidless, impermeable mass, solid or semi-solid under normal temperature conditions, but sufficiently fluid when brought to a suitable temperature to be spread by means of a hand float, or by mechanical means

3 Classification

The types of mastic asphalt are classified as follows:

R988: mastic asphalt for roofing (limestone aggregate);

F1076: mastic asphalt for flooring (limestone aggregate);

T1097: mastic asphalt for tanking and damp-proof courses (limestone aggregate);

F1451: coloured mastic asphalt for flooring (limestone aggregate).

Types F1076 and F1451 mastic asphalt for flooring are graded according to usage as follows:

grade I: special hard flooring;

grade II: light duty flooring;

grade III: medium duty flooring;

grade IV: heavy duty flooring.

NOTE 1 Types F1076 and F1451 do not cover grades of mastic asphalt for special applications such as chemical resistant, oil resistant or spark free flooring, for which purposes proprietary variants are available, nor are they suitable for external applications such as loading bays, balconies and rooftop car parks for which paving grade mastic asphalt is specified in BS 1446 and BS 1447.

NOTE 2 A guide to the selection of the appropriate grade of flooring is given in Appendix A.

¹⁾ The internationally agreed definition of bitumen relates to its solubility in carbon disulphide but in the UK trichloroethylene is used as the test solvent as it is safer than carbon disulphide and has the same solvent power for all practical purposes.