

*Indian Standard*

SCHEDULE FOR PROPERTIES AND  
AVAILABILITY OF STONES FOR  
CONSTRUCTION PURPOSES

PART II MAHARASHTRA STATE

Section 3 Engineering Properties of Stone Aggregates

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( Continued from page 1 )

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# *Indian Standard*

## SCHEDULE FOR PROPERTIES AND AVAILABILITY OF STONES FOR CONSTRUCTION PURPOSES

### PART II MAHARASHTRA STATE

#### Section 3 Engineering Properties of Stone Aggregates

### 0. FOREWORD

**0.1** This Indian Standard ( Part II/Section 3 ) was adopted by the Indian Standards Institution on 30 January 1979, after the draft finalized by the Stones Sectional Committee had been approved by the Civil Engineering Division Council.

**0.2** Stones are available in large quantities in different parts of the country. To choose and utilize them for various uses, it is necessary to know their availability as well as their various physical properties. Accordingly this Indian Standard is formulated to cover these information. It is hoped that with the publication of this standard it will be convenient for the users to know the location of various types of stones, and it will also act as a guide for their proper selection depending upon their particular use. This standard will give a general information for prospective builders who use stone and stone aggregates. The final acceptance of these materials in any work would, however, be subject to the physical standards and other specification and quality control requirements stipulated for individual works.

**0.2.1** This standard will be published in parts, each part covering a State. For facility in compilation and use of the standard, each part is divided into three sections. Accordingly Part II covers Maharashtra State and is being issued in three sections. Section 1 gives information on the availability of stones in the form of map showing geological classification and location of known stones quarries; Section 2 covers engineering properties of building stones; and Section 3 covers engineering properties of stone aggregates.

**0.3** The information contained in this section is based on the data provided by the Engineering Research Institute, Maharashtra State and covers data collected up to the end of 1978. Further information, as and when received, will be added as amendment to this standard.

## **IS : 7779 ( Part II/Sec 3 ) - 1979**

**0.4** In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960\*.

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### **1. SCOPE**

**1.1** This standard ( Part II/Section 3 ) covers the engineering properties of stone aggregates of Maharashtra State.

### **2. TEST RESULTS**

**2.1** The results of stone aggregates tested for some of the important properties according to relevant Indian Standards are given in Table 1.

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

TABLE 1 SCHEDULE OF CHARACTERISTICS OF STONE AGGREGATES — MAHARASHTRA STATE

( Clause 2.1 )

Sl. No.	LOCATION	TYPE OF AGGREGATE	SPECIFIC GRAVITY IS : 2386 ( PART III ) - 1963*	APPARENT SPECIFIC GRAVITY IS : 2386 ( PART III ) - 1963*	WATER ABSORPTION % IS : 2386 ( PART III ) - 1963*	CRUSHING VALUE % IS : 2386 ( PART IV ) - 1963†	LOAD REQUIRED FOR TEN PERCENT FINES ( 2.36 mm ) IS : 2386 ( PART IV ) - 1963†	IMPACT VALUE % IS : 2386 ( PART IV ) - 1963†	ABRASION VALUE % IS : 2386 ( PART IV ) - 1963†	SOUNDNESS BY Na <sub>2</sub> SO <sub>4</sub> % Loss IS : 2386 ( PART V ) - 1963‡ ( 10 CYCLES )
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1.	<b>Ahmednagar</b>									
	Bhandardara	Greyish black fine medium grained moderately weathered basalt few amygdaloids of zeolites present	2.63	2.99	4.49	22.40	—	15.80	18.00	39.30
2.	<b>Aurangabad</b>									
	Hashangate quarry	Medium grained basalt	2.61	2.92	4.07	25.20	—	23.20	35.10	6.90
	Aurangabad-Nagpur Road, 7 Miles from Aurangabad	Fine grained amygdaloidal prophyritic basalt	2.59	2.97	5.00	21.00	—	19.30	24.10	75.80
3.	<b>Bombay</b>									
	Andheri	Medium grained basalt	2.97	3.08	1.28	14.70	—	10.40	11.00	1.70
4.	<b>Osmanabad</b>									
	Osmanabad quarry	Fine grained basalt	2.96	3.02	0.73	11.00	—	5.70	12.40	1.30
5.	<b>Sangli</b>									
	Birnal quarry	Fine grained amygdaloidal basalt	2.91	3.06	1.68	11.50	—	9.10	10.60	0.10
	Sidhewadi quarry	Fine grained basalt	2.92	3.03	1.30	10.60	—	7.20	9.50	2.10
	Tasgaon quarry	Fine grained prophyritic basalt	2.84	3.04	2.40	13.50	—	8.20	14.60	2.30
6.	<b>Yeotmal</b>									
	Umarkhed quarry	Fine grained compact basalt	2.87	2.97	1.17	13.00	—	9.50	8.70	0.70
	Woni quarry	Medium grained sandstone	2.20	2.52	5.73	44.40	4 tonnes	50.90	57.60	27.10

\*Method of test for aggregates for concrete: Part III Specific gravity, density, voids, absorption and bulking.

†Method of test for aggregates for concrete: Part IV Mechanical properties.

‡Method of test for aggregates for concrete: Part V Soundness.

**INDIAN STANDARDS  
ON  
TESTING OF STONES**

IS:

- 1121 (Parts I to IV)-1974 Method of test for determination of strength properties of natural building stones
- 1122-1974 Method of test for determination of the specific gravity of natural building stones (*first revision*)
- 1123-1974 Method of identification of natural building stones (*first revision*)
- 1124-1974 Method of test for determination of water absorption apparent specific gravity and porosity of natural building stones (*first revision*)
- 1125-1974 Method of test for determination of weathering of natural building stones (*first revision*)
- 1126-1974 Method of test for determination of durability of natural building stones (*first revision*)
- 1706-1972 Method for determination of resistance to wear by abrasion of natural building stones (*first revision*)
- 4121-1967 Method of test for determination of water transmission rate by capillary action through natural stones
- 4122-1967 Method of tests for surface softening of natural building stones for exposure to acidic atmospheres
- 4348-1973 Method of test for determination of permeability of natural building stones (*first revision*)
- 5218-1969 Method of test for toughness of natural building stones
- 5640-1970 Method of test for determining the aggregate impact value of soft coarse aggregates
- 6241-1971 Method of test for determination of stripping value of road aggregates
- 7779 (Part I/Sec 1)-1975 Schedule of properties and availability of stones for construction purposes: Part I Gujarat State, Section 1 Availability of stones

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KANPUR 208005	8 12 72
PATNA 800004	5 36 55
TRIVANDRUM 695001	32 27