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Specification

Dense tar surfacing for roads and other paved areas

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Co-operating organizations

The Road Engineering Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

- Asphalt and Coated Macadam Association*
- Association of Consulting Engineers
- British Quarrying and Slag Federation*
- British Tar Industry Association*
- Cement and Concrete Association
- Concrete Society
- Contractors' Plant Association
- County Surveyors' Society*
- Department of the Environment*
- Department of the Environment (Transport and Road Research Laboratory)*
- Federation of Civil Engineering Contractors
- Federation of Manufacturers of Construction Equipment and Cranes
- Greater London Council*
- Institute of Petroleum*
- Institute of Quarrying
- Institution of Civil Engineers*
- Institution of Highway Engineers*
- Institution of Municipal Engineers*
- Institution of Structural Engineers
- Ministry of Defence
- Refined Bitumen Association
- Road Emulsion Association
- Road Surface Dressing Association
- Sand and Gravel Association Limited*
- Society of Chemical Industry*
- Individual experts

The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

- Standardization of Tar Products Test Committee
- Individual expert

This British Standard, having been approved by the Road Engineering Industry Standards Committee, was published under the authority of the Executive Board on 28 November 1975

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The following BSI references relate to the work on this standard:
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Amendments issued since publication

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Foreword

The British Road Tar Association¹⁾ publication “Dense Tar Surfacing”, originally published in 1954, was last fully revised in 1966; it was reprinted in 1968 with minor amendments, and an amendment sheet was issued in 1972 in which there were alterations to the fine aggregate grading in Table 2 for DTS wearing course (crushed rock or slag fine aggregate).

This British Standard, prepared under the authority of the Road Engineering Industry Standards Committee, is a fully metricated version of the BRTA specification published in 1966, including the subsequent amendments and with certain deletions. The specification for fine-textured wearing-course material is now included in BS 4987 “Coated macadam for roads and other paved areas” and is called “6 mm nominal size fine-textured tarmacadam”. BS 4987 also includes 40 mm, 28 mm and 20 mm nominal size dense tarmacadam basecourse materials. Reference should be made to that British Standard for those materials.

NOTE This standard has been prepared using metric units as part of the national policy to change to the metric system. As a consequence there will be a transitional period during which material will still be supplied that has been produced using equipment based on imperial sizes, and the original BRTA specification with 1972 amendments will also continue to apply during this period. It is important, therefore, that the supplier should state, on his advice note to the purchaser, the specification to which he has supplied the material.

Although the specification requires that the mixed material shall, on analysis, comply with the requirements of the respective tables, it should be realized that when any sampling procedure is used complete compliance with specification may not always be achieved with every sample tested, even when the material is satisfactory. This should be borne in mind when deciding whether or not the material is acceptable.

It has not been found possible at this stage to introduce into the standard a system of compliance based on statistical methods.

The term “mass” has been used in place of the term “weight” in this standard. There is no explicit SI unit of weight, and when “weight” is used in the sense of “mass” the unit is the kilogram. The metric tonne (1 000 kg) is also used.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity for illegal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, 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⁾ Now the British Tar Industry Association

Section 1. General requirements

1 Scope

This British Standard specifies the composition, manufacture, testing and transport of dense tar surfacing (DTS), defined in BS 892 as

a hot process wearing course material consisting of aggregate, filler and road tar, in such gradings and proportions that when spread and compacted it provides a close textured impervious mixture.

Notes on the use of DTS are given in Appendix A. Recommendations for laying the materials and for measuring their temperatures are included in Appendix B and Appendix C.

The mixtures specified are as follows:

DTS (crushed rock or slag fine aggregate)

35 % coarse aggregate content 14 mm and 10 mm nominal size

50 % coarse aggregate content 14 mm and 10 mm nominal size

DTS (sand fine aggregate)

35 % coarse aggregate content 14 mm and 10 mm nominal size

50 % coarse aggregate content 14 mm and 10 mm nominal size

2 References

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

3 Sampling and testing

The importance of obtaining representative samples cannot be over emphasized. Sampling and testing shall be carried out in accordance with the appropriate clauses of the following British Standards:

Binders: BS 76 and BS 3690-1 and BS 3690-3

Aggregates: BS 812 and BS 1047

Dense tar surfacing: BS 598

The analysis methods given in BS 598 are based on wet sieving. The passing 75 μm values specified in Table 2 and Table 5 of this standard have been adjusted to allow for this and therefore no wet/dry sieving correction shall be employed.

4 Constituent materials

4.1 Binder. The tar shall conform to the requirements of BS 76. The viscosity of the tar shall be selected according to the traffic volume and the climatic conditions. The following figures are given as a guide:

Category	Grade
A 300 c.v.d. or more	C54
B 50 c.v.d. to 300 c.v.d.	C50 or C54
C less than 50 c.v.d.	C46 or C50

NOTE Traffic volume in commercial vehicles per day (c.v.d.) is the number of such vehicles, being defined as goods or public service vehicles of unladen mass exceeding 1 500 kg, counted normally *in one direction* over 16 h. The levels given above refer to the existing traffic levels, not the projected levels.

The supplier shall state the proportion of tar which is insoluble in the toluene or other solvent used for the determination of binder content together with the density of the tar at 20 °C.

4.2 Aggregate

4.2.1 Coarse aggregate. The coarse aggregate shall be crushed rock, slag or gravel as approved by the purchaser and shall be substantially free from material passing a 3.35 mm BS sieve²⁾.

When gravel is used the clay and silt content shall not exceed 1 % by mass of the coarse aggregate when determined in accordance with the sedimentation or decantation methods given in BS 812-1. In the event of a dispute the sedimentation method shall be used.

4.2.2 Fine aggregate. For the purposes of this standard, fine aggregate is material substantially passing a 3.35 mm BS test sieve.

The fine aggregate shall consist of crushed rock, slag or sand or mixtures thereof and the type shall be subject to approval by the purchaser. When sand is used the clay and silt content shall not exceed 3 % by mass of the fine aggregate when determined in accordance with the sedimentation or decantation methods given in BS 812-1. In the event of a dispute the sedimentation method shall be used.

4.2.3 Crushed rock. Crushed rock shall be hard, clean, durable material of one or more of the types listed below. The supplier shall, if required by the purchaser, inform him of the group, or groups, to which the aggregate belongs.

- Granite group
- Basalt group
- Gabbro group
- Porphyry group
- Quartzite group

²⁾ BS 410.