Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

"जानने का अधिकार, जीने का अधिकार"
Mazdoor Kisan Shakti Sangathan
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”
Jawaharlal Nehru
“Step Out From the Old to the New”

Indian Standard

SPECIFICATION FOR
MOULDS FOR USE IN TESTS OF
CEMENT AND CONCRETE

Third Reprint MARCH 2008
( Including Amendment No, 1,2,3,4 & 5 )

UDC 666.9055: 621.744.3 : 620.173/.174

© Copyright 1982

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

August 1982
Indian Standard
SPECIFICATION FOR
MOULDS FOR USE IN TESTS OF
CEMENT AND CONCRETE

Cement and Concrete Sectional Committee, BDC 2

Chairman
Dr H. C. VRIVESVARAYA

Representing
Cement Research Institute of India, New Delhi

Members

Additional Director, Standards (B & S)
Deputy Director, Standards (B & S) (Alternate)
Shri K. P. Banerjee
Shri Harish N. Malani (Alternate)
Shri S. K. Banerjee
Shri R. N. BANSAL
Shri T. C. GARG (Alternate)
Shri R. V. CHALAPATHI RAO
Shri S. Roy (Alternate)

Chief Engineer (Designs)
Executive Engineer (Design) III (Alternate)

Chief Engineer (Projects)

Director, IPRI (Alternate)
Director (CSMRS)

Deputy Director (CSMRS) (Alternate)
Shri T. A. E. Desa
Shri N. C. DUGGAL (Alternate)
Shri A. K. GUPTA
Shri V. K. GUPTA
Shri S. N. PANDE (Alternate)
Dr R R HATTIANGADI
Shri P. J. JACUS (Alternate)

Research, Designs & Standards Organization (Ministry of Railways), Lucknow

Larsen & Toubro Ltd, Bombay
National Test House, Calcutta
Beas Designs Organization, Nangal Township
Geological Survey of India, Calcutta
Central Public Works Department, New Delhi
Irrigation Department, Government of Punjab, Chandigarh
Central Soil and Materials Research Station, New Delhi
The Concrete Association of India, Bombay
Hyderabad Asbestos Cement Products Ltd, Hyderabad
Engineer-in-Chief's Branch, Army Headquarters, New Delhi

The Associated Cement Companies Ltd, Bombay

(Continued on page 2)
Members

DR IQBAL ALI
SHRI S. K. KULKARNI
SHRI S. K. LAHA
SHRI B. T. UNWALLA (Alternate)
DR MOHAN RAJ

Representing

Engineering Research Laboratories, Hyderabad
M. N. Dastur & Co Pvt Ltd, Calcutta
The Institution of Engineers (India), Calcutta
Central Building Research Institute (CSIR), Roorkee
In personal capacity ('Ramanayya' I I First Crescent
Park Road, Gandhinagar, Adyar, Madras)
Hindustan Prefab Ltd, New Delhi
Central Road Research Institute (CSIR), New Delhi

SHRI K. K. NAMSHAR

SHRI H S PANSECHA
SHRI C. S. MISHRA (Alternate)
SHRI Y R. PHULL
SHRI M R. CHATTERJEE (Alternate I)
SHRI K. L. SEETHI (Alternate II)

Dr M RAMAIAH

SHRI G. RAMDAS

Dr N. S. BHAL (Alternate)

Dr A. V. R. RAO
SHRI J SEN GUPTA (Alternate)
SHRI T. N. S. RAO
SHRI S. R. PINGEIRO (Alternate)

Representative

SHRI ARJUN RISHINGHANI
SHRI K. VITHAI RAO (Alternate)

Secretary

SHRI N SIVAGURU

SHRI R. L. KAPOOR (Alternate)

SHRI K. A. SUBRAMANIAM
SHRI P. S. RAMACHANDRAN (Alternate)

Superintending Engineer (Designs)

Executive Engineer (SM&R Division) (Alternate)

SHRI L. SWAROOP
SHRI A. V. RAMANA (Alternate)

SHRI G. RAMANA
Director (Civil Engg)

SHRI M. N. NEELAKANDHAN
Assistant Director (Civil Engg), ISI

(Continued from page 1)

(Continued on page 19)
AMENDMENT NO. 1 NOVEMBER 1984

TO

IS: 10086-1982 SPECIFICATION FOR MOULDS FOR USE IN TESTS OF CEMENT AND CONCRETE

Addendum

(Page 14, Table 2) - Add the following new note below the table:

'NOTE - The length and width of base plate depend upon the arrangement provided for clamping the mould to the base plate and hence may vary from the values specified in the table.'
AMENDMENT NO. 2 JUNE 1985

TO

IS:10086-1982 SPECIFICATION FOR MOULDS FOR USE IN TESTS OF CEMENT AND CONCRETE

(PAGE 4, CLAUSE 4.1) - Renumber the existing NOTE as NOTE 1 and add the following as NOTE 2 under this clause:

'NOTE 2 - For checking the permissible variation in the planeness, the surface should be wholly contained between two planes not further apart than the specified value.'
AMENDMENT NO. 3 FEBRUARY 1988

TO

IS:10086-1982 SPECIFICATION FOR MOULDS FOR USE IN TESTS OF CEMENT AND CONCRETE

(Page 17, clause 7.1, line 2) - Add the words 'and the accessories' after the words 'the mould'.

(Page 17, clause 7.1.1) - Add the words 'and the accessories' after the words 'The moulds'.

(BDC 2)
AMENDMENT NO. 4 MARCH 1993 TO
IS 10086: 1982 SPECIFICATION FOR MOULDS FOR USE IN TESTS OF CEMENT AND CONCRETE

(Page 4, clause 4.1) — Substitute 'IS 2102 (Part 1) : 1980' for 'IS 2102 1969' in the NOTE.

(Page 4, foot-note) — Substitute the following for the existing foot-note:

"General tolerances for dimensions and form and position: Part 1 General tolerances for linear and angular dimensions (second revision)."

(CED 2)
AMENDMENT NO. 5 JULY 2006
TO
IS 10086 : 1982 SPECIFICATION FOR MOULDS FOR
USE IN TESTS OF CEMENT AND CONCRETE

(First cover page) — Insert the following above the English title of the
Indian Standard

'भारतीय मानक
सीमेंट और कंक्रीट के परीक्षणों में प्रयुक्त साँचों को विशिष्टि'

(CED 2)
Indian Standard

SPECIFICATION FOR
MOULDS FOR USE IN TESTS OF
CEMENT AND CONCRETE

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 28 January 1982, 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 reproducible and repeatable 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 their development and manufacture in the country.

0.3 Accordingly, this standard has been prepared to cover requirements of the moulds used for casting cement or concrete cubes, cylinders and beams for compressive and flexural strength tests on cement and concrete. The Indian Standards which detail the methods of compressive and flexural strength tests requiring use of these moulds are IS: 516-1959*, IS: 1199-1959† and IS: 4031-1968‡.

0.4 In the formulation of this standard, due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country.

0.5 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 place retained in the rounded off value should be the same as that of the specified value in this standard.

*Methods of test for strength of concrete
†Methods of sampling and analysis of concrete
‡Methods of physical tests for hydraulic cement
§Rules for rounding off numerical values (revised)
1. SCOPE

1.1 This standard covers the requirements of the moulds used for casting cement or concrete cubes, cylinders and beams for tests of cement and concrete, such as compressive strength test and flexural strength test.

1.2 Moulds which are accessories to testing equipment such as vibration machine and jolting apparatus are not covered by this standard.

2. TYPES

2.1 The moulds shall be of following types:

   a) Cube moulds of 50, 100, 150, 225 and 300 mm,
   b) Cylindrical mould of 150 mm diameter and 300 mm height,
   c) Beam moulds of 100 x 100 x 500 mm and 150 x 150 x 700 mm,
   d) Bar moulds of 25 x 25 mm size and 250 mm effective length, and
   e) Mould of 75 x 75 mm size and 150 to 300 mm length.

3. MATERIAL

3.1 Material for construction of moulds shall normally be as given in Table 1. However, any other material which is non-absorbent and non-reactive with concrete and which shall retain the dimensional stability of the moulds may also be used.

4. DIMENSIONS AND TOLERANCES

4.1 The dimensions with tolerances of various types of moulds described at 2.1 (a) to 2.1 (d) (see Fig 1 to 8) shall be as given in Tables 1 to 5. The dimensions of moulds described at 2.1 (e) shall be such that it shall be possible to cast specimens with a length of 150 to 300 mm and a cross-section as near as practicable to 75 x 75 mm.

   Note: The allowable deviations for nominal dimensions shall be as laid down for coarse class of deviation in IS 2102-1969*

5. CONSTRUCTION

5.1 General — The construction of the moulds shall, in general, be in accordance with Fig. 1 to 8

   Note: The figures are illustrative only, but the dimensions and minimum requirements where specified shall be binding

5.1.1 The moulds shall be of metal and stout enough to prevent distortion. These shall be constructed in such a manner as to facilitate the removal of the moulded specimen without damage and shall be so machined that, when they are assembled ready for use, the dimensions and internal faces shall be accurate within the specified limits. Internal faces of the moulds shall be smooth.

*Allowable deviations for dimensions without specified tolerances (first revision).
All dimensions in millimetres

**FIG. 2 TYPICAL CUBE MOULD, 50mm SIZE WITH 3 MOULD COMPARTMENT**
All dimensions in millimetres.

FIG. 3 TYPICAL CYLINDRICAL MOULD
SECTION XX

All dimensions in millimetres.

FIG. 5 TYPICAL BAR MOULD
Fig. 6. Typical Bar Mould (Two Mould Compartments)

*All dimensions in millimetres.*
FIG. 8 TYPICAL BAR MOULD (TWO MOULD COMPARTMENTS)

SECTION XX

All dimensions in millimetres.
### TABLE 1 MATERIALS OF CONSTRUCTION OF MOULDS

*(Clause 3.1)*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii)</td>
<td>Cube mould, 100 mm, 150 mm, 225 mm and 300 mm</td>
<td>a) Side plate</td>
<td>Cast iron</td>
<td>IS : 210-1978*</td>
<td>IS : 210-1978*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Base plate</td>
<td>Cast iron</td>
<td>IS : 210-1978*</td>
<td>IS : 210-1978*</td>
</tr>
<tr>
<td>iii)</td>
<td>Cylindrical mould, 150 mm diameter x 300 mm height</td>
<td>a) Split part</td>
<td>Cast iron</td>
<td>IS : 210-1978*; IS : 220-1975†</td>
<td>IS : 210-1978*; IS : 220-1975†</td>
</tr>
<tr>
<td>iv)</td>
<td>Beam mould 100 x 100 x 500 and 150 x 150 x 750 mm</td>
<td>a) Side plate</td>
<td>Cast iron</td>
<td>IS : 210-1978*</td>
<td>IS : 210-1978*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Base plate</td>
<td>Cast iron</td>
<td>IS : 210-1978*</td>
<td>IS : 210-1978*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Top plate</td>
<td>Mild steel</td>
<td>IS : 220-1975†</td>
<td>IS : 220-1975†</td>
</tr>
<tr>
<td>v)</td>
<td>Bar mould of 25 x 25 mm size and 250 mm effective length</td>
<td>a) Side plate</td>
<td>Mild steel</td>
<td>IS : 220-1975†</td>
<td>IS : 220-1975†</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Base plate</td>
<td>Mild steel</td>
<td>IS : 220-1975†</td>
<td>IS : 220-1975†</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Reference points (smooth &amp; knurled)</td>
<td>Stainless steel</td>
<td>IS : 220-1975†</td>
<td>IS : 220-1975†</td>
</tr>
<tr>
<td>vi)</td>
<td>Mould of 75 x 75 mm size and 150 to 300 mm length</td>
<td>a) Side plate</td>
<td>Mild steel</td>
<td>IS : 220-1975†</td>
<td>IS : 220-1975†</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Base plate</td>
<td>Mild steel</td>
<td>IS : 220-1975†</td>
<td>IS : 220-1975†</td>
</tr>
</tbody>
</table>

* Specification for grey iron castings *(third revision).*
† Specification for structural steel *(standard quality)* *(fifth revision).*
### TABLE 2 DIMENSIONS AND TOLERANCES OF CUBE MOULDS  
(*Clause 4.1*)

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>Description</th>
<th>Cube Mould Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td>i)</td>
<td>Distance between opposite</td>
<td>50 ± 0.1</td>
</tr>
<tr>
<td></td>
<td>faces (<em>C</em>), mm</td>
<td></td>
</tr>
<tr>
<td>ii)</td>
<td>Height of mould (<em>F</em>), mm</td>
<td>50 ± 0.1</td>
</tr>
<tr>
<td>iii)</td>
<td>Thickness of wall plate (<em>D</em>), mm</td>
<td>6</td>
</tr>
<tr>
<td>iv)</td>
<td>Angle between adjacent interior</td>
<td>90 ± 0° 5°</td>
</tr>
<tr>
<td></td>
<td>faces and between interior faces</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and top and bottom plates of mould</td>
<td></td>
</tr>
<tr>
<td>v)</td>
<td>Length of base plate (<em>A</em>), mm</td>
<td>120</td>
</tr>
<tr>
<td>vi)</td>
<td>Width of base plate (<em>B</em>), mm</td>
<td>95</td>
</tr>
<tr>
<td>vii)</td>
<td>Thickness of base plate (<em>E</em>), mm</td>
<td>6</td>
</tr>
<tr>
<td>viii)</td>
<td>Permissible variation in the</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>planeness of interior faces</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for new moulds, mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for moulds in use, mm</td>
<td></td>
</tr>
<tr>
<td>ix)</td>
<td>Permissible variation in the</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>planeness of base plate, mm</td>
<td></td>
</tr>
</tbody>
</table>

* These letter symbols are indicated in Fig 1.

### TABLE 3 DIMENSIONS AND TOLERANCES FOR CYLINDRICAL MOULDS  
(*Clause 4.1*)

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>Description</th>
<th>Dimensions in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td>i)</td>
<td>Mean internal diameter</td>
<td>150 ± 0.2</td>
</tr>
<tr>
<td>ii)</td>
<td>Actual internal diameter in any</td>
<td>150 ± 0.5</td>
</tr>
<tr>
<td></td>
<td>direction</td>
<td></td>
</tr>
<tr>
<td>iii)</td>
<td>Height</td>
<td>300 ± 1</td>
</tr>
<tr>
<td>iv)</td>
<td>Permissible variation in the</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>planeness of cylindrical</td>
<td></td>
</tr>
<tr>
<td></td>
<td>wall plate</td>
<td></td>
</tr>
<tr>
<td>v)</td>
<td>Thickness of wall plate</td>
<td>6</td>
</tr>
<tr>
<td>vi)</td>
<td>Diameter of base plate</td>
<td>300 ± 3</td>
</tr>
<tr>
<td>vii)</td>
<td>Diameter of capping plate</td>
<td>195 ± 2</td>
</tr>
<tr>
<td>viii)</td>
<td>Thickness of base plate/capping</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>plate</td>
<td></td>
</tr>
<tr>
<td>ix)</td>
<td>Permissible variation in the</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>planeness of base plate/capping</td>
<td></td>
</tr>
<tr>
<td></td>
<td>plate</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 4 DIMENSIONS AND TOLERANCES OF BEAM MOULDS

**Clause 4.1**

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>Description</th>
<th>Beam Mould Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>100x100x500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150x150x700</td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4)</td>
</tr>
<tr>
<td>i)</td>
<td>Length between internal faces (A*), mm</td>
<td>500</td>
</tr>
<tr>
<td>ii)</td>
<td>Width between internal faces (B*), mm</td>
<td>100 ± 0.2</td>
</tr>
<tr>
<td>iii)</td>
<td>Height (G*), mm</td>
<td>100 ± 0.05</td>
</tr>
<tr>
<td>iv)</td>
<td>Thickness of wall plate (E*), mm</td>
<td>9</td>
</tr>
<tr>
<td>v)</td>
<td>Length of base plate (C*), mm</td>
<td>600</td>
</tr>
<tr>
<td>vi)</td>
<td>Width of base plate (D*), mm</td>
<td>225</td>
</tr>
<tr>
<td>vii)</td>
<td>Thickness of base plate (F*), mm</td>
<td>8</td>
</tr>
<tr>
<td>viii)</td>
<td>Angle between interior faces and top and bottom planes of the mould</td>
<td>90 ± 0.5°</td>
</tr>
<tr>
<td>ix)</td>
<td>Permissible variation in the plane-ness of internal surfaces:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In a length of 150 mm, mm</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>Overall, mm</td>
<td>0.1</td>
</tr>
</tbody>
</table>

*These letter symbols are indicated in Fig 4

---

### TABLE 5 DIMENSIONS AND TOLERANCES OF BAR MOULDS

**Clause 4.1**

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Description</th>
<th>Dimensions in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td>i)</td>
<td>Distance between inner ends of reference points (effective gauge length)</td>
<td>250 ± 2</td>
</tr>
<tr>
<td>ii)</td>
<td>Width between inner surfaces</td>
<td>25 ± 0.8</td>
</tr>
<tr>
<td>iii)</td>
<td>Height</td>
<td>25 ± 0.8</td>
</tr>
</tbody>
</table>

**Note** — The dimensions given in the table shall also apply to moulds in use.
5.1.2 The inside faces of the mould plates and base plates may have blowholes and blemishes on the surface, such as honey-combing. All such blowholes and cavities shall be fitted in with mild steel pins, or by welding and shall be finished flush with the surface either by machining or by filing. However, the number of blowholes on each plate acceptable may not exceed 5 in the case of cube moulds of up to and including size 150 mm, and 10 in the case of cube moulds of sizes 225 and 300 mm, cylindrical mould of 150 mm diameter and 300 mm height and beam moulds of sizes 100×100×500 mm and 150×150×700 mm. The sizes of the blowhole in any direction may not exceed 5 mm with a depth of 3 to 5 mm. In the case of cylindrical mould, the sizes of blowhole/cavity in any direction may not exceed 20-25 mm.

5.2 Special Requirements

5.2.1 Cube Mould — Cube mould of 50 mm size shall be either a single mould (see Fig. 1) or with more than one mould compartment (see Fig 2); however, the number of mould compartments shall not exceed 3. Cube moulds of size 100 mm, 150 mm, 225 mm and 300 mm shall be made in such a manner as to facilitate their separation into two parts. Cube moulds shall be provided with a base plate.

Note — If required by the purchaser, cube moulds may be provided with flat steel cover plates to facilitate accelerated curing of test specimens (see IS: 9013-1978*).

5.2.2 Cylindrical Mould (see Fig. 3) — shall be made in such a manner as to facilitate separation of the mould longitudinally into two parts. Each mould shall be provided with a base plate and a capping plate.

5.2.3 Beam Mould (see Fig. 4) — shall be made in such a manner as to facilitate separation of the mould into two parts. The mould shall be constructed with the longer dimension horizontal. Each mould shall be provided with a base plate.

5.2.4 Bar Mould — The bar mould may be a single one or with more than one mould compartment. Each end plate of the mould shall be equipped to hold properly in place a stainless steel reference point having a diameter of 6 mm. The reference points may be either smooth or knurled end threaded. The reference points shall be so set that their principal axis coincides with the principal axis of the mould and shall extend 16 mm inside the mould. Each mould shall be provided with a base plate. Typical bar moulds are shown in Fig. 5, 6, 7 and 8.

5.3 Arrangement for Fastening/Clamping — The base plate shall preferably be attached to the mould by cleats which may either be spring-loaded or secured with threaded studs and nuts/wing nuts. The parts of the mould,

*Method of making, curing and determining compressive strength of accelerated-cured concrete test specimens.
when assembled, shall be positively and rigidly held together during filling, subsequent handling and vibration where applicable. Any suitable method of ensuring this by way of lock nuts and/or locating pins may be employed.

6. ACCESSORIES

6.1 Tamping Rod — The tamping rod shall be of the following types:
   a) 16 ± 0.5 mm dia and 600 ± 2 mm long with a rounded working end shall be made of mild steel (see Fig. 9),
   b) Of square section with tamping face 25 ± 0.5 mm square and 400 ± 2 mm long and weighing 2 kg shall be made of mild steel and provided with a handle (see Fig. 10).
   c) Of 12 x 25 mm cross-section and convenient length of 125 to 150 mm; tamping face shall be flat and at right angles to the length of the bar, shall be made of non-absorbent, abrasion resistant non-brittle material, such as a rubber compound having a Shore A Durometer hardness of 80 ± 10 or seasoned teak wood rendered non-absorbent by immersion for 15 min in paraffin at approximately 200°C, or ebonite fibre.

6.2 Gauging Trowel — The gauging trowel shall be made of mild steel and shall be in accordance with Fig. 11. The trowel blade shall be of minimum thickness 1.5 mm and of length 195 mm and shall be provided with a wooden handle. The trowel shall weigh 210 ± 10 g.

6.3 Trowel — The trowel shall be made of mild steel and shall be in accordance with Fig. 11. The trowel blade shall be of minimum thickness 1.5 mm and 100 to 150 mm length with straight edges.

7. MARKING

7.1 The following information shall be clearly and indelibly marked on each component of the mould as far as practicable in way that it does not interfere with the performance of the mould.
   a) Name of the manufacturer or his registered trade mark or both, and
   b) Date of manufacture.

7.1.1 The product may also be marked with Standard Mark.

7.1.2 The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.
IS : 10086 - 1982

All dimensions in millimetres.

FIG. 9  TYPICAL TAMING ROD

All dimensions in millimetres.

FIG. 10  TYPICAL TAMING BAR

All dimensions in millimetres.

FIG. 11  TYPICAL TROWEL.
(Continued from page 2)

Instruments for Cement and Concrete Testing Subcommittee, BDC 2: 10

Chairman
Dr. Iqbal Ali

Members
Shri P. D. Agarwal
Dr. T. N. Chojer (Alternate)
Prof. B. M. Ahuja
Shri T. P. Eambaran
Shri H. K. Guha

Deputy Secretary (Alternate)
Shri P. J. Jagus
Shri D. A. Wadia (Alternate)
Shri M. R. Joshi

Shri Y. P. Pathak (Alternate)
Shri E. K. Ramachandran
Shri S. K. Banerjee (Alternate)

Prof. C. K. Ramesh
Dr. R. S. Ayyar (Alternate)
Shri M. V. Ranga Rao
Dr. K. C. Narang (Alternate)

Dr. S. S. Rehle

Shri J. P. Kaushik (Alternate)
Shri A. V. S. R. Saftri
Shri Subhash Sharma (Alternate)
Shri K. L. Sethi
Shri M. L. Bhatia (Alternate)

Representing
Engineering Research Laboratories, Hyderabad
Public Works Department, Government of Uttar Pradesh, Lucknow
Indian Institute of Technology, New Delhi
Highways Research Station, Madras
All India Instruments Manufacturers and Dealers Association, Bombay
The Associated Cement Companies Ltd., Bombay
Research & Development Organization (Ministry of Defence), Pune
National Test House, Calcutta
Indian Institute of Technology, Bombay
Cement Research Institute of India, New Delhi
Central Building Research Institute (CSIR), Roorkee
Associated Instrument Manufacturers (India) Private Ltd., New Delhi
Central Road Research Institute (CSIR), New Delhi