

Specification for

Hot binder distributors for road surface dressing

UDC 625.75.088 (083.71)

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

BSI
Documents

AVA

Document Sharing Hub

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Road Engineering Standards Policy Committee (RDB/-) to Technical Committee RDB/22, upon which the following bodies were represented:

- British Aggregate Construction Materials Industries
- British Tar Industry Association
- Chemical Industries Association
- County Surveyors' Society
- Department of Transport
- Engineering Industries Association
- Federation of Manufacturers of Construction Equipment and Cranes
- Institution of Highways and Transportation
- Mastic Asphalt Council and Employers' Federation
- Refined Bitumen Association Ltd.
- Road Emulsion Association Ltd.
- Road Surface Dressing Association

This British Standard, having been prepared under the direction of the Road Engineering Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on 31 January 1990

© BSI 06-1999

First published, March 1951
First revision, December 1959
Second revision, August 1970
Third revision, January 1990

The following BSI references relate to the work on this standard:
Committee reference RDB/22
Draft for comment 87/13407 DC

ISBN 0 580 17350 X

Amendments issued since publication

Amd. No.	Date of issue	Comments

Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Definitions	1
3 Binder distributors	1
4 Binder tanks	1
5 Mechanical distribution systems	2
Appendix A Method of test for uniformity of transverse distribution of binder (depot tray test)	4
Appendix B Method of test for the determination of rate of spread of binder	7
Figure 1 — Typical results of test for uniformity of transverse distribution of binder	5
Figure 2 — Example of a record sheet for depot tray test	6
Figure 3 — Example of a record sheet for determination of rate of spread of binder	9
Publications referred to	Inside back cover

Foreword

This British Standard has been prepared under the direction of the Road Engineering Standards Policy Committee and is a revision of BS 1707:1970 which is withdrawn.

This standard applies to certain mobile or transportable machines for distributing bituminous binders in the surface dressing of roads by mechanical means, or by hand spraying.

This standard sets down certain basic mechanical requirements for binder distributors but recognizes the opportunities which exist for some features to be enhanced with further advances in technology and the techniques of surface dressing.

This standard establishes requirements for the uniformity of distribution of the binder. It specifies test procedures to establish that the mechanical equipment is capable of meeting the requirements for uniformity of transverse distribution, and also specifies a new test to establish that the machinery complies with the required level of distribution in the field.

Attention is drawn to the Road Vehicles (Construction and Use) Regulations 1986 and the Health and Safety at Work etc. Act 1974.

Particular attention is drawn to the potential fire hazard arising from the transport and distribution of hot bituminous binders.

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 from legal 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 Scope

This British Standard specifies requirements for machines for transporting and distributing hot binder during the surface dressing of roads. The machines may be mobile or transportable. This standard specifies the following:

- a) mechanical requirements for distributors;
- b) requirements for tanks;
- c) requirements for measuring the volume of binder and its temperature;
- d) requirements for ensuring the uniformity of longitudinal and transverse distribution of binder.

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 binder

tar, bitumen, tar/bitumen mixtures, or emulsions of these materials, all of which may include additives

2.2 rate of spread

the number of litres of binder (at the specified temperature of application) applied to 1 m²

2.3 mobile distributor

a distributor which may be either a trailer or a self-propelled road vehicle

2.4 transportable distributor

a distributor, intended for travelling short distances at low speeds, which would normally be carried to a distant site on another vehicle

NOTE Distributors for hand spraying are usually transportable; mechanical distributors are usually mobile.

3 Binder distributors

3.1 For distributors with closed tanks the actual capacity of the distributor shall be 10 % greater than the nominal capacity.

NOTE The nominal capacity of the distributor should be specified by the purchaser.

3.2 Mobile distributors shall be provided with a means of two-way communication between the driver of the distributor and the spray bar operator.

3.3 Operating instructions shall be supplied with each machine to enable the operator to ensure that the specified rate of spread is obtained.

3.4 Distributors shall be fitted with thermometers complying with 4.4.

4 Binder tanks

4.1 Venting

Tanks shall be vented and provided with a screened manhole of minimum clear opening of 600 mm diameter.

4.2 Insulation

The tank and the exposed feed and return pipes from the tank to the means of application shall all be insulated with non-combustible material.

The insulating material shall be protected and retained in position to ensure that it does not deteriorate in use or become impregnated with binder.

The temperature drop in a full load of binder, at an initial temperature of 150 °C, with the atmospheric temperature between 15 °C and 20 °C, shall be not more than 20 °C after 8 h, when the tank and its contents are at rest.

4.3 Heaters

4.3.1 Tanks shall be provided with a means of heating capable, when full, of raising the temperature of the contents at a minimum rate of 14 °C/h.

4.3.2 Tanks shall be provided with an automatic cut out system to prevent heating when the binder level in the tank falls to within 300 mm of the top of the burner tubes when measured on level ground.

4.3.3 Heating tubes shall be of seamless construction.

4.4 Measurement of temperature

Distributors shall be fitted with thermometers to show both the temperature at which the binder is being drawn off for application and the temperature of the binder in the tank.

The thermometers shall be accurate to within ± 3 °C.

Provision shall be made for the installation of a thermometer probe in the feed to the spray bar.

NOTE When required by the purchaser, distributors should be equipped with remote reading electronic digital thermometers.

4.5 Contents measurement

The tank shall have a dipstick clearly marked with the serial number of the tank to which it belongs.

The dipstick shall be positively located, e.g. fitted into a guide, and shall be calibrated and clearly marked to show the contents of the tank at any level within an accuracy of ± 1 % of the nominal capacity.

The tank shall be equipped with a contents indicator which is read from the outside.