



भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS

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

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व्यापक परिचालन मसौदा

हमारा संदर्भ : सीईडी 43/टी-107

20 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 रूचि रखने वाले अन्य निकाय।

महोदया/महोदय,

निम्नलिखित मसौदा संलग्न है:

प्रलेख संख्या	शीर्षक
सीईडी 43 (21049)WC	मृदा परीक्षण के लिए अपरूपण बॉक्स – विशिष्ट का भारतीय मानक मसौदा (IS 11229 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 इन पर अमल करने में, आपको व्यवसाय अथवा कारोबार में क्या कठिनाइयाँ आ सकती हैं।

सम्मतियाँ भेजने की अंतिम तिथि: 20 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 है।

धन्यवाद।

भवदीय

ह/-

(अरुण कुमार एस.)

वै. 'ई'/निर्देशक और प्रमुख (सिविल इंजीनियरी)

संलग्न: उपरलिखित



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**DRAFT IN
WIDE CIRCULATION**

DOCUMENT DESPATCH ADVICE

Reference	Date
CED 43/T-107	20 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,
3. All other interests

Dear Madam/Sir,

Please find enclosed the following draft:

Doc. No.	Title
CED 43 (21049)WC	Draft Indian Standard Shear Box for Testing of Soils — Specification (<i>First Revision of IS 11229</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 Standards.

Last Date for comments: 20 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 and Head (Civil Engg.)

Encl: As above

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

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Draft Indian Standard

SHEAR BOX FOR TESTING OF SOILS — SPECIFICATION

(First Revision of IS 11229)

Soil and Foundation Engineering
Sectional Committee, CED 43

Last date of Comments:
20 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 as a part of the assembly for the equipment used for the determination of shear strength of the soil in accordance with IS 2720 (Part 13) : 1986 'Methods of test for soils: Part 13 Direct shear test (*second revision*)'.

This standard was first published in 1985. 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. The other major modifications incorporated in this revision of the standard are given below:

- a) General requirements of shear box have been modified to delete top plate which is actually the loading plate is already separately specified.
- b) Number of perforated and non-perforated grid plates to be provided with the equipment have been separately specified.
- c) Number of other components to be provided have been specified
- d) Requirements for loading arm and adjustable screws have been included.
- e) Figure of non-perforated grid plates has been added;
- f) 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

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Draft Indian Standard

SHEAR BOX FOR TESTING OF SOILS — SPECIFICATION

(First Revision of IS 11229)

Soil and Foundation Engineering
Sectional Committee, CED 43

Last date of Comments:
20 November 2022

1 SCOPE

This standard covers requirements for shear box used as a assembly for the determination of shear strength of the soil with a maximum particle size of 4.75 mm.

2 REFERENCES

The following standards contain provisions, which through reference 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>
292 : 1983	Specification for leaded brass ingots and casting (<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>)
3622 : 1977	Specification for sandstone (slabs and tiles) (<i>first revision</i>)

3 GENERAL REQUIREMENTS

The shear box shall consist of the following (see Fig. 1):

- a) Upper and lower parts of shear box coupled together with two locking pins;
- b) Grid plates, perforated – one pair;
- c) Grid plates, non-perforated – one pair;
- d) Stone plates – one pair;

- e) Base plate – one number;
- f) Loading pad – one number;
- g) Loading arm;
- h) Water jacket – one number; and
- j) Adjustment screws – three numbers.

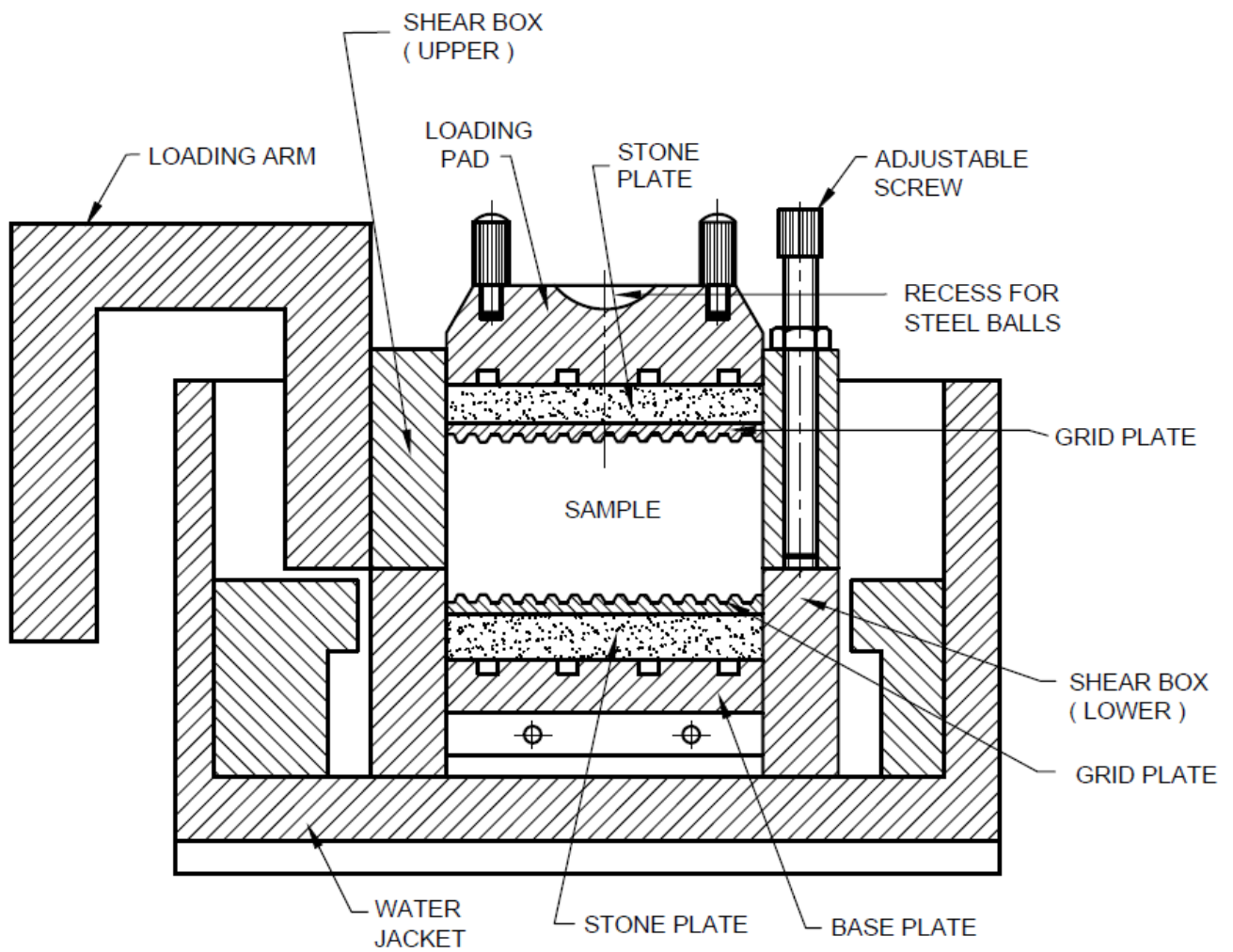


FIG. 1 SHEAR BOX ASSEMBLY

4 MATERIALS

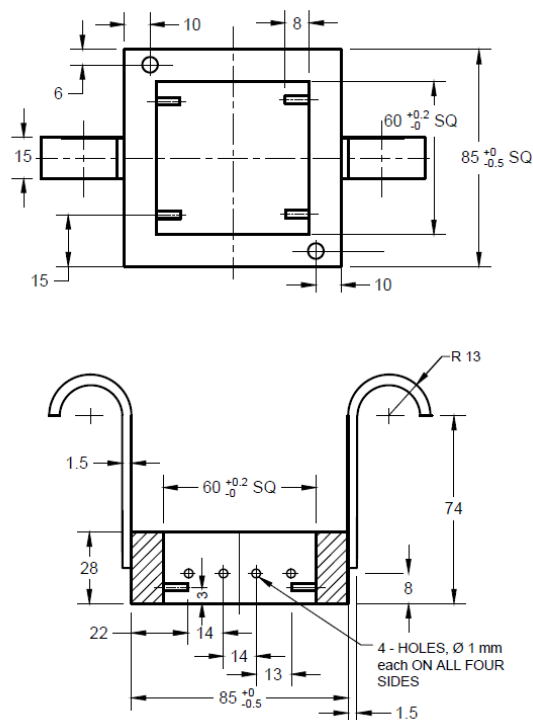
The materials of construction of the different components of shear box shall be as given in Table 1.

Table 1 Materials of Construction of Components of Shear Box

(Clause 4)

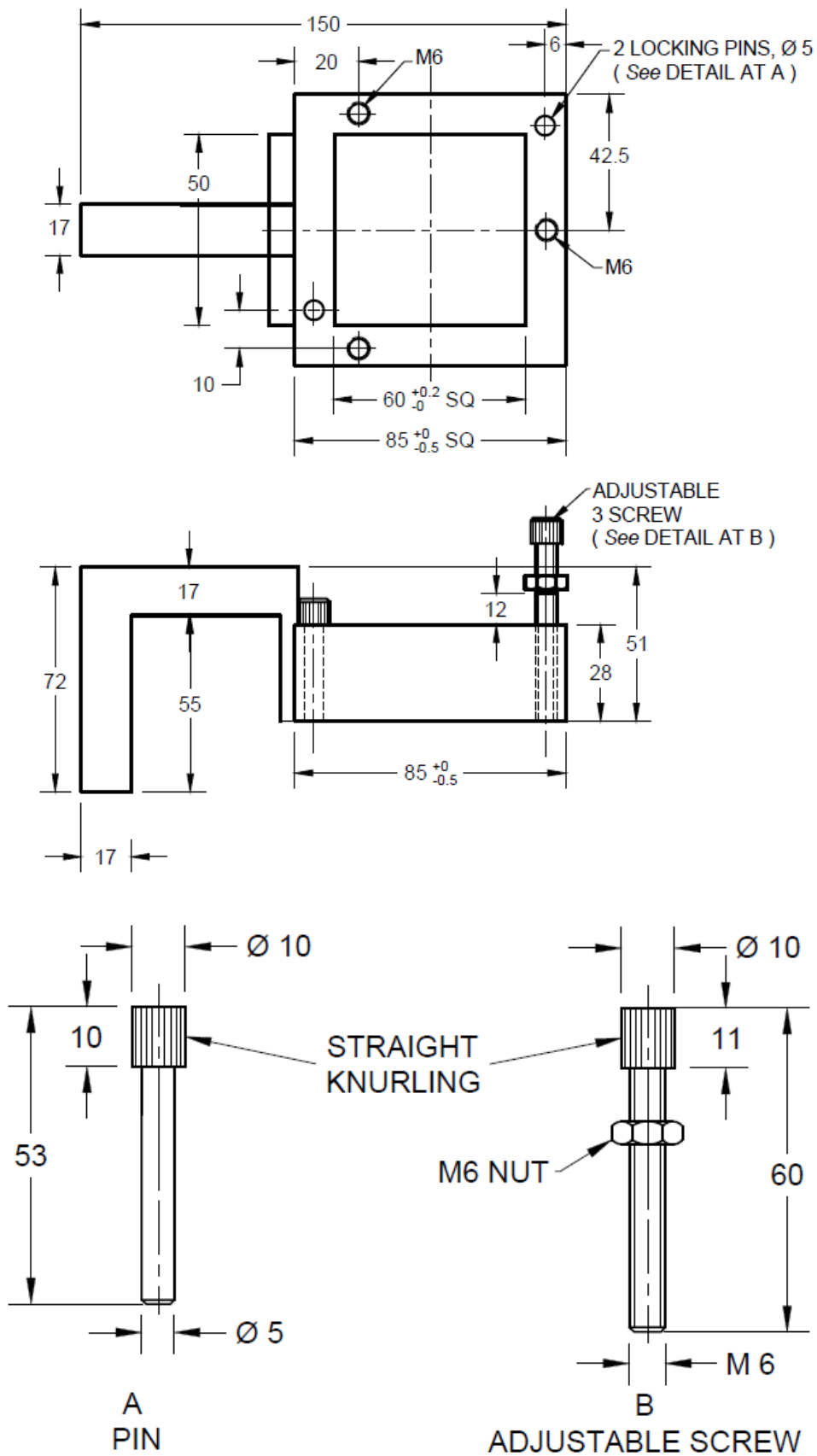
SI No.	Part	Material	Specific Requirements, if any	Conforming to Indian Standard
(1)	(2)	(3)	(4)	(5)
i)	Upper and lower parts of shear box coupled together with two locking pins	Mild steel/Brass	-	IS 513 (Part 1)/IS 292
ii)	Grid plates	Mild steel/Brass	-	IS 513 (Part 1)/IS 292
iii)	Stone plates	Sand stone	Size 60 x 60 x 6 mm	IS 3622
iv)	Base plate	Mild steel/Brass	-	IS 513 (Part 1)/IS 292
v)	Loading pad	Mild steel/Brass	-	IS 513 (Part 1)/IS 292
vi)	Loading arm	Mild steel/Brass	-	IS 513 (Part 1)/IS 292
vii)	Water jacket	Mild steel/Brass	-	IS 513 (Part 1)/IS 292

The dimensions of the component parts of shear box shall be as detailed in Fig. 2 to 8. The tolerance to the dimensions shall be as given in IS 2102 (Part 1) and shall be of medium class.



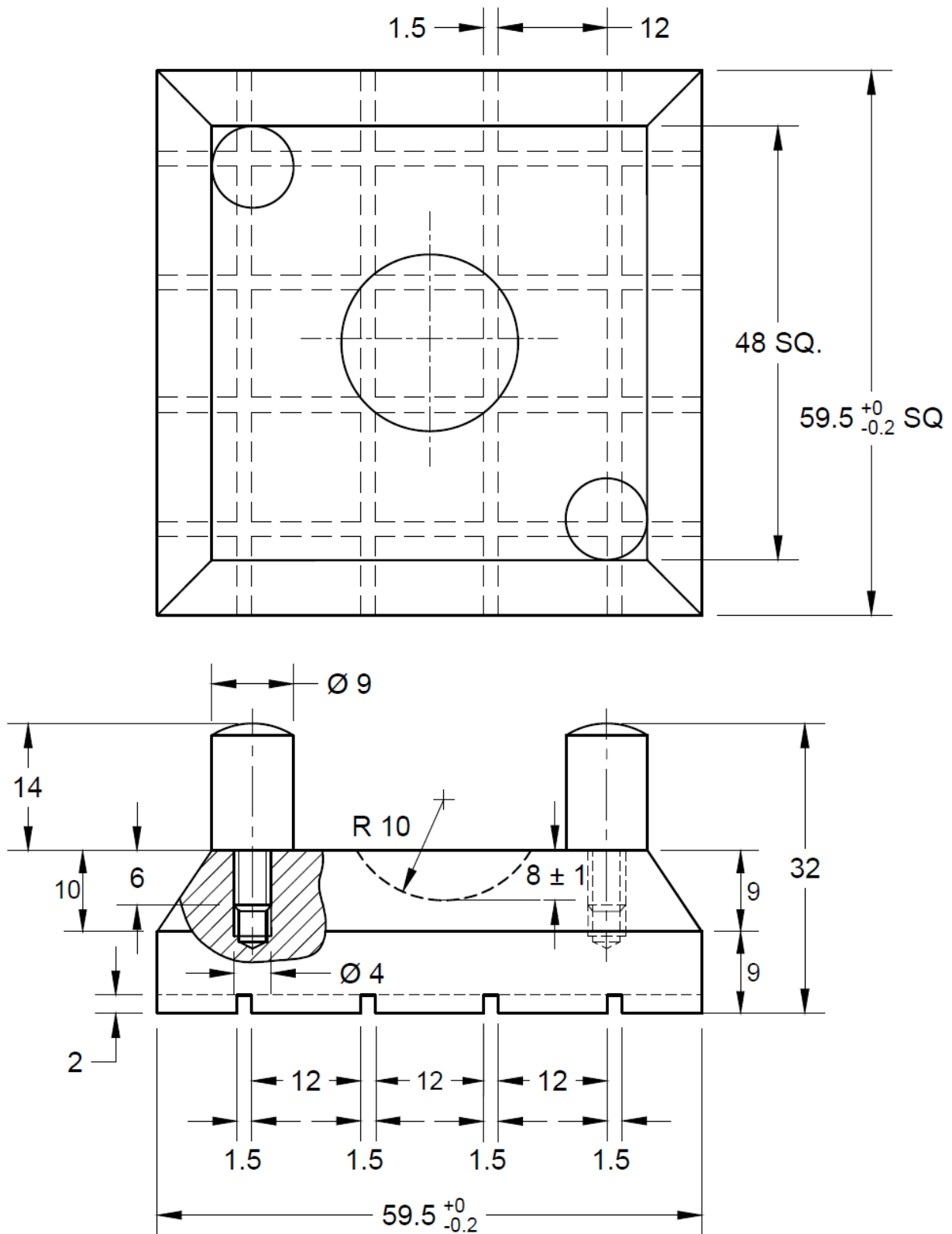
All dimensions in millimetres.

FIG. 2 SHEAR BOX - LOWER HALF WITH BOX



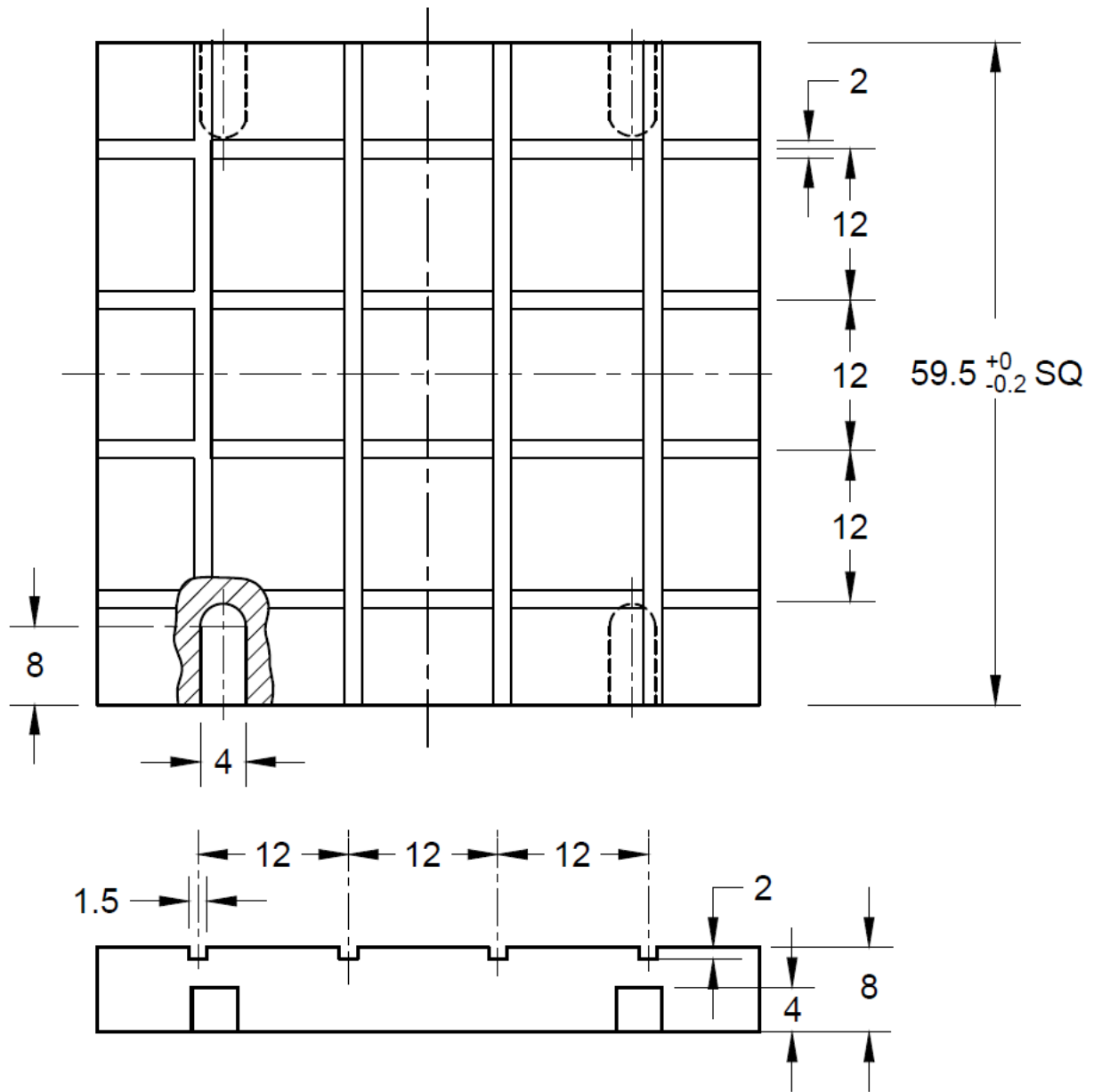
All dimensions in millimetres.

FIG. 3 SHEAR BOX - UPPER HALF



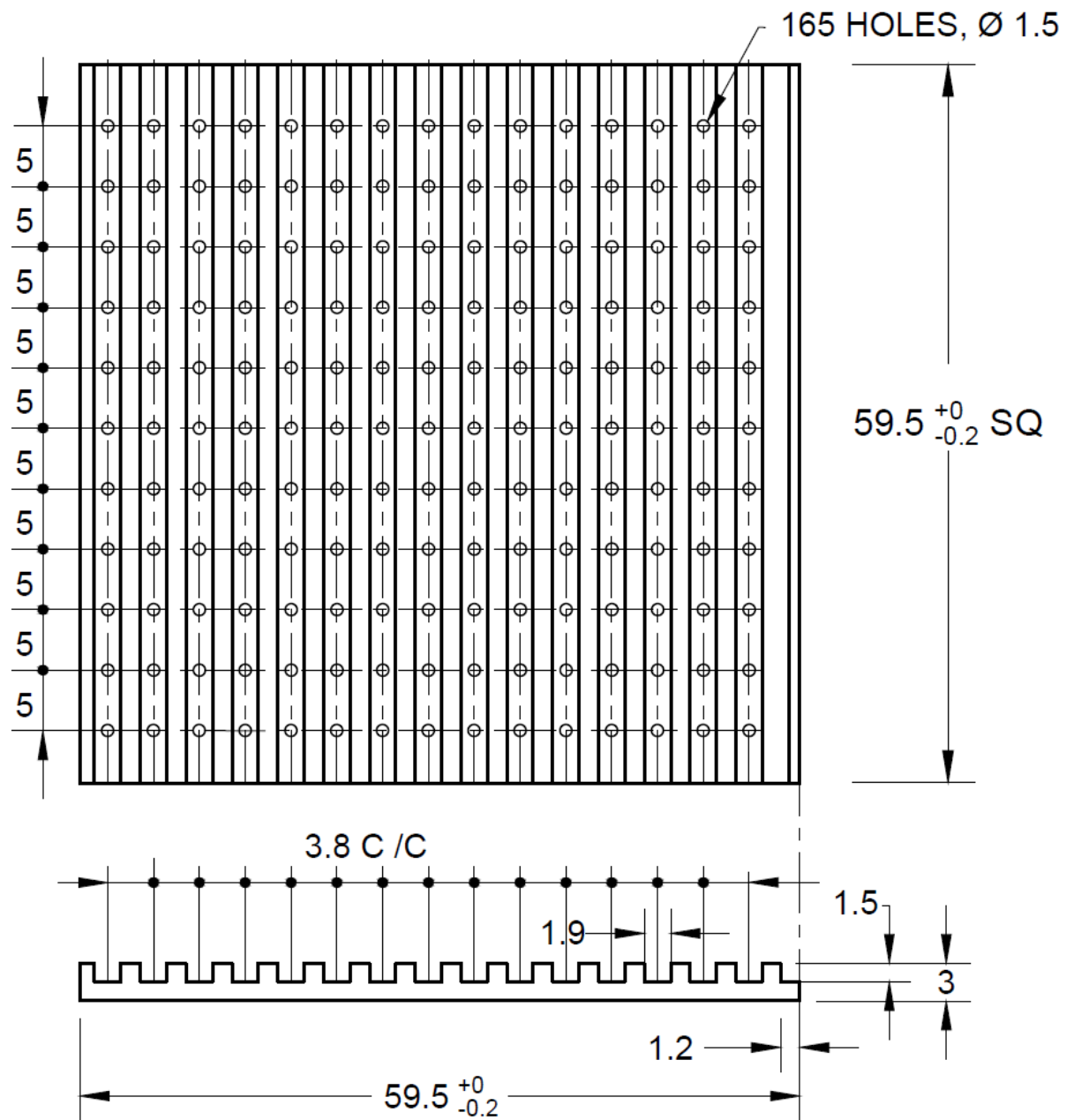
All dimensions in millimetres.

FIG. 4 LOADING PAD



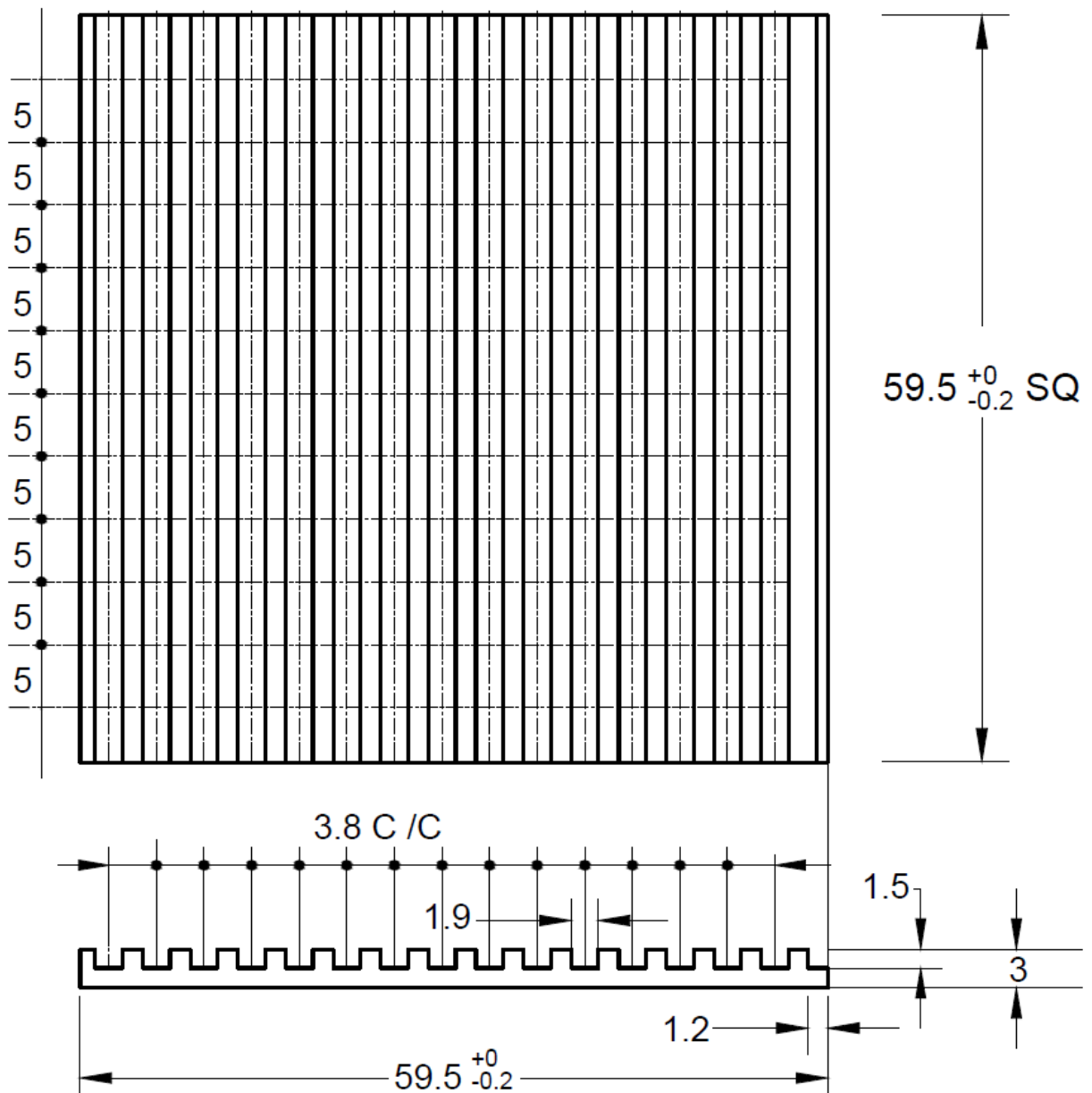
All dimensions in millimetres.

FIG. 5 BASE PLATE



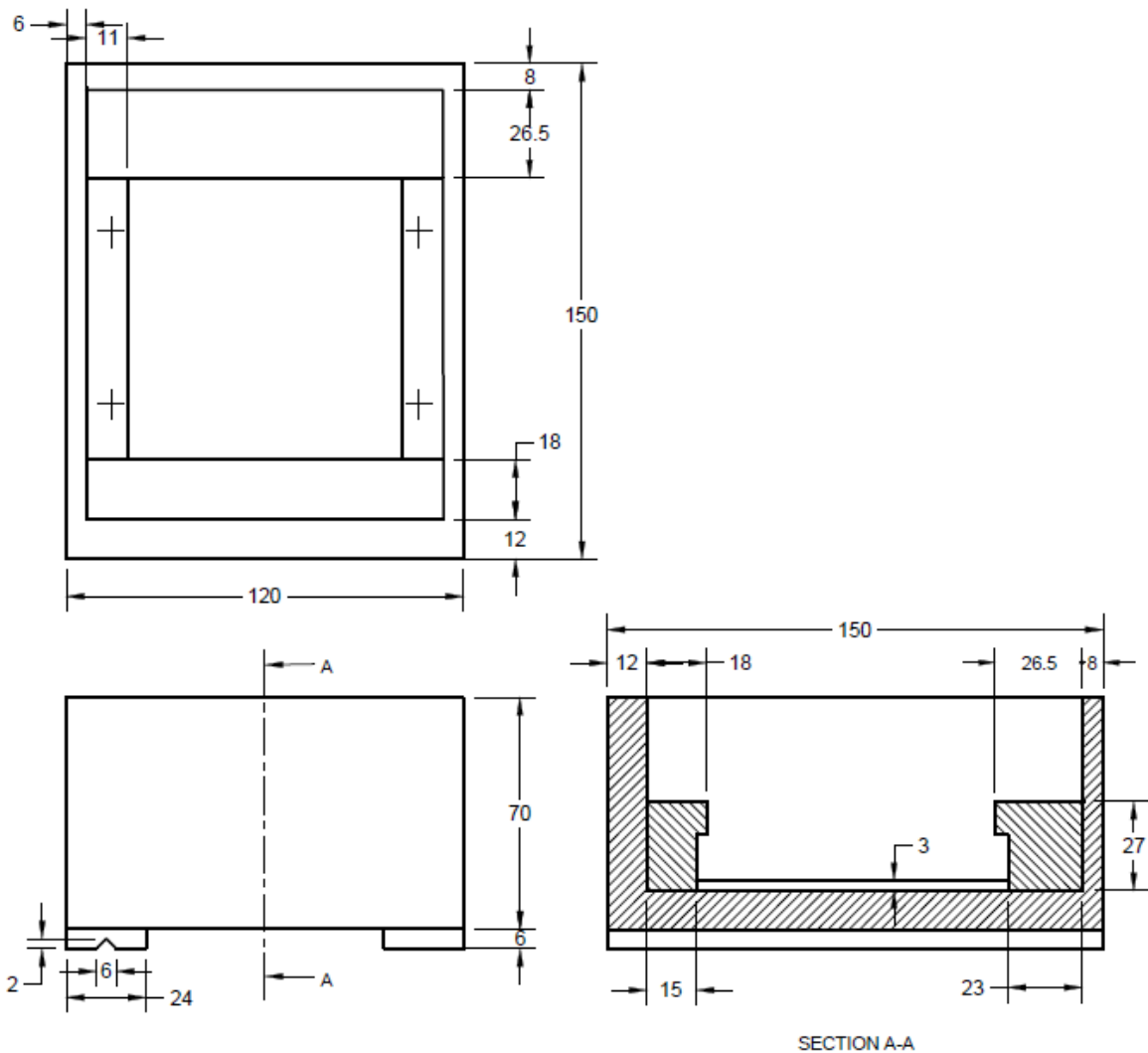
All dimensions in millimetres.

FIG. 6 GRID PLATE, PERFORATED



All dimensions in millimetres.

FIG. 7 GRID PLATE, NON-PERFORATED



All dimensions in millimetres.

FIG. 8 WATER JACKET

6 MARKING

6.1 The following information shall be clearly and indelibly marked on each component of the shear box:

- Name of the manufacturer or his registered trade-mark or both,
- Type of material; 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.