

IS : 3182 - 1986

Indian Standard
SPECIFICATION FOR
BROKEN BRICK (BURNT CLAY) FINE
AGGREGATE FOR USE IN LIME MORTAR
(Second Revision)

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

Indian Standard
**SPECIFICATION FOR
 BROKEN BRICK (BURNT CLAY) FINE
 AGGREGATE FOR USE IN LIME MORTAR
 (*Second Revision*)**

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0. FOREWORD

0.1 This Indian Standard (Second Revision) was adopted by the Indian Standards Institution on 30 June 1986, after the draft finalized by the Building Limes Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Ground broken brick (burnt clay), commonly known as *SURKHI*, is also used as fine aggregate in the preparation of lime mortar where fine aggregates derived from natural sources are not available in plenty or where its cost is prohibitive. It is a good alternative to sand where well-burnt bricks are available in sufficient quantity. It can be used in mortars for masonry and other works requiring lower loads and less severe conditions of service. Fine aggregates prepared from bricks of varying strengths and properties are used for lime mortar in different parts of the country. To give a rational approach for use of this type of aggregate in lime mortar, this standard has been formulated.

0.3 This standard was first published in 1967 and subsequently revised in 1975. The present revision has been prepared with a view to incorporating the modifications found necessary in the light of experience gained during the use of this standard. In this revision, the requirements of broken brick fine aggregates in respect of specific gravity, water soluble matter and material finer than 75 μm IS sieve have also been incorporated.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for roundig off numerical values (revised).

1. SCOPE

1.1 This standard covers the requirements for broken brick (burnt clay) fine aggregate for use in lime mortar.

2. GENERAL QUALITY

2.1 The broken brick fine aggregate shall be prepared from broken/solid bricks conforming to class designation 50 and above of IS : 1077-1986*. It shall be free from underburnt clay particles, soluble salts and adherent coating of soil or silt.

2.2 The broken brick fine aggregate material shall be 100 percent passing 4.75 mm IS sieve.

3. PHYSICAL REQUIREMENTS

3.1 Grading — The fine aggregate shall be of the grading specified in Table 1 when tested for sieve analysis according to IS : 2386 (Part 1)-1963†.

TABLE 1 REQUIREMENTS OF GRADING FOR BROKEN BRICK FINE AGGREGATE

IS SIEVE DESIGNATION [see IS : 460 (Part 1)-1985*]	PERCENT PASSING (BY MASS)
4.75 mm	100
2.36 mm	90-100
1.18 mm	70-100
600 µm	40-100
300 µm	5-70
150 µm	0-15
75 µm	Nil

*Specification for test sieves: Part 1 Wire cloth test sieves (*third revision*).

3.2 The broken brick fine aggregate, when tested in accordance with the method of test indicated, shall also conform to the requirements given in Table 2.

4. SAMPLING

4.1 The method of sampling shall be in accordance with IS : 2430-1969‡.

*Specification for common burnt clay building bricks (*fourth revision*).

†Methods of test for aggregates for concrete: Part 1 Particle size and shape.

‡Methods for sampling of aggregates for concrete.

TABLE 2 REQUIREMENTS OF BROKEN BRICK FINE AGGREGATE

(Clause 3.2)

SL No.	CHARACTERISTIC	REQUIREMENT	REFERENCE TO METHOD OF TEST
i)	Specific gravity	2.4-2.7	IS : 2386 (Part 3)-1963*
ii)	Clay and silt, percent, <i>Max</i>	5	IS : 2386 (Part 2)-1963†
iii)	Materials finer than 75 μ m IS sieve, percent, <i>Max</i>	15	IS : 2386 (Part 1)-1963‡
iv)	Water soluble matter, per- cent, <i>Max</i>	1	Appendix B of IS : 3068- 1986§

*Methods of test for aggregates for concrete: Part 3 Specific gravity, density, voids, absorption and bulking.

†Methods of test for aggregates for concrete: Part 2 Estimation of deleterious materials and organic impurities.

‡Methods of test for aggregates for concrete: Part 1 Particle size and shape.

§Specification for broken brick (burnt clay) coarse aggregate for use in lime concrete (*second revision*).

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