



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-96

17 नवम्बर 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 (21227)WC	हल्की और भारी मृदा के संघनन परीक्षण के लिए संघनन सांचा असेंबली – विशिष्ट का भारतीय मानक मसौदा (IS 10074 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: 18 दिसम्बर 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 है।

धन्यवाद।

भवदीय

ह/-

(अरुण कुमार एस.)

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

संलग्न: उपरलिखित



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**DRAFT IN
WIDE CIRCULATION**

DOCUMENT DESPATCH ADVICE

Reference	Date
CED 43/T-96	17 November 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 (21227)WC	Draft Indian Standard Compaction Mould Assembly for Light And Heavy Compaction Test of Soil — Specification (<i>First Revision of IS 10074</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: 18 December 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

**COMPACTION MOULD ASSEMBLY FOR LIGHT AND HEAVY COMPACTION
TEST OF SOIL — SPECIFICATION**

(First Revision of IS 10074)

Soil and Foundation Engineering
Sectional Committee, CED 43

Last date for Comments:
18 December 2022

Soil and Foundation Engineering Sectional Committee, CED 43

FOREWORD

(Formal clauses to 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 water content: dry density relation as covered in IS 2720 (Part 7) : 1980 'Methods of test for soils: Part 7 Determination of water content – dry density relation using light compaction (*second revision*)' and IS 2720 (Part 8) : 1983 'Methods of test for soils: Part 8 Determination of water content – dry density relation using heavy compaction (*second revision*)'.

This standard was first published in 1982. 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. Marking clause has been modified to include type of compaction mould assembly in marking. 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

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Draft Indian Standard

**COMPACTION MOULD ASSEMBLY FOR LIGHT AND HEAVY COMPACTION
TEST OF SOIL — SPECIFICATION**

(First Revision of IS 10074)

Soil and Foundation Engineering
Sectional Committee, CED 43

Last date for Comments:
18 December 2022

1 SCOPE

This standard covers the requirements of compaction mould assembly used for determination of water content – dry density relation of soils using light and heavy compaction.

2 REFERENCE

The following standards contain provisions, which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were 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>
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>)
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 MATERIALS

The materials for construction of the different component parts of compaction mould assembly shall be as given in Table 1.

Table 1 Materials of Construction of Different Component Parts of Compaction Mould Assembly
(Clause 3)

Sl No.	Part	Material	Specific Requirement, If any	Conforming to Indian Standard
(1)	(2)	(3)	(4)	(5)
i)	Mould, Collar, Base plate	{ a) Copper alloy b) Brass c) Mild steel	— — Cadmium plated	IS 318 IS 292 IS 513 (Part 1)
ii)	Stay rods	Mild steel	Chromium plated	—
iii)	Wing nuts	Cast steel/Forged steel	Cadmium plated	—

4 TYPES AND DIMENSIONS

The compaction mould assembly shall be of two types (Types 1 and 2). Dimensions of component parts of compaction mould assembly shall be as detailed in Fig. 1 to Fig. 6. Except where tolerances are specifically mentioned against the dimensions, all dimensions shall be taken as nominal dimensions and tolerances as given in IS 2102 (Part 1) shall apply.

5 CONSTRUCTION

5.1 Compaction Mould

The compaction mould shall be of two types as detailed in Fig. 2. It shall be cylindrical in shape and finished smooth inside. The mould shall have two eyes either cast integral with the body or welded. It shall have suitable seatings at the top end for positioning the collar,

5.2 Collar

The collar shall be made from the same material as that of the mould. It shall be made as detailed in Fig. 3. The collar shall be cylindrical in shape and finished smooth inside. Two eyes either cast or welded to the collar to secure it with the mould and base plate shall be provided. It shall have a suitable seating at the lower end for sitting flush with the mould.

5.3 Base Plate

The base plate shall be made from the same material as that of the mould. The base plate shall have a seating 3 mm deep on top face for proper seating of mould. It shall be square in shape and shall be as detailed in Fig. 4. Alternatively, the base plate shall be made circular in shape as detailed in Fig. 5. It shall have two tapped and two plain holes. The tapped holes across the corners or diameter shall be used for fixing the stay rods (as shown in Fig. 6A) and the plain holes shall be used to fix the base plate to the base of an automatic compactor. The stay rods shall be fixed to suit the eyes on the mould and collar and four wing nuts (as shown in Fig. 6B) shall be used to tighten the mould and collar with the base plate.

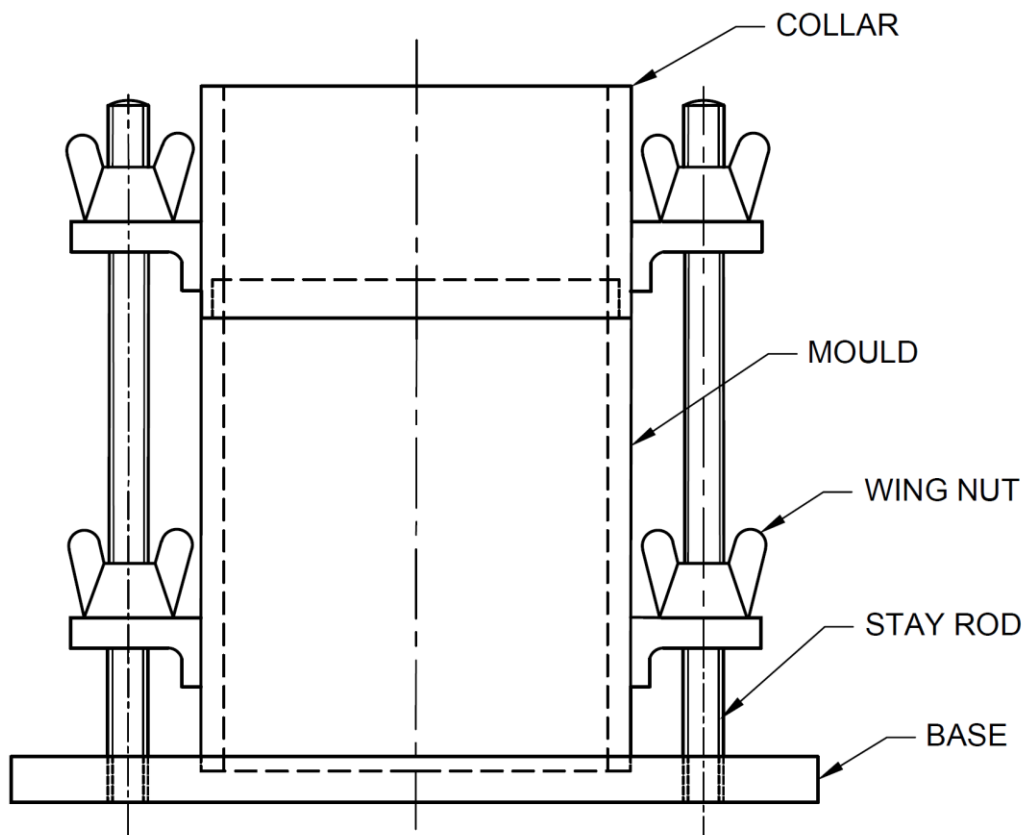
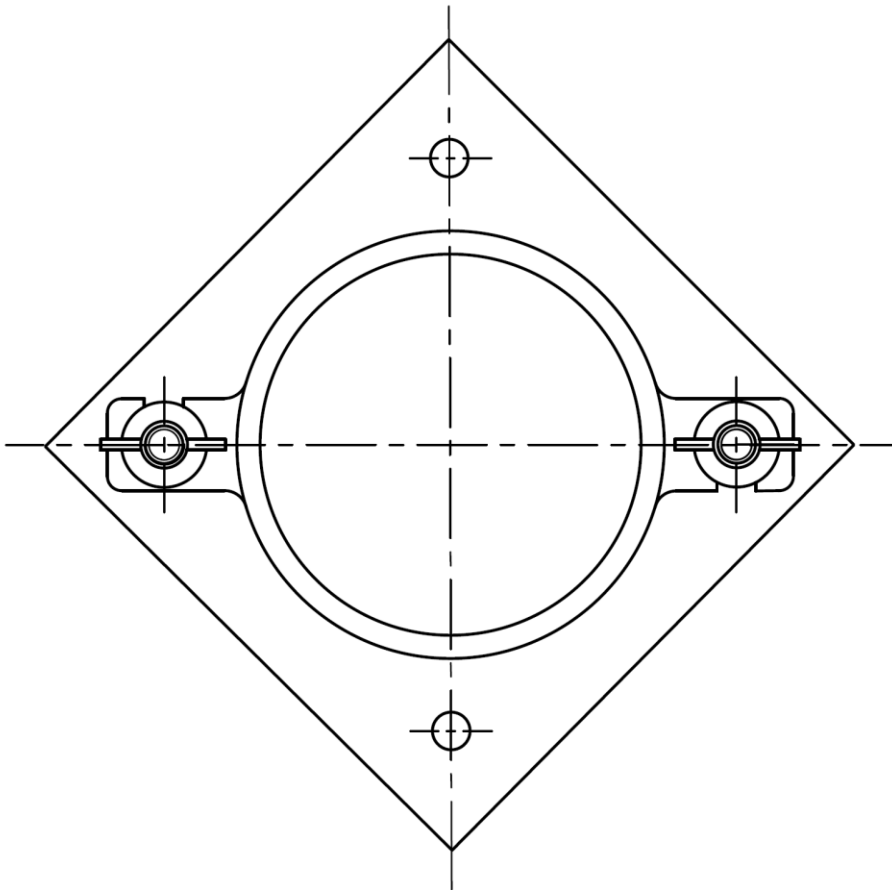
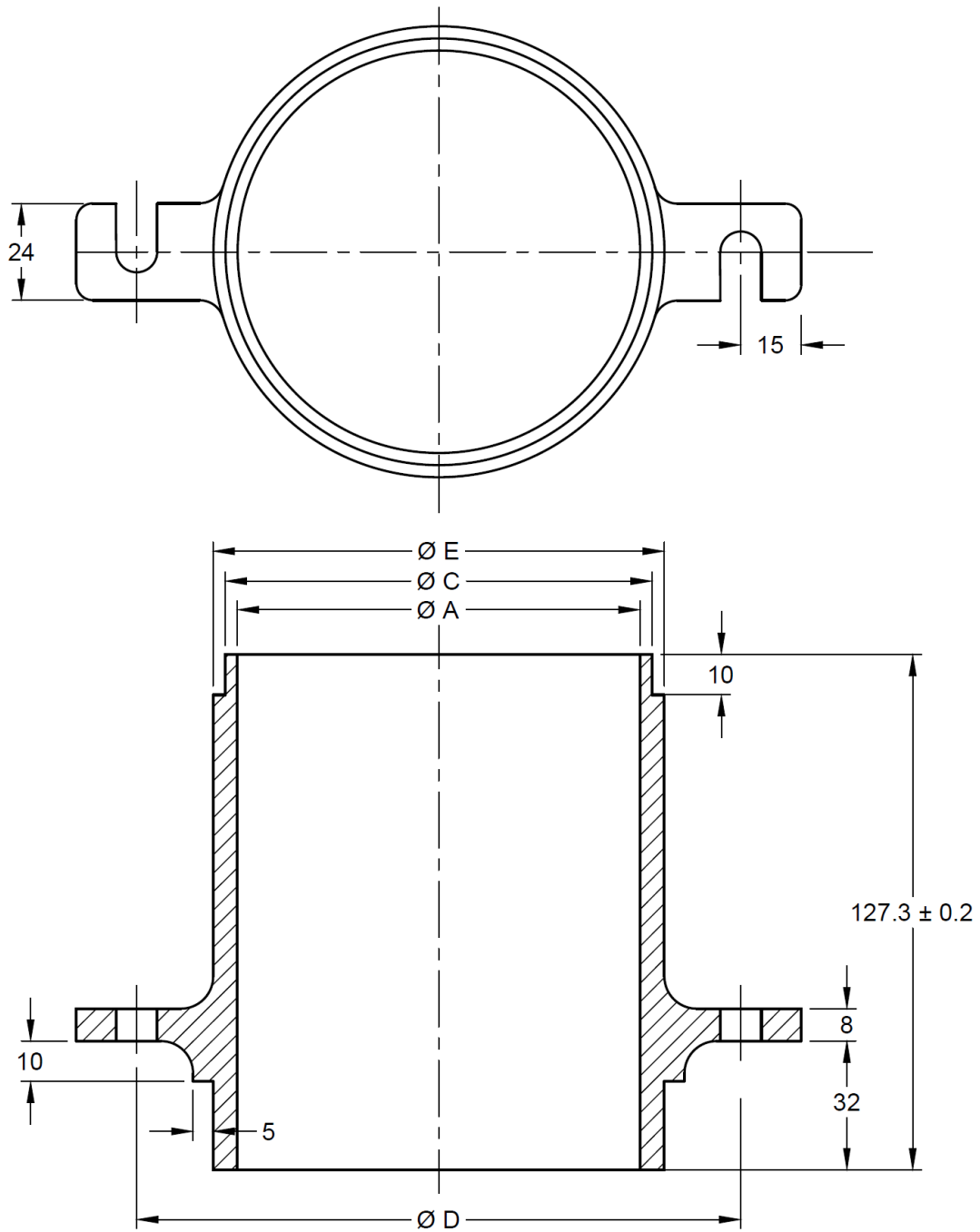


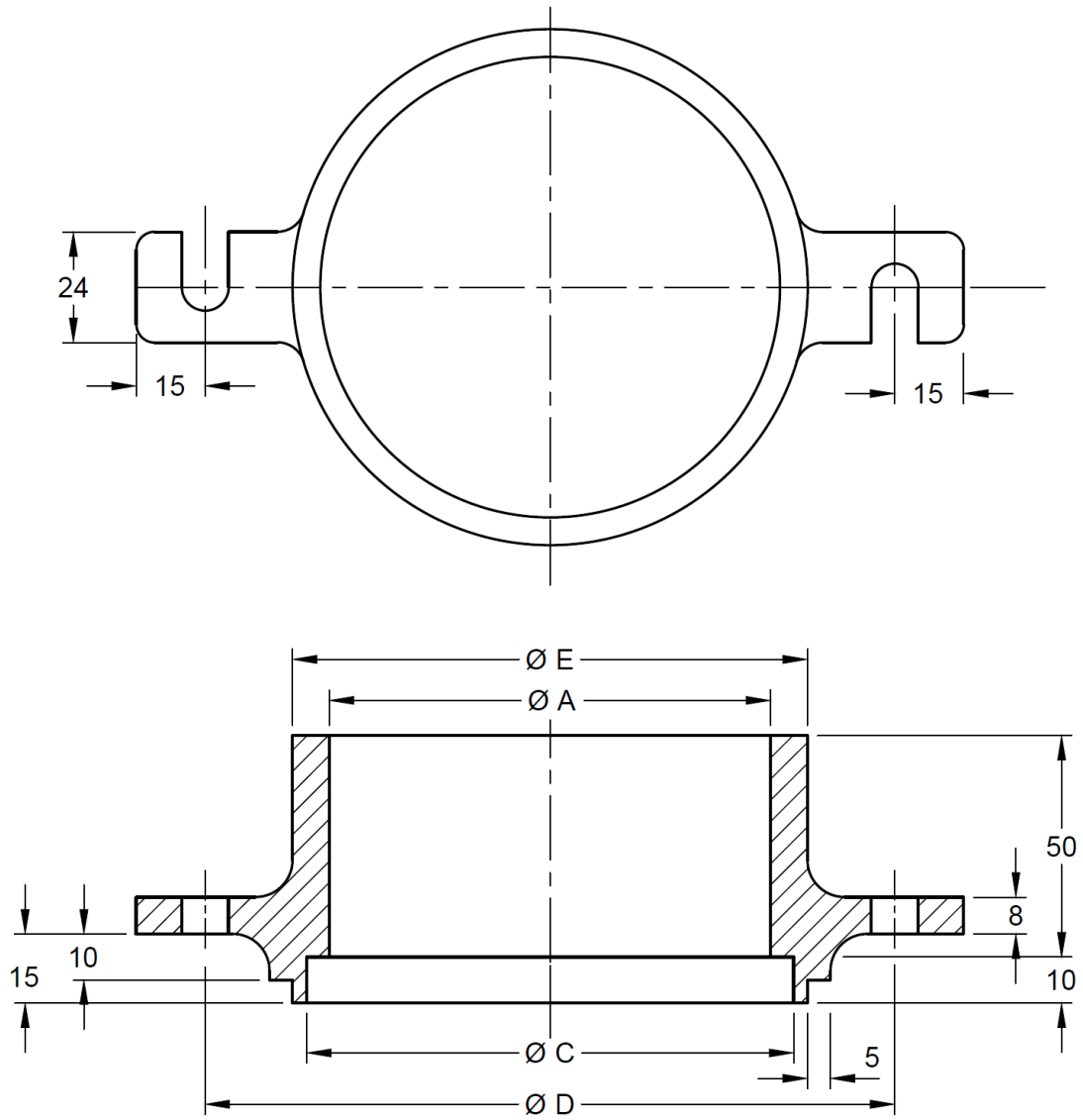
FIG. 1 ASSEMBLY



Type	A	C	D	E
	mm	mm	mm	mm
1	100 ± 0.4	106	150	112
2	150 ± 0.4	156	200	162

All dimensions in millimetres.

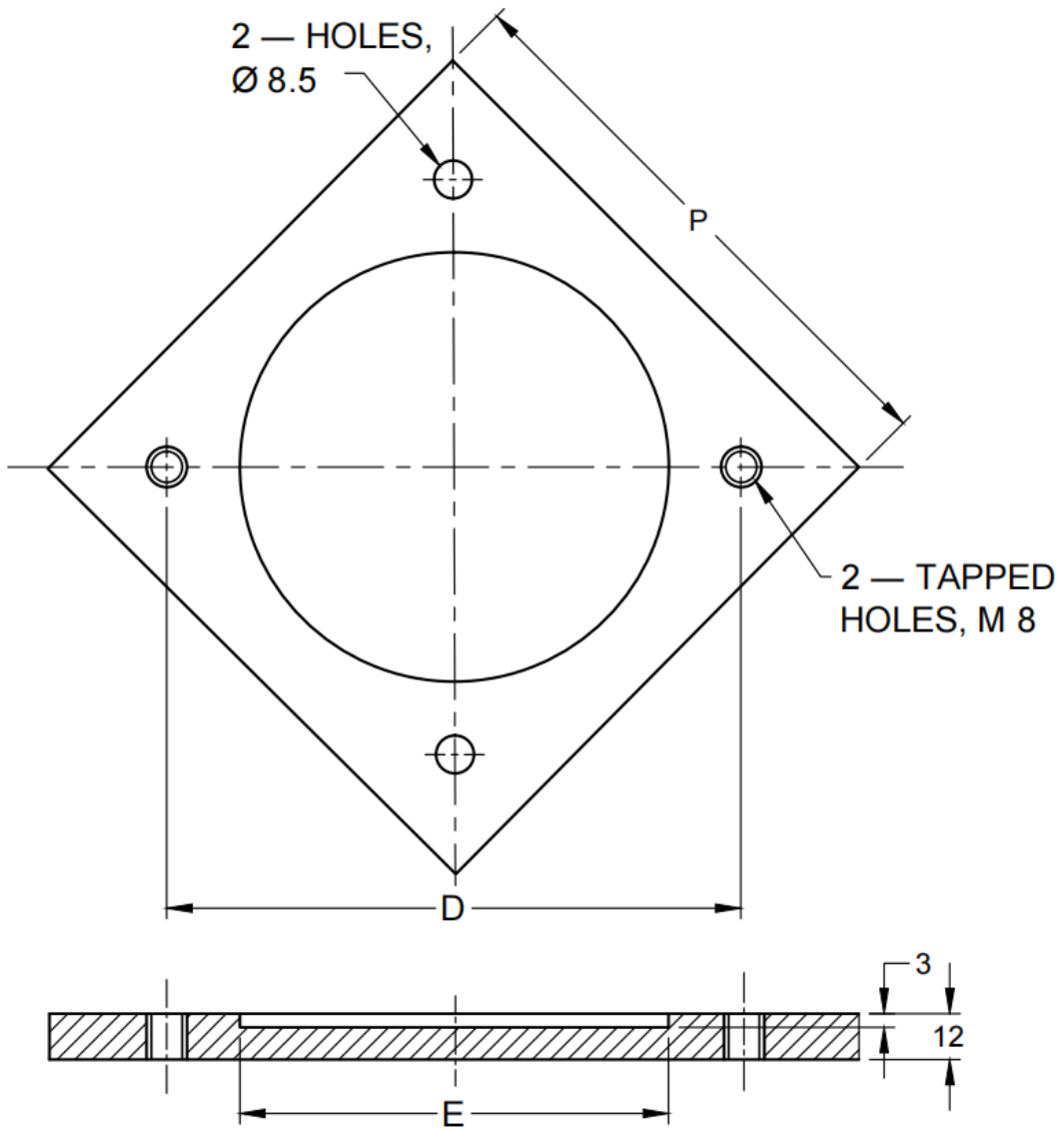
FIG. 2 MOULD



Type of Mould	A	C	D	E
	mm	mm	mm	mm
1	100 ± 0.4	106	150	112
2	150 ± 0.4	156	200	162

All dimensions in millimetres.

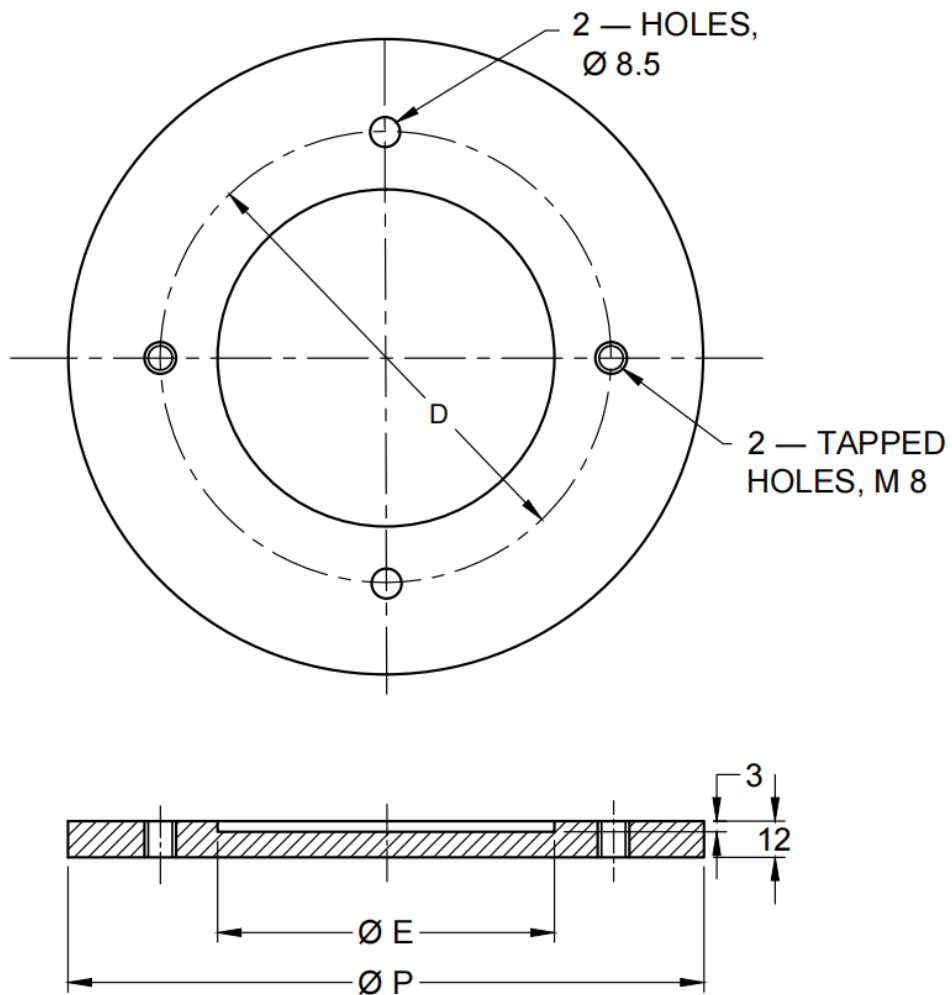
FIG. 3 COLLAR



Type of Mould	D	E	P
	mm	mm	mm
1	150	112.5	150
2	200	162.5	200

All dimensions in millimetres.

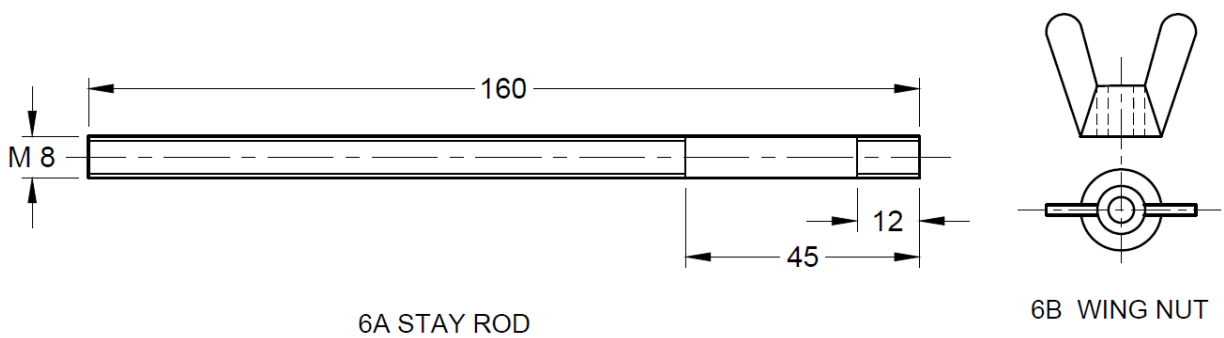
FIG. 4 BASE PLATE (SQUARE)



Type of Mould	D	E	P
	mm	mm	mm
1	150	120.5	180
2	200	170.5	230

All dimensions in millimetres.

FIG. 5 BASE PLATE (CIRCULAR)



All dimensions in millimetres.

FIG. 6 STAY ROD AND WING NUT

6 MARKING

6.1 The following information shall be clearly and indelibly marked on each component part of compaction mould assembly:

- a) Name of the manufacturer or his registered trade-mark or both;
- b) Type of material used;
- c) Type of compaction mould assembly (Type 1 or Type 2); and
- d) 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.