

Methods of testing cement —

Part 6: Standard sand for mortar cubes

IMPORTANT NOTE. It is recommended that this Part be read in conjunction with the information in Part 0 "General Introduction" to BS 4550, which is issued separately

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Foreword

This British Standard has been prepared under the direction of the Cement, Gypsum, Aggregates and Quarry Products Standards Committee. It brings together and revises the specification for standard sand for mortar cubes described in the appendices of the following British Standards.

BS 12-2:1971, *Portland cement (ordinary and rapid-hardening)*.

BS 915-2:1972, *High alumina cement*.

BS 4248:1974, *Supersulphated cement*.

Part 0 of BS 4550 is a general introduction; Part 1 lays down methods of sampling cement; Part 2 describes methods of chemical testing of cement; Part 3 describes methods of physical testing of cement; Part 4 specifies the standard coarse aggregate for concrete cubes and Part 5 specifies the standard sand for concrete cubes. Publication of BS 4550 enables the standards listed in the previous paragraph and BS 146-2:1973 "*Portland-blastfurnace cement*", BS 1370-2:1974 "*Low heat Portland cement*", BS 4027-2:1972 "*Sulphate-resisting Portland cement*" and BS 4246-2:1974 "*Low heat Portland-blastfurnace cement*", which cross refer to BS 12-2:1971, to be revised by deletion of the relevant appendices. This will avoid repetition in the expanding range of cement standards and ensure that, if changes are made in any of the test methods or specifications, the standards remain in step.

This Part of BS 4550 specifies the standard sand to be used in accordance with clause 2 "Compressive strength of mortar cubes", of Section 3.4 "Strength tests" of BS 4550 "*Methods of testing cement*" Part 3 "*Physical tests*".

It is anticipated that the mortar cube test will be deleted at the first revision of BS 4550 "*Methods of testing cement*" Part 3: Physical tests.

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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.

Amendments issued since publication

Amd. No.	Date of issue	Comments

This British Standard, having been prepared under the direction of the Cement, Gypsum, Aggregates and Quarry Products Standards Committee, was published under the authority of the Executive Board on 30 June 1978

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The following BSI references relate to the work on this standard:
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1 Scope

This Part of this British Standard specifies the source, preparation and properties of a standard sand to be used for making mortar cubes.

2 References

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

3 Source

Natural (uncrushed) thoroughly washed and dried silica sand of the white variety shall be obtained from Leighton Buzzard, Bedfordshire.

4 Sampling

Using a suitable scoop or similar device, a main sample of about 8 kg shall be taken from a single bag selected at random from a delivery not exceeding 500 kg. For the purposes of either of the tests specified in clauses 5 and 6, the main sample shall be reduced to about 500 g by four passes through a sample divider. For the purpose of the test specified in clause 7, a sample of the specified size shall be taken from this reduced sample.

5 Moisture content

The moisture content of the sample obtained as in clause 4 shall not exceed 0.1 % by dry mass when tested by the standard (oven drying) method in BS 812-2.

6 Grading

The sample of the sand, obtained as specified in clause 4, shall pass an 850 μm test sieve and the proportion by mass passing a 600 μm test sieve shall not exceed 10 % when determined by the normal test procedure for sieve analysis given in BS 812-1. The test sieves shall be as specified in BS 410.

7 Content of acid-soluble matter

The sand shall show a loss of mass not exceeding 0.25 % on extraction with hot hydrochloric acid when determined by the following method.

Dry a sample of a little over 2 g of the sand at a temperature of 105 ± 5 °C for a period of 1 h. Weigh a quantity of approximately 2g of the dried sand to ± 0.001 g into a porcelain dish and add 20 ml of hydrochloric acid and 20 ml of distilled water. Heat the dish on a water bath for 1 h, filter the contents, and wash well with hot water. Dry the sand, ignite it in a covered crucible, cool it and weigh it again. The loss in mass shall be expressed as a percentage of the original mass of the sample.

8 Marking

The sand, processed in accordance with the requirements of this Part of this standard, shall be supplied in a suitable container marked with the following particulars:

- a) the name, trade mark or other means of identification of the processor;
- b) the number of this British Standard, i.e. BS 4550-6.

Publications referred to

BS 410, *Specification for test sieves.*

BS 812, *Methods for sampling and testing of mineral aggregates, sands and fillers.*

BS 812-1, *Sampling, size, shape and classification.*

BS 812-2, *Physical properties.*

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