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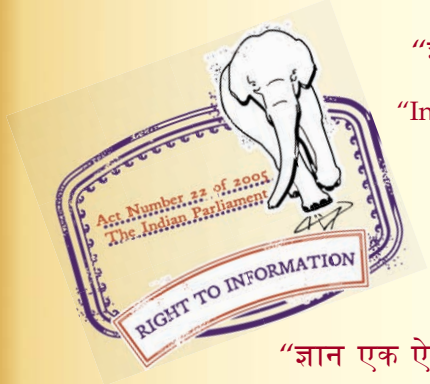
IS 11229 (1985): shear box for testing of soils [CED 43: Soil and Foundation Engineering]



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"Knowledge is such a treasure which cannot be stolen"

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IS : 11229 - 1985
(Reaffirmed 2006)

Indian Standard

SPECIFICATION FOR SHEAR BOX FOR TESTING OF SOILS

UDC 624·131·439·5 : 620·1·05

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

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October 1985

Indian Standard

SPECIFICATION FOR SHEAR BOX FOR TESTING OF SOILS

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(*Continued on page* 10)

Indian Standard

SPECIFICATION FOR SHEAR BOX FOR TESTING OF SOILS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 25 January 1985, after the draft finalized by the Soil Engineering Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 The Indian Standards Institution has already published a series of standard on methods of testing soils. It has been recognized that reliable and intercomparable 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 soils to encourage its development and manufacture in the country.

0.3 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 covered in IS : 2720 (Part 13)*.

0.4 In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960†.

---

1. SCOPE

1.1 This standard covers specification 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.

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*Methods of test for soils : Part 13 Direct shear test.
†Rules for rounding off numerical values (*revised*).

2. GENERAL REQUIREMENTS

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

a) Upper and lower parts of shear box coupled together with two pins,

b) Grid plates — 2 pairs,

c) Stone plates,

d) Base plate,

e) Top plate,

f) Loading pad, and

g) Water jacket.

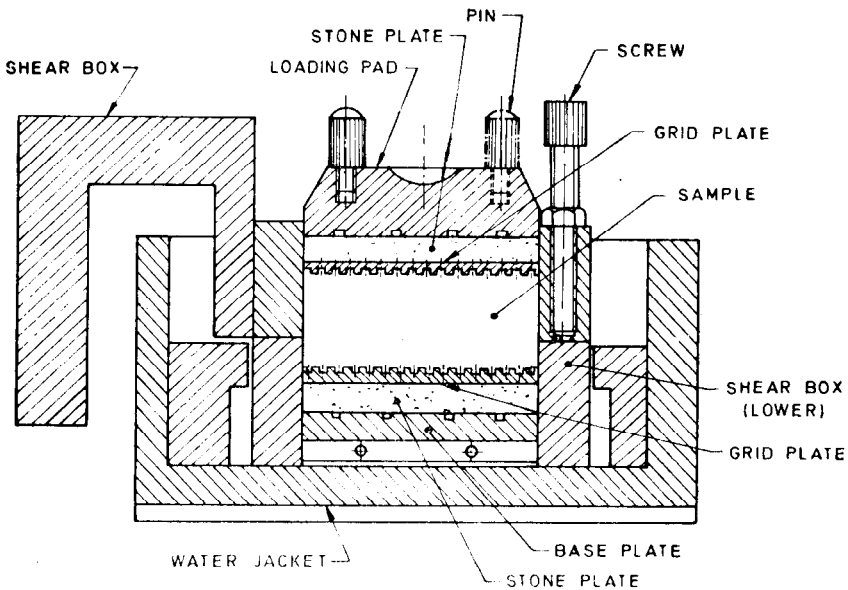


FIG. 1 SHEAR BOX ASSEMBLY

3. MATERIALS

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

TABLE 1 MATERIAL OF CONSTRUCTION OF DIFFERENT COMPONENT PARTS OF SHEAR BOX

(*Clause* 3.1)

PART	MATERIAL	REFERENCE TO INDIAN STANDARD
Upper and lower parts of shear box coupled together with two pins	Mild steel/Brass	IS : 513-1973*/IS : 292-1983‡
Grid plates — two pairs	Mild steel/Brass	IS : 513-1973*/IS : 292-1983‡
Stone plates	Sand stone	IS : 3622-1977† of size 60 × 60 × 6 mm
Base plate	Mild steel/Brass	IS : 513-1973*/IS : 292-1983‡
Top plate	Mild steel/Brass	IS : 513-1973*/IS : 292-1983‡
Loading pad	Mild steel/Brass	IS : 513-1973*/IS : 292-1983‡
Water jacket	Mild steel/Brass	IS : 513-1973*/IS : 292-1983‡

*Specification for cold rolled carbon steel sheets (*second revision*).
†Specification for sandstone (slabs and tiles) (*first revision*).
‡Specification for brass ingots and castings (*second revision*).

4.1 The dimensions of the component parts of shear box shall be as detailed in Fig. 2 to 7. The tolerance to the dimensions shall be as given in IS : 2102 (Part 1)-1980* and shall be of medium class.

5. MARKING

5.1 The following information shall be clearly and indelibly marked on each part of the component:

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

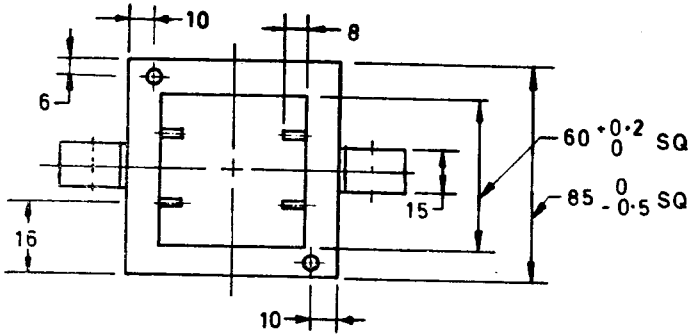
b) Type of material, and

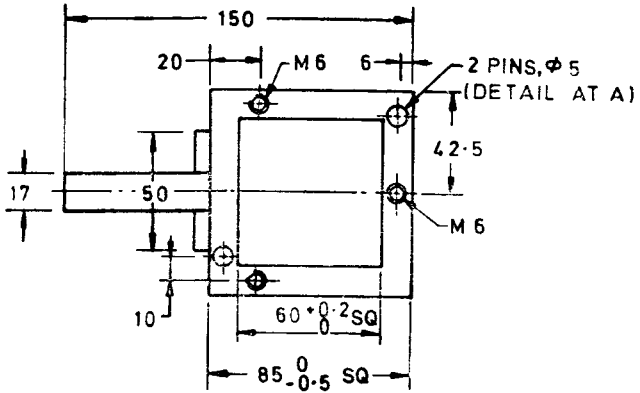
c) Date of manufacture.

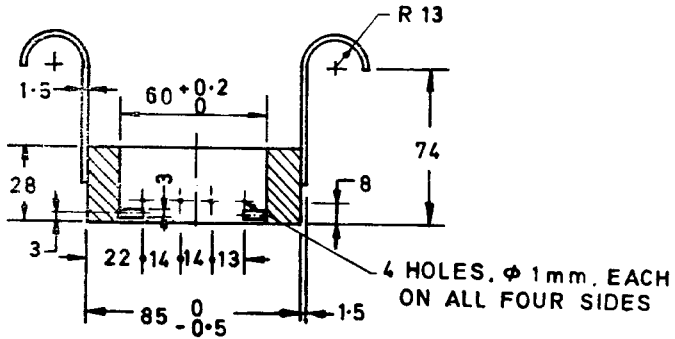
5.1.1 The equipment may also be marked with the ISI Certification Mark.

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.

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

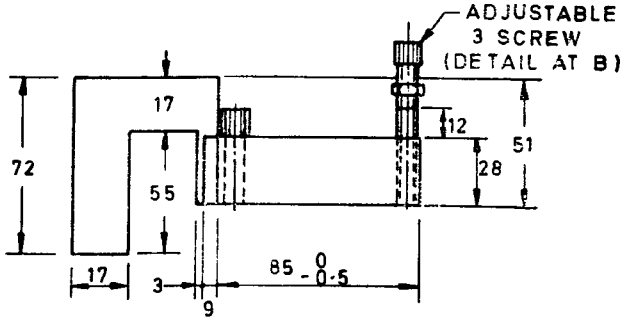






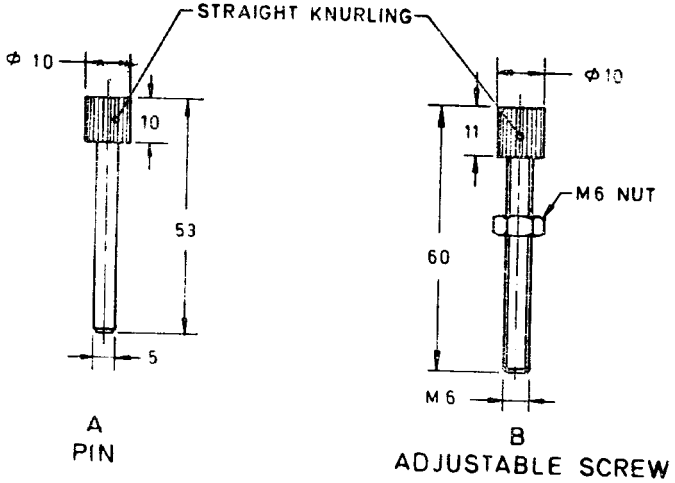
All dimensions in millimetres.

FIG. 2 SHEAR BOX—LOWER HALF WITH BOX



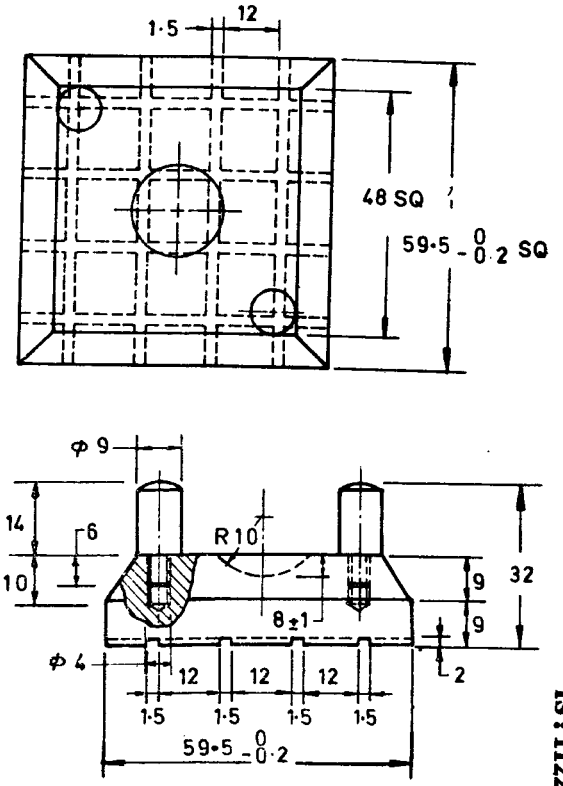
All dimensions in millimetres.

FIG. 3 SHEAR BOX—UPPER HALF (*Continued*)



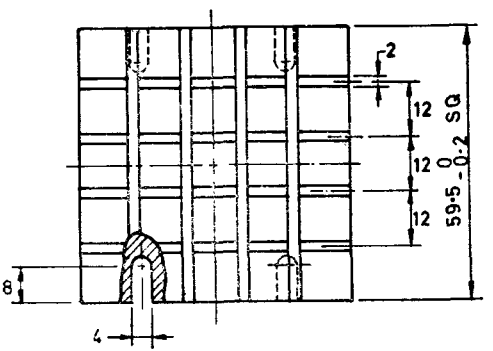
All dimensions in millimetres.

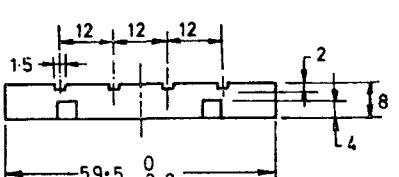
FIG. 3 SHEAR BOX—UPPER HALF



All dimensions in millimetres.

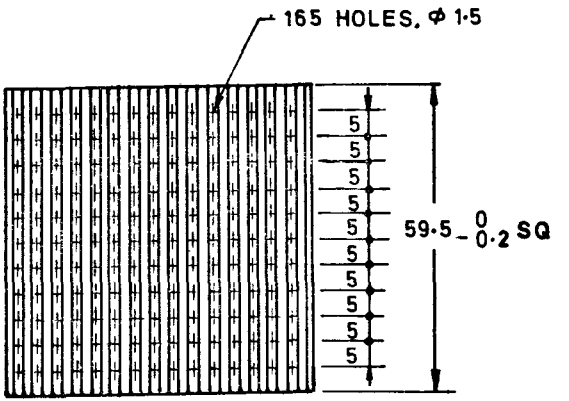
FIG. 4 LOADING PAD

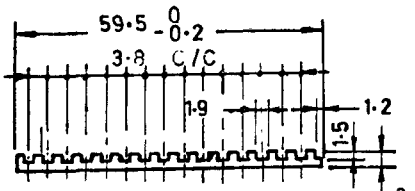




All dimensions in millimetres.

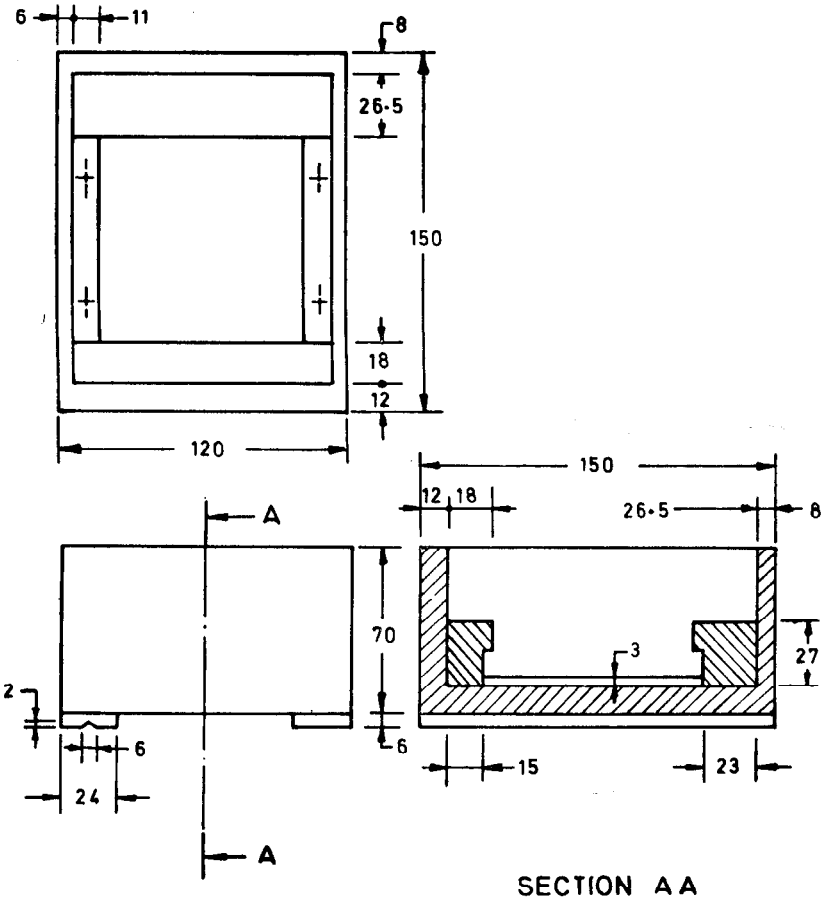
FIG. 5 BASE PLATE





All dimensions in millimetres.

FIG. 6 GRID PLATE



All dimensions in millimetres.

FIG. 7 WATER JACKET

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