IS 5779 (1986): burnt clay soling bricks - Specification [CED 30: Clay and Stabilized Soil Products for Construction]

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(Reaffirmed 2002)

Indian Standard

SPECIFICATION FOR BURNT CLAY SOLING BRICKS

(First Revision)

UDC 691·421-431 : 625·82

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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October 1986

Indian Standard

SPECIFICATION FOR BURNT CLAY SOLING BRICKS

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Indian Standard

SPECIFICATION FOR BURNT CLAY SOLING BRICKS

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 14 March 1986, after the draft finalized by the Clay Products for Building Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Burnt clay bricks have a large field of use, as a soling material for roads in many parts of the country specially when it could be manufactured very economically at the site. Further, with the gradual adoption of mechanized processes for the production of clay products in the country for which a number of plants are being set up and are at different stages of construction, these bricks could be produced in large scale and could find greater use in this field. Realizing the importance of the material in this field, this standard has been formulated to lay down the essential requirements regarding dimensions, compressive strength, percentage of water absorption, etc, for soling bricks and is intended to serve as a guide for control of its quality in manufacture and use. Since the requirements for soling bricks are different from those of common burnt clay building bricks covered in IS : 1077-1986* and being less rigid, a separate standard has been formulated so that based on this, bricks could be manufactured separately at site, economically.

0.3 This standard was first published in 1970. In this revision the tolerances on the size of the bricks have been reduced since it was felt that the tolerances were much on the higher side. The requirement for compressive strength has also been increased.

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 or analysis, 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 that of the specified value in this standard.

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

†Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard specifies the requirements in regard to dimensions, general quality and physical properties for burnt clay bricks for use in soling of roads.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions as given in IS : 2248-1981* shall apply.

3. MANUFACTURE

3.1 The bricks shall be manufactured from suitable soils. The manufacturing process shall be such that the bricks are thoroughly annealed, tough, and well burnt and/or slightly over burnt.

4. GENERAL QUALITY

4.1 The bricks shall be free from cracks and other flaws and nodules of free lime. The bricks shall have, as far as possible, plane rectangular faces and straight right angle edges.

5. DIMENSIONS AND TOLERANCES

5.1 Dimensions — The standard sizes for soling bricks shall be as given below:

Length	*Width*	*Depth*
mm	mm	mm
190	90	40
190	90	90

5.2 Tolerances — Dimensions of bricks when tested in accordance with **5.2.1** shall be within the following limits:

Length 372 to 388 cm (360 $\pm$ 8 cm)

Width 176 to 184 cm (180 $\pm$ 4 cm)

Height { 176 to 184 cm (180 $\pm$ 4 cm) (for 90 mm high bricks)
{ 76 to 84 cm (80 $\pm$ 4 cm) (for 40 mm high bricks)

*Glossary of terms relating to structural clay products for buildings (*first revision*).

5.2.1 Twenty (or more according to the size of stack) whole bricks shall be selected at random from the sample selected under 7. All blisters, loose particles of clay and small projections shall be removed. They shall then be arranged upon a level surface successively as indicated in Fig. 1A, 1B and 1C in contact with each other and in straight line. The overall length of the assembled bricks shall be measured with a steel tape or other suitable inextensible measure sufficiently long to measure the whole row at one stretch. Measurement by repeated application of short rule or measure shall not be permitted. If, for any reason it is found impracticable to measure bricks in one row, the sample may be divided into rows of 10 bricks each which shall be measured separately to the nearest millimetre. All these dimensions shall be added together.

6. PHYSICAL PROPERTIES

6.1 Compressive Strength — The average compressive strength when tested according to the procedure laid down in IS : 3495 (Part 1)-1976* shall be not less than 10·0N/mm^2.

6.2 Water Absorption — The water absorption by weight after 24 hours immersion in cold water when determined according to the procedure laid down in IS : 3495 (Part 2)-1976† shall not be more than 20 percent.

6.3 Efflorescence — When tested according to procedure laid down in IS : 3495 (Part 3)-1976‡ the rating of efflorescence shall not be more than 'slight'.

7. SAMPLING AND CRITERION FOR CONFORMITY

7.1 The sampling of the bricks for the various properties shall be done in accordance with IS : 5454-1978§.

8. MARKING

8.1 Each brick shall be marked in a suitable manner at the time of moulding with the manufacturer's identification mark or initials, and the type of the brick.

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*Methods of tests for burnt clay building bricks: Part 1 Determination of compressive strength (*second revision*).

†Methods of tests for burnt clay building bricks: Part 2 Determination of water absorption (*second revision*).

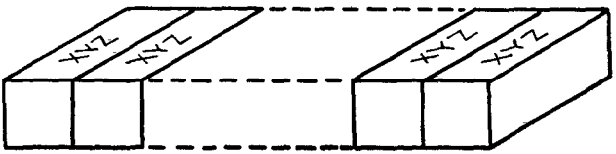
‡Methods of tests for burnt clay building bricks: Part 3 Determination of efflorescence (*second revision*).

§Methods of sampling of clay building bricks (*first revision*).

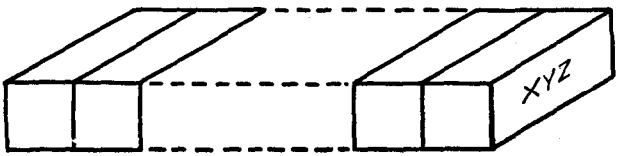
8.1.1 Each brick may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

1A MEASUREMENT OF LENGTH



1B MEASUREMENT OF WIDTH



1C MEASUREMENT OF HEIGHT

FIG. 1 MEASUREMENT OF TOLERANCES OF SOLING BRICKS

INDIAN STANDARDS INSTITUTION

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones: 3 31 01 31, 3 31 13 75 Telegrams: Manaksanstha (Common to all Offices)

Regional Offices:	*Telephones*
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*Sales Office in Bombay is at Novelty Chambers, Grant Road, Bombay 400007 89 65 28

†Sales Office in Calcutta is at 5 Chowringhee Approach, P. O. Princep Street, Calcutta 700072 27 68 00

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