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SPECIFICATION FOR CONCRETE SLUMP TEST APPARATUS

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
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Indian Standard

SPECIFICATION FOR CONCRETE SLUMP TEST APPARATUS

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0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 21 February 1974, after the draft finalized by the Cement and Concrete Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 The Indian Standards Institution has already published a series of standards on methods of testing cement and concrete. It has been recognized that reliable and inter comparable test results can be obtained only with standard testing equipment capable of giving the desired level of accuracy. The Sectional Committee has, therefore, decided to bring out a series of specifications covering the requirements of equipment used for testing cement and concrete, to encourage its development and manufacture in the country.

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.

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1. SCOPE

1.1 This standard covers the requirements of the apparatus used for determining the slump of fresh concrete as a measure of its consistency.

2. APPARATUS

2.1 The apparatus shall consist of a mould for the test specimen and a tamping rod.

3. MOULD

3.1 Shape and Dimensions — The mould for the test specimen shall be in the form of the frustum of a cone as shown in Fig. 1 or 2 and internal dimensions as given in Table 1.

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

TABLE 1 INTERNAL DIMENSIONS OF MOULD

(*Clause* 3.1)

Sl No.	Details	Dimension mm	Tolerance (*see* Note) mm
(1)	(2)	(3)	(4)
i)	Bottom diameter	200	$^{+3}_{-1.5}$
ii)	Top diameter	100	$^{+3}_{-1.5}$
iii)	Height	300	± 1.5

NOTE — Diameter and height measured anywhere on the mould shall not differ from the nominal dimension (that is 200, 100 and 300 mm) by more than the specified tolerance.

3.1.1 Where no tolerance has been specified for a particular dimension, it will mean that reference is being made to the nominal dimension.

3.2 Material — The mould shall be made of galvanized iron sheet or any other suitable metal not readily attacked by cement paste; aluminium shall not be used. The metal shall be at least 1·6 mm thick.

3.3 Construction — The mould may be constructed either with or without a seam. When a seam is provided, the seam shall be essentially as shown in Fig. 2.

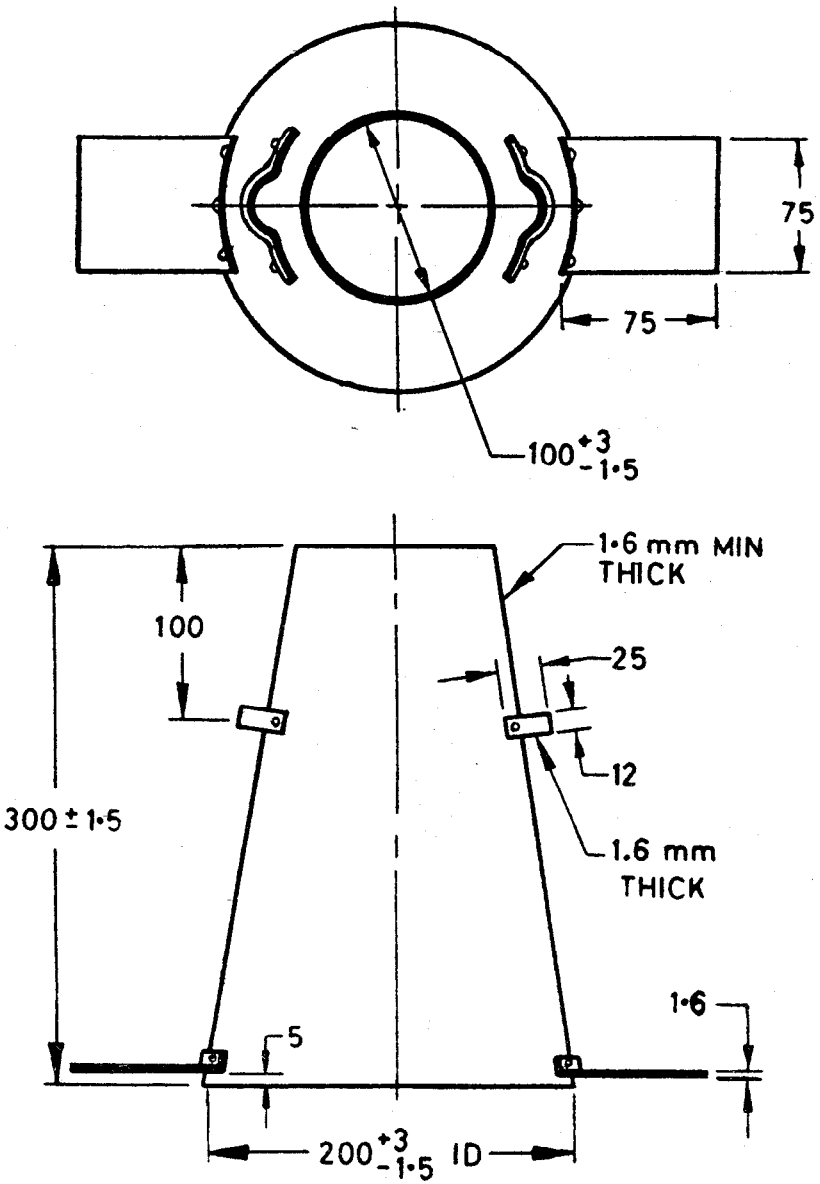
3.3.1 The top and bottom of the mould shall be open and parallel to each other and at right angles to the axis of the cone. The internal surface of the mould shall be smooth and shall be free from dents and projections, such as protruding rivets.

3.3.2 The mould shall be provided with foot pieces and handles to facilitate lifting it from the moulded concrete test specimen. The shape and dimensions of the foot pieces and handles may be as shown in Fig. 1 and 2. Attachments shall be riveted, welded or brazed to the mould. Any rivet used in the construction of the mould shall be countersunk on the inside of the cone.

NOTE — A mould which clamps to a non-absorbent base plate or an apparatus with a suitable guide attachment for measuring height of the moulded concrete may also be accepted provided it otherwise conforms to the requirements of the specification.

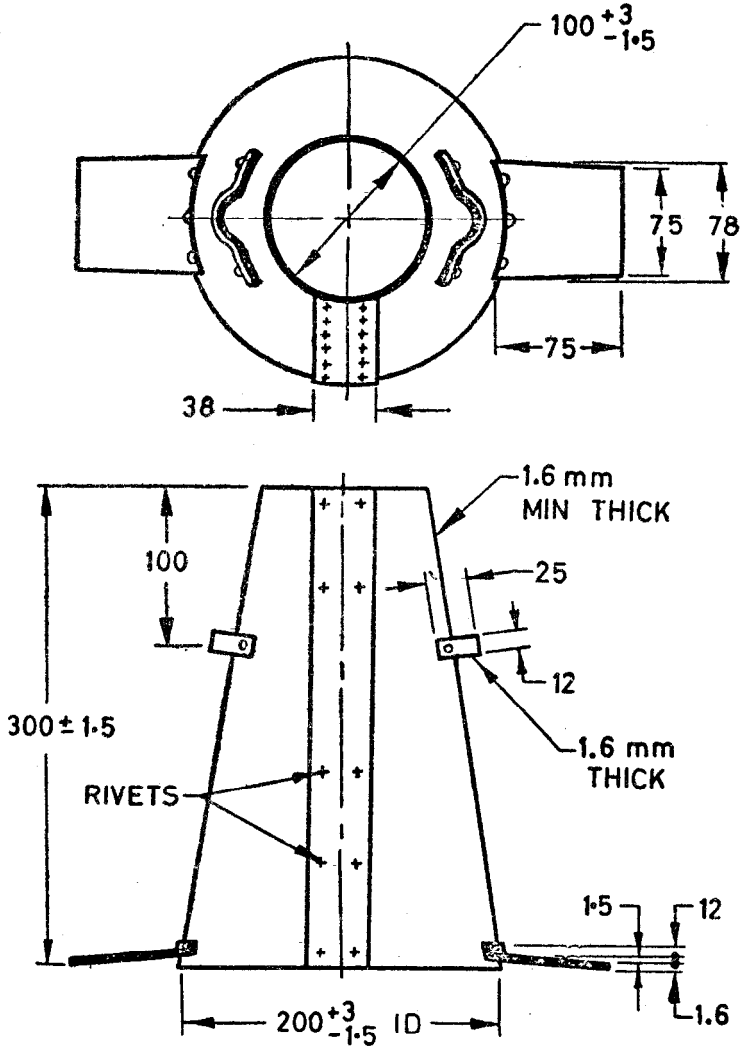
4. TAMPING ROD

4.1 The tamping rod shall be a round straight steel rod, 16 mm diameter and 600 mm long. The tamping end of rod shall be rounded to a hemispherical tip, the diameter of which shall be 16 mm.



All dimensions in millimetres.

FIG. 1 MOULD (SEAMLESS) FOR SLUMP TEST OF CONCRETE



All dimensions in millimetres.

FIG. 2 A MOULD (WITH SEAM) FOR SLUMP TEST OF CONCRETE

5. MARKING

5.1 The following information shall be clearly and indelibly marked on the mould and the rod in a way that it does not interfere with the performance of this apparatus:

a) Name of manufacturer or his registered trade-mark or both, and

b) Date of manufacture.

5.1.1 The apparatus 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.

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Base Units

Quantity	*Unit*	*Symbol*
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	*Unit*	*Symbol*
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	*Unit*	*Symbol*	*Conversion*
Force	newton	N	1 N = 1 kg. 1 m/s^2
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 Hz = 1 c/s (s^{-1})
Electric conductance	siemens	S	1 S = 1 A/V
Pressure, stress	pascal	Pa	1 Pa = 1 N/m^2

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AMENDMENT NO. 1 MARCH 1984

TO

IS:7320-1974 SPECIFICATION FOR CONCRETE SLUMP TEST APPARTUS

Alterations

(*Page 3, clause 2.1, line 2*) - Substitute 'tamping bar' *for* 'tamping rod'.

(*Page 4, clause 4, Title*) - Substitute 'TAMPING BAR' *for* 'TAMPING ROD'.

(*Page 4, clause 4.1*) - Substitute the following for the existing matter:

'4.1 The tamping bar shall be a steel bar 16 mm in diameter, 600 mm long with a rounded working end'.

(*Page 7, clause 5.1, line 2*) - Substitute 'bar' *for* 'rod'.

(BDC 2)

Reprography Unit, ISI, New Delhi, India