

Specification for

Spreaders for winter maintenance

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

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Foreword

This British Standard has been prepared under the authority of the Road Engineering Standards Policy Committee and is a revision of BS 1622:1976, which is withdrawn.

Economy in salt usage calls for spreaders which can uniformly spread as little as 5 g/m^2 over wide carriageways, and modern conditions may require spreaders to operate at comparatively high speeds, between widely separated stockpiles.

The detailed requirements for spreading grit or urea have been deleted from this standard but it is recognized that some organizations may wish to use these machines for spreading grit. In these cases the rate of spread for the type of material to be used has to be agreed between the purchaser and the supplier.

Purchasers should be aware of the highly corrosive properties of salt and the effect it has on steel surfaces and particularly electrical and control equipment.

It is important that spreaders are properly maintained and are set to spread consistently the right amount of salt, to spread evenly (including whilst changing gear), to avoid the verges, and to minimize the amount of salt “wash off” into drains and waterways. This specification includes a spreading test by practical trial. Salt samples are taken along and across the direction of travel and the results are combined in various ways so that aspects of performance are analysed and compared with a calculated level of performance.

Also included are two simpler means for checking the rate of discharge so that machines can be regularly tested. This should ensure consistent rates of application.

A major factor in salt economy is the ease with which the driver can control spread rates. It is also important that the body of the spreader be designed for easy and rapid unloading to lessen any temptation to dump or run out whole or part loads of unused salt.

To allow for the different requirements of various local authorities, machines are divided into five classes primarily based on initial cost, speed of operation and width of coverage. It is hoped that by these means interest and knowledge will be disseminated and manufacturers will be encouraged to improve performance so that even higher levels of performance, resulting in still more economical and efficient operation, may be possible in the future.

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 applies to all types of spreader for distributing salt on roads, except manual spreaders. A classification is laid down and the essential requirements for construction and performance of each class are specified. A prototype performance test is included for each class, with provision for testing, issue of certificate and marking. It does not specify the construction material of the body nor does it include requirements for corrosion resistance.

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 salt

salt complying with the requirements of BS 3247

NOTE Rock salt, only, is specified for test purposes.

2.2

spreader

a machine or equipment used for distributing salt. There are many different types which may be broadly described in terms of a combination of two principal characteristics

- a) The method of attachment to the vehicle: *mounted* on the chassis or body of a vehicle, or as a *trailer*.
- b) The method of distribution: *speed related*, when distribution is automatically linked to the road speed; or *non-speed related*, when distribution is manually set for a given road speed.

2.3

vehicle

the vehicle on which the spreader is mounted or by which it is towed

2.4

permanently mounted spreader

a spreader that is permanently mounted on a vehicle

2.5

semi-permanently mounted spreader

a spreader that can be mounted and demounted from a vehicle body and fitted with controls located convenient to the driver

NOTE Normally it is mounted and demounted only at the beginning and end of the winter period.

2.6

demountable spreader

a spreader that can be quickly mounted and demounted from a vehicle body and fitted with controls located convenient to the driver

NOTE Normally it is mounted and demounted throughout the winter period.

2.7

interchangeable spreader

a spreader that can be interchanged in a matter of minutes with an alternative body and fitted with controls located convenient to the driver

NOTE Normally it is mounted and demounted throughout the winter period.

2.8

trailer/attachment spreader

a spreader equipped with connections or other towing mechanisms designed to fit suitable commercial vehicles

2.9

axis

the centreline of the spreader in the direction of travel

2.10

width of spread

the width of road surface at right angles to the axis over which material is to be spread (see Figure 2). For testing and other purposes this comprises:

- a) the *main zone*;
- b) a *margin* at each side of the main zone.

2.11

spreading

the process of distributing material over a road surface: *symmetrical* when the axis of the vehicle and the main zone coincide, *asymmetrical* when the left-hand side of the vehicle coincides with or is not more than 300 mm on either side of the left-hand edge of the main zone

NOTE It is permissible for spreading to be asymmetrical to the left when requested by the purchaser.

2.12

verge

a width of 2 m outside each margin (see Figure 2)

2.13

coverage

the mass of material distributed over the surface, expressed in grams per square metre

2.14

nominal coverage

the average coverage which is intended to be achieved over the width of spread with a particular setting of the appropriate controls and mechanisms