

# Road aggregates —

## Part 1: Specification for single-sized aggregate for general purposes

UDC 625.07

## Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Road Engineering Standards Committee (RDB/-) to Technical Committee RDB/1, upon which the following bodies were represented:

British Aggregate Construction Materials Industries  
 British Tar Industry Association  
 County Surveyor's Society  
 Department of Transport (Highways)  
 Federation of Manufacturers' of Construction Equipment and Cranes  
 Greater London Council  
 Institution of Highways and Transportation  
 Natural Environment Research Council (Institute of Geological Science)  
 Road Emulsion Association Ltd.  
 Road Surface Dressing Association  
 Sand and Gravel Association Limited  
 Society of Chemical Industry

This British Standard, having been prepared under the direction of the Road Engineering Standards Committee, was published under the authority of the Board of BSI and comes into effect on 30 October 1987

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First published as BS 63-2, 1971  
 First revision as BS 63-1, incorporating BS 1984:1967, October 1987

The following BSI references relate to the work on this standard:  
 Committee reference RDB/1  
 Draft for comment 85/13853 DC

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# Foreword

This British Standard has been prepared under the authority of the Road Engineering Standards Committee and is a revision as one standard in two Parts of the two standards BS 63-2:1971<sup>1)</sup> and BS 1984:1967<sup>2)</sup> both of which are now withdrawn. For ease of use the number BS 63 is being retained. BS 63-1:1951<sup>1)</sup> is also withdrawn.

The two Parts are:

- *Part 1: Specification for single-sized aggregate for general purposes;*
- *Part 2: Specification for single-sized aggregate for surface dressing.*

Particle size distribution is presented as a continuous grading with specified limits on percentages of material passing selected sieve sizes in order to unify the specification of aggregates with other British Standards, e.g. BS 594 and BS 4987.

Requirements for aggregate soundness and the determination of the clay content of fine aggregates are not included in this revision because suitable test methods are not available, though the sedimentation test described in BS 812-1 may offer some guidance in terms of particle size distribution.

Reference should be made to BS 812-101 for general guidance on testing aggregates, precision of test methods and variance arising from sampling errors.

For lightly trafficked roads some authorities may consider aggregates in accordance with BS 63-1 to be adequate for use as surface dressing; production of surface dressing aggregates will usually involve washing of the aggregate after screening.

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.

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## Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 and 2, 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.

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<sup>1)</sup> BS 63 Single-sized roadstone and chippings  
BS 63-1:1951 Imperial units  
BS 63-2:1971 Metric units

<sup>2)</sup> BS 1984:1967 Gravel aggregates for surface treatment (including surface dressings) on roads.

## 1 Scope

This Part of BS 63 specifies grading and flakiness index for nominally single-sized aggregates, i.e. aggregates containing a major proportion of single-sized particles, for use in the construction and maintenance of roads.

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

## 2 Definitions

For the purposes of this Part of BS 63 the following definitions apply.

### 2.1

#### specified size

the single size which forms the major proportion of the single-sized aggregate

NOTE See clause 3.

### 2.2

#### nominal size

the name given to a particular size of aggregate

NOTE 1 Usually this is the smallest size of test sieve in accordance with BS 410 through which at least 85 % of the aggregate passes but, where the appropriate test sieve size is not a whole number, the nominal size is given as the whole number nearest to that size of test sieve.

NOTE 2 See Table 1.

## 3 Specified size

3.1 The specified sizes for given nominal sizes shall be as given in Table 1.

**Table 1 — Specified sizes for given nominal sizes**

Nominal size	Specified size	
	Passing BS test sieve	Retained on BS test sieve
mm	mm	mm
50	50	37.5
40	37.5	28
28	28	20
20	20	14
14	14	10
10	10	6.3
6	6.3	3.35
3	3.35	1.70

3.2 The percentage aggregate of specified size shall be not less than that given in Table 2(b).

## 4 Sampling and testing

4.1 Sampling shall be carried out in accordance with BS 812-102.

4.2 The grading of the aggregate shall be determined in accordance with BS 812-103 using the dry sieving method unless the portion passing the 75  $\mu\text{m}$  test sieve is to be determined, in which case, the whole of the aggregate test portion shall be tested using the washing and sieving method. (See note to clause 5)

4.3 The flakiness index of the nominal size aggregate shall be determined in accordance with BS 812-105.1.

## 5 Grading and flakiness index limits

The grading and flakiness index of the aggregate shall be within the limits given in Table 2.

NOTE Single-sized material in accordance with Table 2 may be considered suitable for surface dressing lightly trafficked roads provided that the material passing the 75  $\mu\text{m}$  test sieve complies with 5.2 of BS 63-2:1987.

Table 2 — Grading limits, specified size and maximum flakiness index

(a) Grading limits								
BS test sieve	Nominal size of aggregates							
	50 mm	40 mm	28 mm	20 mm	14 mm	10 mm	6 mm	3 mm
mm	Percentage by mass passing BS test sieve							
63	100	—	—	—	—	—	—	—
50	85 to 100	100	—	—	—	—	—	—
37.5	0 to 30	85 to 100	100	—	—	—	—	—
28	0 to 5	0 to 40	85 to 100	100	—	—	—	—
20	—	0 to 5	0 to 40	85 to 100	100	—	—	—
14	—	—	0 to 7	0 to 40	85 to 100	100	—	—
10	—	—	—	0 to 7	0 to 40	85 to 100	100	—
6.3	—	—	—	—	0 to 7	0 to 35	85 to 100	100
5.0	—	—	—	—	—	0 to 10	—	—
3.35	—	—	—	—	—	—	0 to 35	85 to 100
2.36	0 to 2	0 to 2	0 to 2	0 to 2	0 to 2	0 to 2	0 to 10	—
1.70	—	—	—	—	—	—	—	0 to 35
1.18	—	—	—	—	—	—	—	0 to 10
(b) Specified size								
Specified size	Minimum percentage by mass retained on BS test sieve (see clause 3)							
	70	60	60	60	60	65	65	65
(c) Maximum flakiness index								
Maximum flakiness index	40	40	35	35	35	35	—	—

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## Publications referred to

BS 63, *Road aggregates*.

BS 63-2, *Specification for single-sized aggregate for surface dressing*.

BS 410, *Specification for test sieves*.

BS 594, *Hot rolled asphalt for roads and other paved areas*<sup>3)</sup>.

BS 812, *Testing aggregates*.

BS 812-1, *Methods for determination of particle size and shape*<sup>3)</sup>.

BS 812-101, *Guide to sampling and testing aggregates*<sup>3)</sup>.

BS 812-102, *Methods for sampling*.

BS 812-103, *Methods for determination of particle size distribution*.

BS 812-105, *Methods for determination of particle shape*.

BS 812-105.1, *Flakiness index*.

BS 4987, *Coated macadam for roads and other paved areas*<sup>3)</sup>.

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<sup>3)</sup> Referred to in the foreword only.

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