



भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG, NEW DELHI 110002

Phone: + 91 11 23230131, 23233375, 23239402 Extn 8406, 23608406; Website: www.bis.gov.in

व्यापक परिचालन मसौदा

हमारा संदर्भ : सीईडी 43/टी-92

17 अक्टूबर 2022

तकनीकी समिति : मृदा एवं नींव इंजीनियरी विषय समिति, सीईडी 43

प्राप्तकर्ता :

- 1 सिविल इंजीनियरी विभाग परिषद, सीईडीसी के सभी सदस्य
- 2 मृदा एवं नींव इंजीनियरी विषय समिति, सीईडी 43 के सभी सदस्य
- 3 रुचि रखने वाले अन्य निकाय।

महोदया/महोदय,

निम्नलिखित मसौदा संलग्न है:

| प्रलेख संख्या | शीर्षक |
|--------------------|--|
| सीईडी 43 (20670)WC | सीबीआर सांचा और उसके सहायक उपकरण – विशिष्ट का भारतीय मानक मसौदा (IS 9669 का पहला पुनरीक्षण) (ICS No. 93.020; 13.080.20) |

कृपया इस मसौदे का अवलोकन करें और अपनी सम्मतियाँ यह बताते हुए भेजे कि यह मसौदा प्रकाशित हो तो इस पर अमल करने में, आपको व्यवसाय अथवा कारोबार में क्या कठिनाइयाँ आ सकती हैं।

सम्मतियाँ भेजने की अंतिम तिथि: 17 नवंबर 2022

सम्मति यदि कोई हो तो कृपया अधोहस्ताक्षरी को ई-मेल द्वारा madhurima@bis.gov.in पर या उपरलिखित पते पर, संलग्न फॉर्मेट में भेजें।

यदि कोई सम्मति प्राप्त नहीं होती है अथवा सम्मति में केवल भाषा संबंधी त्रुटि हुई तो उपरोक्त प्रलेख को यथावत अंतिम रूप दे दिया जाएगा। यदि सम्मति तकनीकी प्रकृति की हुई तो विषय समिति के अध्यक्ष के परामर्श से अथवा उनकी इच्छा पर आगे की कार्यवाही के लिए विषय समिति को भेजे जाने के बाद प्रलेख को अंतिम रूप दे दिया जाएगा।

यह प्रलेख भारतीय मानक ब्यूरो की वेबसाइट www.bis.gov.in पर भी उपलब्ध हैं।

धन्यवाद।

भवदीय

ह/-

(अरुण कुमार एस.)

वैज्ञानिक 'ई'/निर्देशक और प्रमुख (सिविल इंजीनियरिंग)

संलग्न: उपरलिखित



भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG, NEW DELHI 110002

Phone: + 91 11 23230131, 23233375, 23239402 Extn 8406, 23608406; Website: www.bis.gov.in

**DRAFT IN
WIDE CIRCULATION**

DOCUMENT DESPATCH ADVICE

| Reference | Date |
|-------------|-----------------|
| CED 43/T-92 | 17 October 2022 |

TECHNICAL COMMITTEE:

SOIL AND FOUNDATION ENGINEERING SECTIONAL COMMITTEE, CED 43

ADDRESSED TO:

1. All Members of Civil Engineering Division Council, CEDC
2. All Members of Soil and Foundation Engineering Sectional Committee, CED 43
3. All others interests

Dear Madam/Sir,

Please find enclosed the following draft:

| Doc. No. | Title |
|------------------|---|
| CED 43 (20670)WC | Draft Indian Standard CBR Mould and its Accessories – Specification (<i>First Revision of IS 9669</i>) (ICS No. 93.020; 13.080.20) |

Kindly examine the draft and forward your views stating any difficulties which you are likely to experience in your business or profession, if this is finally adopted as National Standard.

Last Date for comments: 17 November 2022

Comments if any, may please be made in the enclosed format and emailed at madhurima@bis.gov.in or sent at the above address.

In case no comments are received or comments received are of editorial nature, you will kindly permit us to presume your approval for the above document as finalized. However, in case comments, technical in nature are received, then it may be finalized either in consultation with the Chairman, Sectional Committee or referred to the Sectional Committee for further necessary action if so desired by the Chairman, Sectional Committee.

The document is also hosted on BIS website www.bis.gov.in.

Thanking you,

Yours faithfully,

Sd/-

**(Arun Kumar S.)
Sc. 'E'/Director & Head (Civil Engg.)**

Encl: As above

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

(Not to be reproduced without the permission of BIS or used as a Standard)

Draft Indian Standard

CBR MOULD AND ITS ACCESSORIES — SPECIFICATION

(First Revision of IS 9669)

Soil and Foundation Engineering
Sectional Committee, CED 43

Last Date of Comments:
17 November 2022

Soil and Foundation Engineering Sectional Committee, CED 43

FOREWORD

(Formal clauses will be added later)

There is a series of standards on methods of testing of soils. It has been recognized that reliable and inter-comparable test results can be obtained only with the standard testing equipment capable of giving that desired level of accuracy. With this objective, a series of specifications covering the requirements of equipment used for testing soils have been published to encourage their development and manufacture in the country.

The equipment covered in this standard is used for determination of California Bearing Ratio (CBR) value covered in IS 2720 (Part 16) : 1987 'Methods of test for soil: Part 16 Laboratory determination of CBR (*second revision*)'.

This standard was first published in 1980. The present revision has been taken up with a view to incorporating the modifications found necessary as a result of experience gained in the use of this standard. Also, in this revision, the standard has been brought into latest style and format of Indian Standards, and references to Indian Standards, wherever applicable have been updated. BIS certification marking clause has been modified to align with the revised *Bureau of Indian Standards Act, 2016*.

This standard contributes to the Sustainable Development Goal 9 - Industry, Innovation and Infrastructure: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

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 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

(Not to be reproduced without the permission of BIS or used as a Standard)

Draft Indian Standard

CBR MOULD AND ITS ACCESSORIES — SPECIFICATION

(First Revision of IS 9669)

Soil and Foundation Engineering
Sectional Committee, CED 43

Last date of Comments:
17 November 2022

1 SCOPE

This standard covers the requirements for mould, cutting collar, base plate, spacer disc, weights, penetration plunger and other accessories used for the determination of California Bearing Ratio (CBR) value.

2 REFERENCE

The following standards contain provisions, which through references in this text, constitute provisions of this standard. At the time of publication the editions indicated are valid. All standards are subject to revision, and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

| <i>IS No.</i> | <i>Title</i> |
|----------------------|--|
| 28 : 1985 | Specification for phosphor bronze ingots and castings (<i>fourth revision</i>) |
| 210 : 2009 | Grey iron castings — Specification (<i>fifth revision</i>) |
| 292 : 1983 | Specification for leaded brass ingots and casting (<i>second revision</i>) |
| 318 : 1981 | Specification for leaded tin bronze ingots and castings (<i>second revision</i>) |
| 410 : 1977 | Specification for cold rolled brass sheet, strip and foil (<i>third revision</i>) |
| 513 (Part 1) : 2016 | Cold reduced carbon steel sheet and strip: Part 1 Cold forming and drawing purpose (<i>sixth revision</i>) |
| 2102 (Part 1) : 1993 | General tolerances: Part 1 Tolerances for linear and angular dimensions without individual tolerance indications (<i>third revision</i>) |

3 DIMENSIONS

Dimensions with tolerances of different components/parts of CBR mould and its accessories shall be as detailed in Fig. 1 to 10. Except where tolerances are specifically mentioned against the dimensions, all dimensions shall be taken as nominal, and tolerances thereon shall be as given for medium class in IS 2102 (Part 1).

4 MATERIALS

The materials for construction of the various components/parts of CBR mould and its accessories shall be as given in Table 1.

**Table 1 Materials for Construction of Different Components/Parts of
CBR Mould and its Accessories**
(Clause 4)

| SI No. | Equipment | Material | Special Requirement, If any | Conforming to Indian Standard |
|--------|--|----------------------------|-----------------------------|-------------------------------|
| (1) | (2) | (3) | (4) | (5) |
| i) | a) Mould (see Fig. 1) | a) Copper alloy, or | - | IS 318 |
| | b) Cutting collar (see Fig. 2) | b) Brass, or | - | IS 292 |
| | c) Base plate (see Fig. 3) | c) Phosphor bronze, or | - | IS 28 |
| | | d) Mild steel | Chrome-plated | IS 513 (Part 1) |
| ii) | Spacer disc and handle (see Fig. 4) | Mild steel | - | IS 513 (Part 1) |
| iii) | Weights (see Fig. 5) | Cast iron | - | IS 210 |
| iv) | Adjustable stem with perforated plate (see Fig. 6) | Brass | - | IS 410 |
| v) | Penetration plunger (see Fig. 7) | Mild steel | Plated | IS 513 (Part 1) |
| vi) | Stay rod (see Fig. 8) | Mild steel | - | IS 513 (Part 1) |
| vii) | Wing nut and washer (see Fig. 9) | Forged steel or cast steel | Cadmium/ chrome-plated | - |
| viii) | Tripod (see 5.4) | Copper alloy | - | IS 318 |

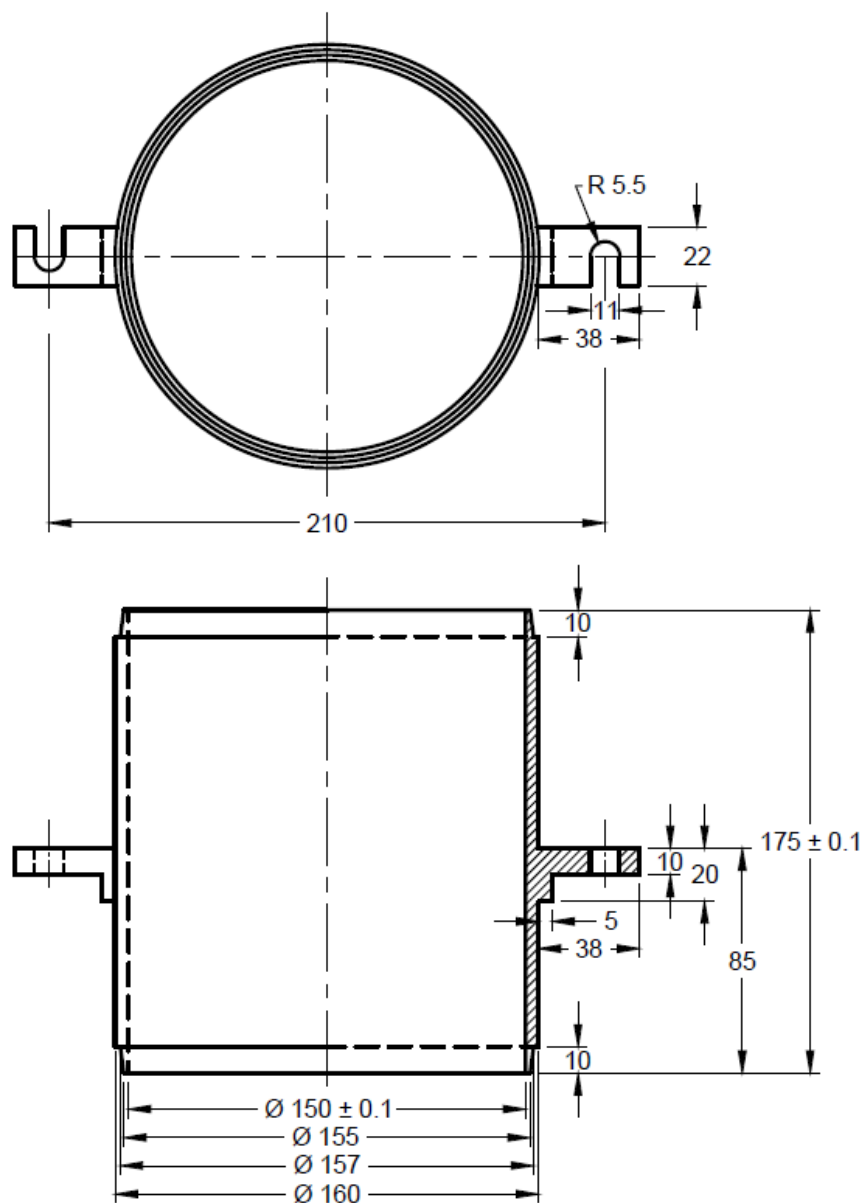
5 CONSTRUCTION

5.1 Mould

The mould shall be smooth from inside and shall have two ears either cast integral with the body or welded. It shall have suitable seatings at the ends for positioning the collar and the base plate (see Fig. 1)

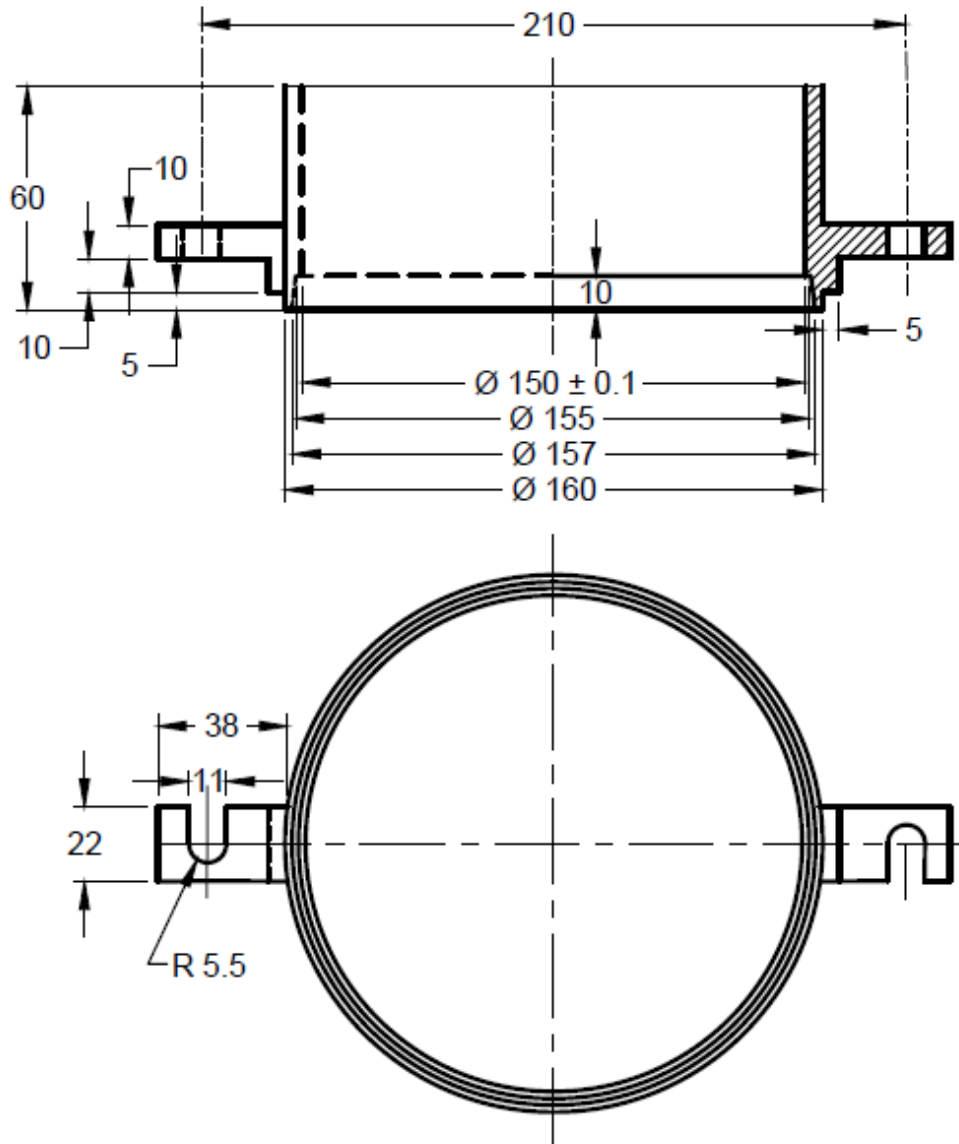
5.2 Collar

The collar shall be made from the same material as that of mould. Two similar ears as in the case of the mould shall be cast integral with the body or welded. It shall have suitable seatings at the lower end for sitting flush with the mould (see Fig. 2).



All dimensions in millimetres.

FIG. 1 MOULD



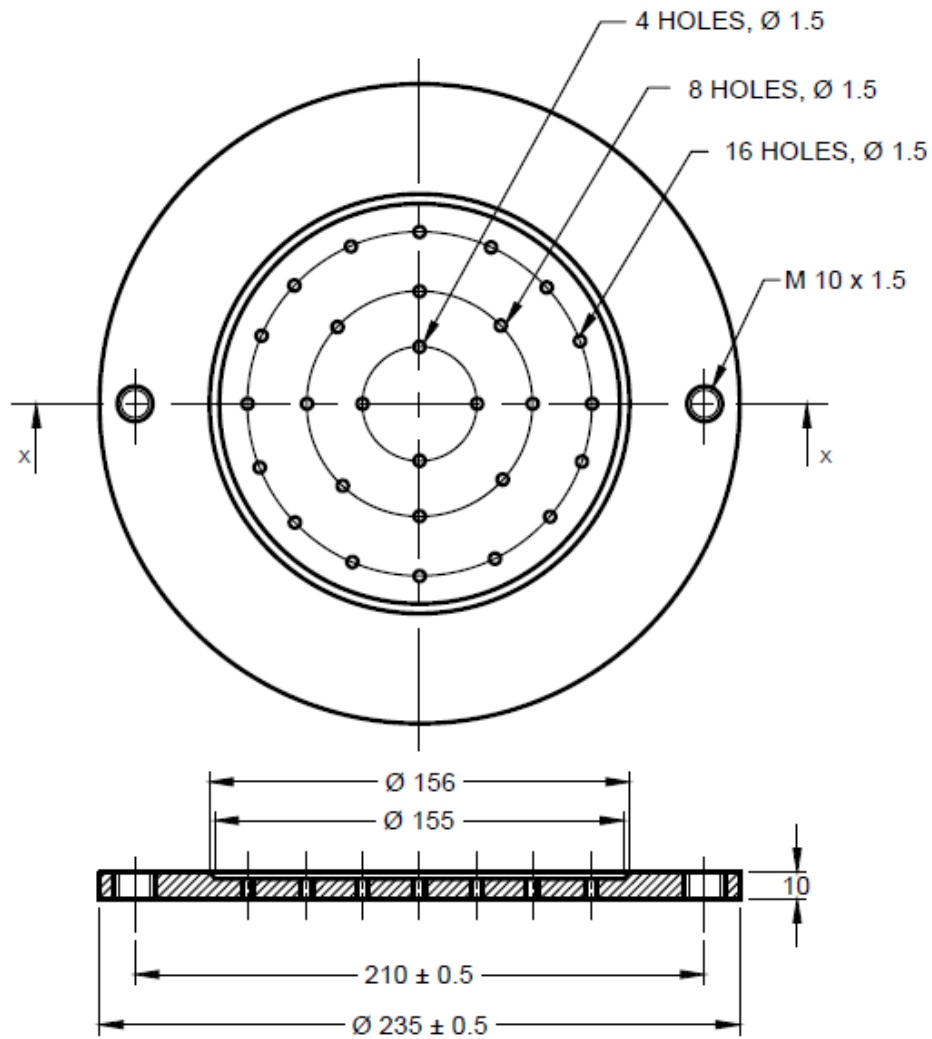
All dimensions in millimetres.

FIG. 2 CUTTING COLLAR

5.3 Base Plate

A suitable seating about 2 mm deep shall be provided on the top face for proper seating of the mould (see Fig. 3), and shall be of the same material as mould.

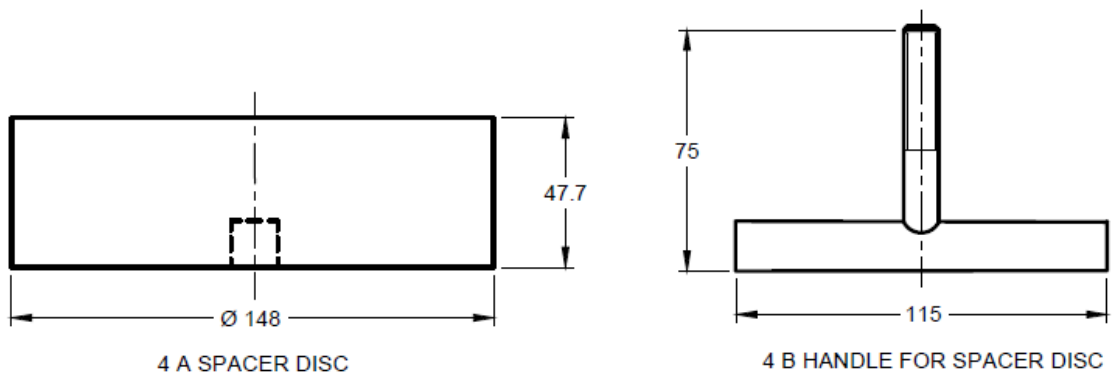
5.4 The details of other accessories, namely, spacer disc, weights, adjustable stem with perforated plates, penetration plunger, stay rod and wing nut, are given from Fig. 4 to 9. The details of tripod are given in Fig. 10



SECTION XX

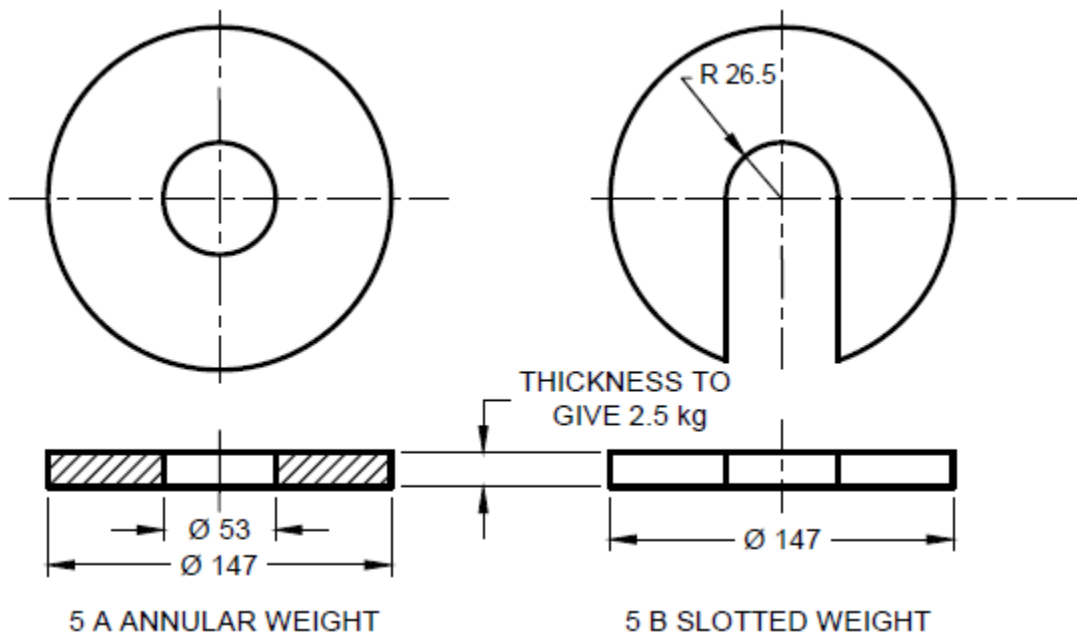
All dimensions in millimetres.

FIG. 3 BASE PLATE



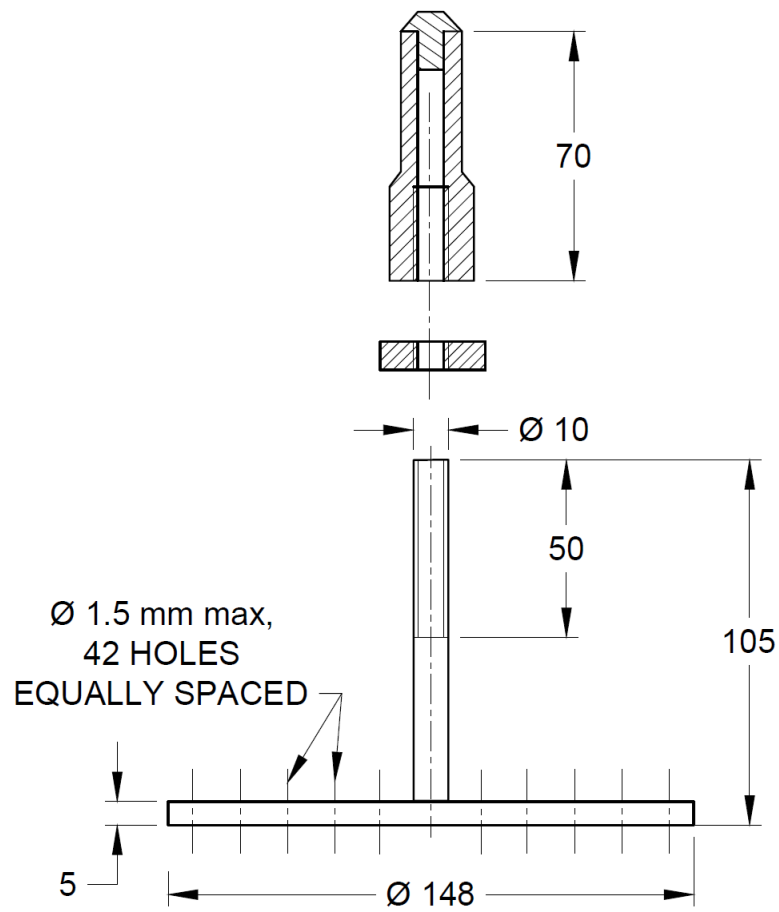
All dimensions in millimetres.

FIG. 4 SPACER DISC AND HANDLE



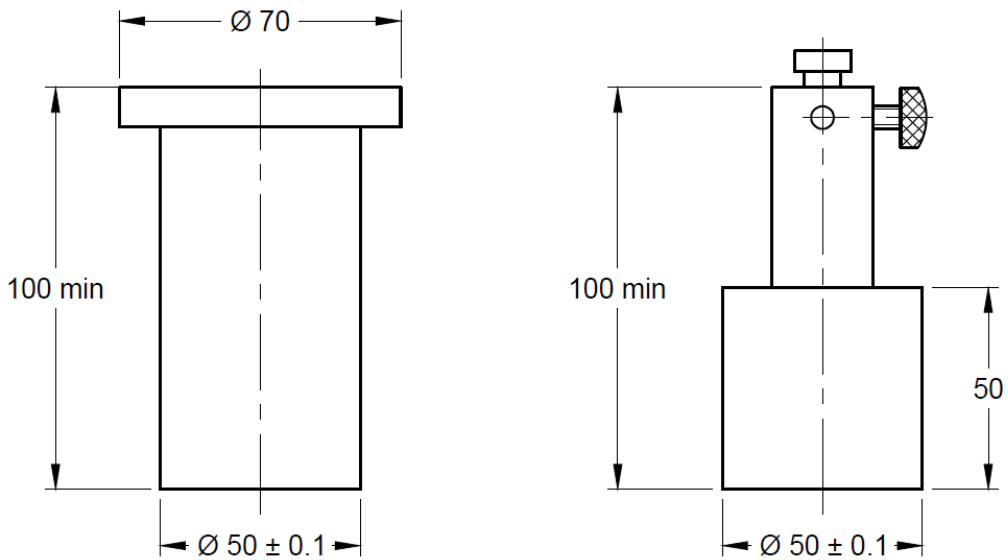
All dimensions in millimetres.

FIG. 5 METAL WEIGHTS



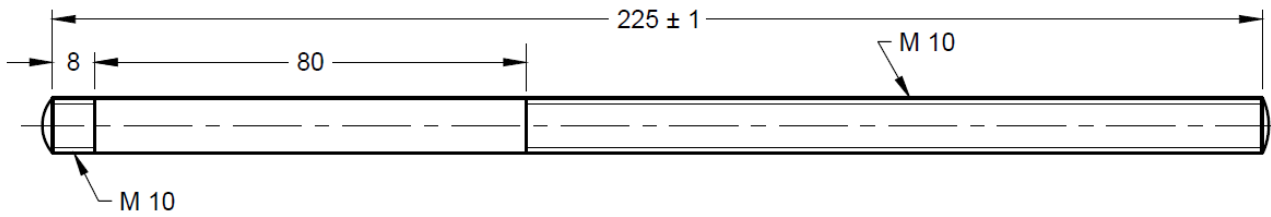
All dimensions in millimetres.

FIG. 6 ADJUSTABLE STEM AND PERFORATED PLATES



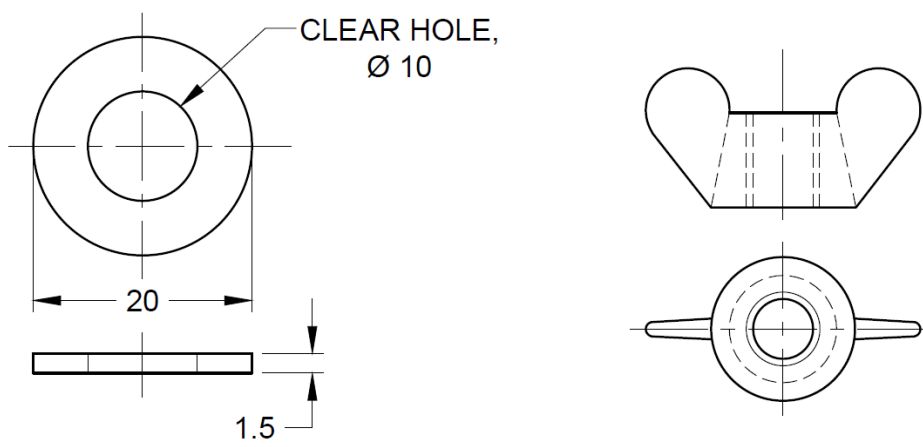
All dimensions in millimetres.

FIG. 7 PENETRATION PLUNGER



All dimensions in millimetres.

FIG. 8 STAY ROD

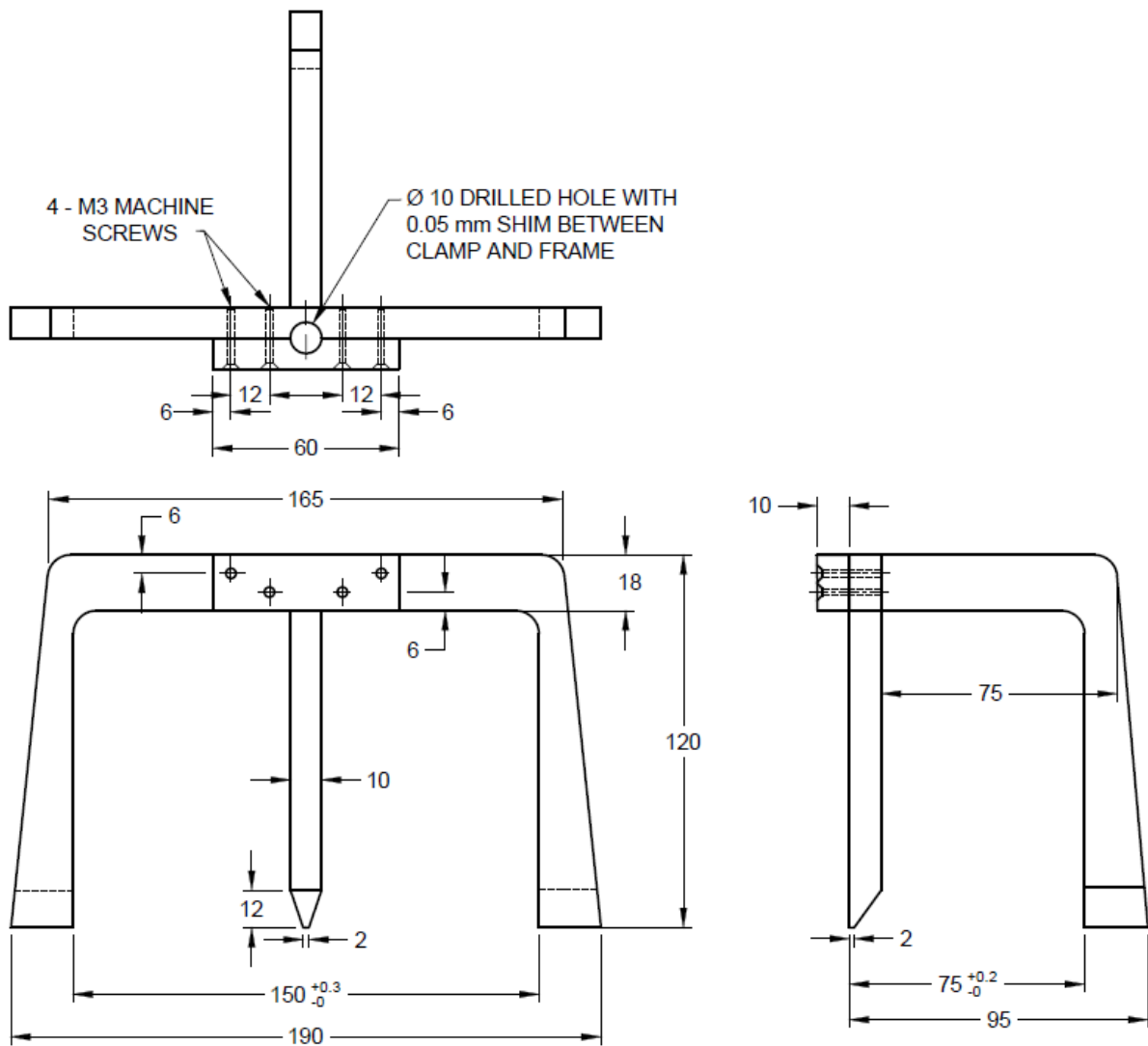


STEEL WASHER

WING NUT

All dimensions in millimetres.

FIG. 9 WING NUT AND WASHER



All dimensions in millimetres.

FIG. 10 METAL TRIPOD

6 MARKING

6.1 The following information shall be clearly and indelibly marked on each CBR mould and its accessories:

- Name of manufacturer or his registered trade-mark or both,
- Type of material used; and
- Date of manufacture.

6.2 BIS Certification Marking

The product conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the product may be marked with the Standard Mark.