

Indian Standard
SPECIFICATION FOR
LIMESTONE (SLAB AND TILES)
(*First Revision*)

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INDIAN STANDARDS INSTITUTION
MANAK BHAYAN, 9 BAHADUR SHAH ZAFAR MARG
NBW DELHI 110002

Indian Standard

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SPECIFICATION FOR
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0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 15 March 1974, after the draft finalized by the Stones Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Limestone slabs and tiles are now-a-days extensively used in the construction of building floors. Limestone is found more or less in every part of India. There exists considerable variation in size, and quality of the finished product. Standardization of limestone slabs and tiles with regard to properties and sizes would substantially help in raising the quality and speed of construction. This standard was first published in 1957. The revision has been prepared so as to keep the provisions in line with present practice.

0.3 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 as that of the specified value in this standard.

1. SCOPE

1.1 This standard lays down the requirements for dimensions and physical properties, of limestone slabs and tiles for use in flooring and face work.

2. GENERAL REQUIREMENTS

2.1 The stone shall be without any soft veins, cracks or flaws and shall have a uniform texture.

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

2.2 The curvature in any direction shall not exceed 5 mm.

3. DIMENSIONS

3.1 Rough Cut

3.1.1 Limestone slabs and tiles shall be supplied in sizes specified in Table 1. The sizes in between (of length and breadth) shall be reckoned as next lower size.

NOTE — This aspect will also cover tolerance in length and breadth.

TABLE 1 STANDARD SIZES OF LIMESTONE SLABS AND TILES

(Clauses 3.1.1 and 3.1.2)

LENGTH	BREADTH	THICKNESS
15 to 60 cm in stages of 5 cm	15 to 60 cm in stages of 5 cm	15 to 95 mm in stages of 10 mm
60 to 100 cm in stages of 10 cm	30 to 100 cm in stages of 10 cm	-do-
100 to 150 cm in stages of 10 cm	30 to 100 cm in stages of 10 cm	25 to 95 mm in stages of 10 mm

3.1.2 Sizes other than those specified in Table 1, if required for special purposes, may be supplied by mutual agreement between the purchaser and the supplier.

3.1.3 *Tolerances*— The tolerances in thickness shall be +5 mm up to 25 mm thickness and ± 5 mm for thickness above 25 mm.

3.2 **Cut Slabs**— Machine cut slabs with true and square edges to the exact sizes mentioned in 3.1.1 (with tolerance of ± 1 mm) shall be supplied if so specified by the purchaser. The tolerance in thickness shall be as in 3.1.3.

4. PHYSICAL PROPERTIES

4.1 The physical properties of limestone slabs shall conform to the requirements given in col 2 of Table 2, when tested in accordance with the provisions of Indian Standards given in col 3.

5. MARKING

5.1 Each type of limestone slabs and tiles may be marked in a suitable manner with the manufacturer's identification mark or initials.

TABLE 2 PHYSICAL PROPERTIES OF LIMESTONE SLABS

(Clause 4.1)

Sl. No.	CHARACTERISTICS	REQUIREMENT	METHOD OF TEST (REF TO INDIAN STANDARD)
(i)	(2)	(3)	(4)
i)	Water absorption	0.15 percent by weight	IS : 1124-1974*
ii)	Transverse strength	70 kg/cm ²	IS : 1121-1974†
iii)	Durability	Shall not develop signs of spalling, disintegration of cracks	IS : 1126-1974‡

*Method of test for determination of water absorption and apparent specific gravity of natural building stones (*first revision*).

†Method of test for determination of compressive, transverse and shear strengths of natural building stones (*first revision*).

‡Method of test for determination of durability of natural building stones (*first revision*).

5.1.1 Each type of limestone slabs and tiles 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.

6. SAMPLING

6.1 Lot — In any consignment all the slabs/tiles of the same quarry shall be grouped together to constitute a lot.

6.1.1 Samples shall be selected and tested separately for each lot for determining its conformity or otherwise to the requirements of the specification.

6.2 The number of slabs/tiles to be selected for the sample shall depend upon the size of the lot and shall be in accordance with Table 3.

6.2.1 The slabs/tiles in the sample shall be selected at random and in order to ensure the randomness of selection, random number table may be used (*see IS : 4905-1968**).

*Methods for random sampling.

TABLE 3 SAMPLE SIZE AND CRITERIA FOR CONFORMITY*(Clauses 6.2, 6.3 and 6.4)*

NUMBER OF SLABS/TILES IN THE LOT	NUMBER OF SLABS/TILES TO BE SELECTED IN SAMPLE	PERMISSIBLE NUMBER OF DEFECTIVES	*SUB-SAMPLE SIZE IN NUMBERS
(1)	(2)	(3)	(4)
Up to 100	5	0	3
101 to 300	8	0	3
301 to 500	13	0	6
501 to 1 000	20	1	6

6.3 All the slabs/tiles selected as per col 2 of Table 3 shall be examined for general requirements and dimensions (*see 2 and 3*). Any slab/tile failing in any one or more of the above requirements shall be considered as defective. A lot shall be considered as conforming to these requirements if the number of defective obtained is not more than the permissible number of defectives given in col 3 of Table 3.

6.4 The lot having been found satisfactory with respect to general requirements and dimensions shall be tested for physical properties. For this purpose a sub-sample of size given in col 4 of Table 3 shall be selected at random. These slabs/tiles in the sub-sample shall be first tested for transverse strength, the same samples after completion of this test shall be utilized for determining water absorption and durability (*see 4*). A lot shall be considered having been satisfied the requirements of the physical properties if none of the slabs/tiles tested for these requirements fails in any of these tests.