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Indian Standard

SPECIFICATION FOR SHEAR BOX (LARGE) FOR TESTING OF SOILS

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*Shri Verma acted as Chairman in the meeting in which this Indian Standard was finalized.

Indian Standard

SPECIFICATION FOR SHEAR BOX (LARGE) FOR TESTING OF SOILS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 18 March 1986, 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 standards 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. Series of Indian Standards covering the specifications of equipments used for testing soils are therefore being formulated to encourage their 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 laboratory determination of shear strength of the soil [*see* IS : 2720 (Part 39/Sec 1) - 1977*].

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

1. SCOPE

1.1 The equipment covered in this standard is used as a part of the assembly for the equipments used for laboratory determination of direct shear strength of the soil material with particle size up to 25 mm, that is, soils containing moorums, sands, gravels and other aggregates.

2. GENERAL REQUIREMENTS

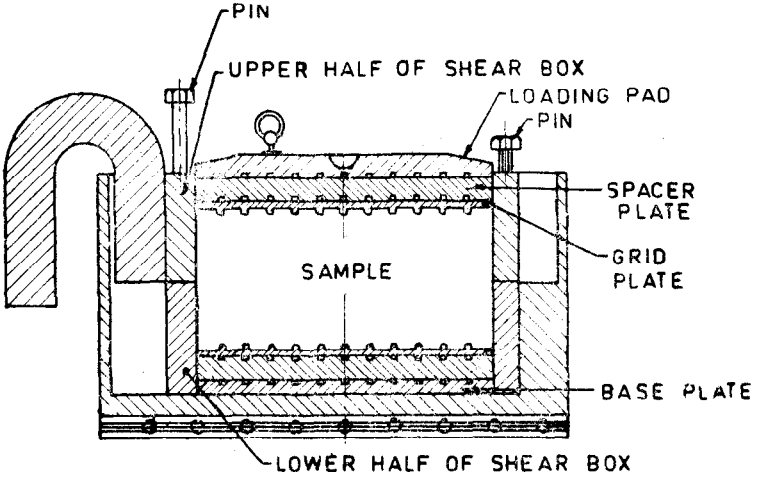
2.1 The shear box shall consist of the following (*see* Fig. 1):

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

*Methods of test for soils : Part 39 Direct shear test for soils containing gravel, Section 1 Laboratory test.

†Rules for rounding off numerical values (*revised*).

b) Grid plates — 2 pairs,
c) Spacer plates,
d) Base plate,
e) Loading pad, and
f) Water jacket.



All dimensions in millimetres.

FIG. 1 SHEAR BOX (LARGE) ASSEMBLY

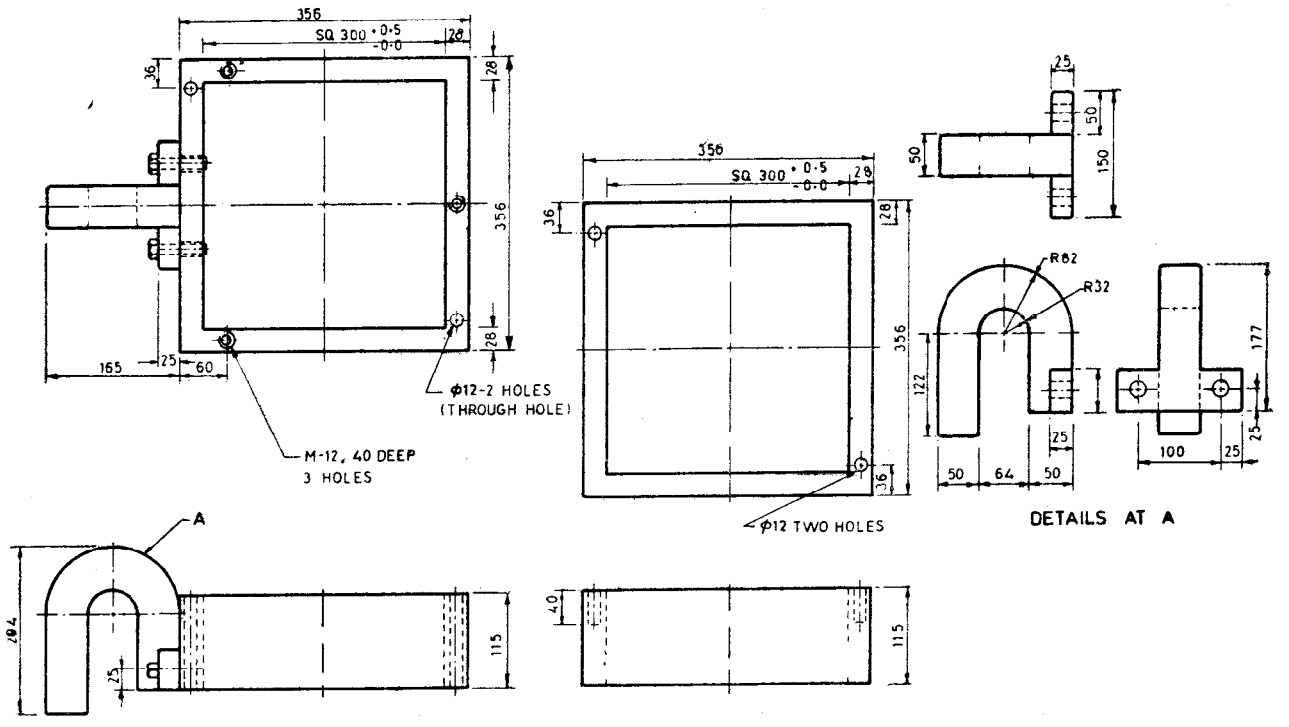
3. MATERIALS

3.1 The material used for the construction of the different component of shear box shall be as given in Table 1.

TABLE 1 MATERIALS OF CONSTRUCTION OF DIFFERENT COMPONENTS PARTS OF SHEAR BOX

Sl No.	Component	Material	Reference to Indian Standard
i)	Upper and lower parts of shear box	Mild Steel	IS : 513-1973*
ii)	Grid plates—2 pairs	,,	,,
iii)	Spacer plates	,,	,,
iv)	Base plate	,,	,,
v)	Loading pad	,,	,,
vi)	Water jacket	,,	,,

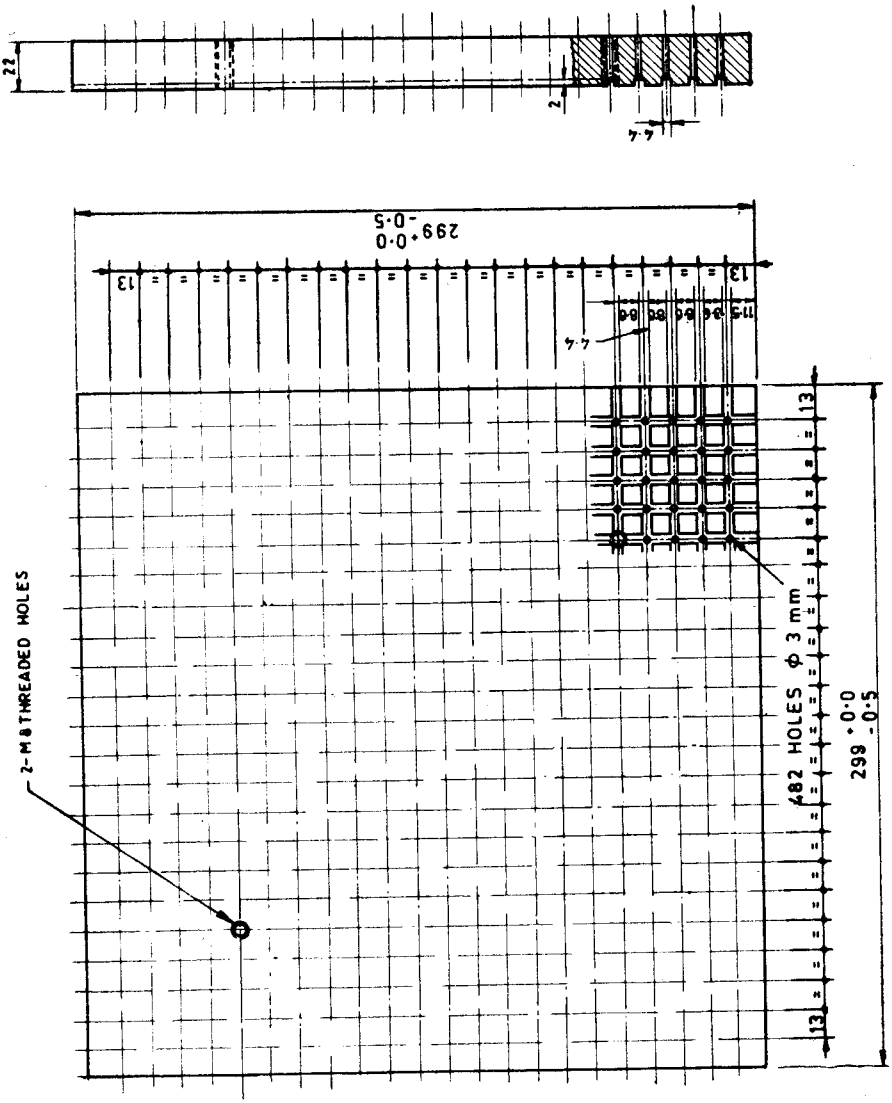
*Specification for cold rolled carbon steel sheets (*second revision*).



2A Upper Half of Shear Box 2B Lower Half of Shear Box

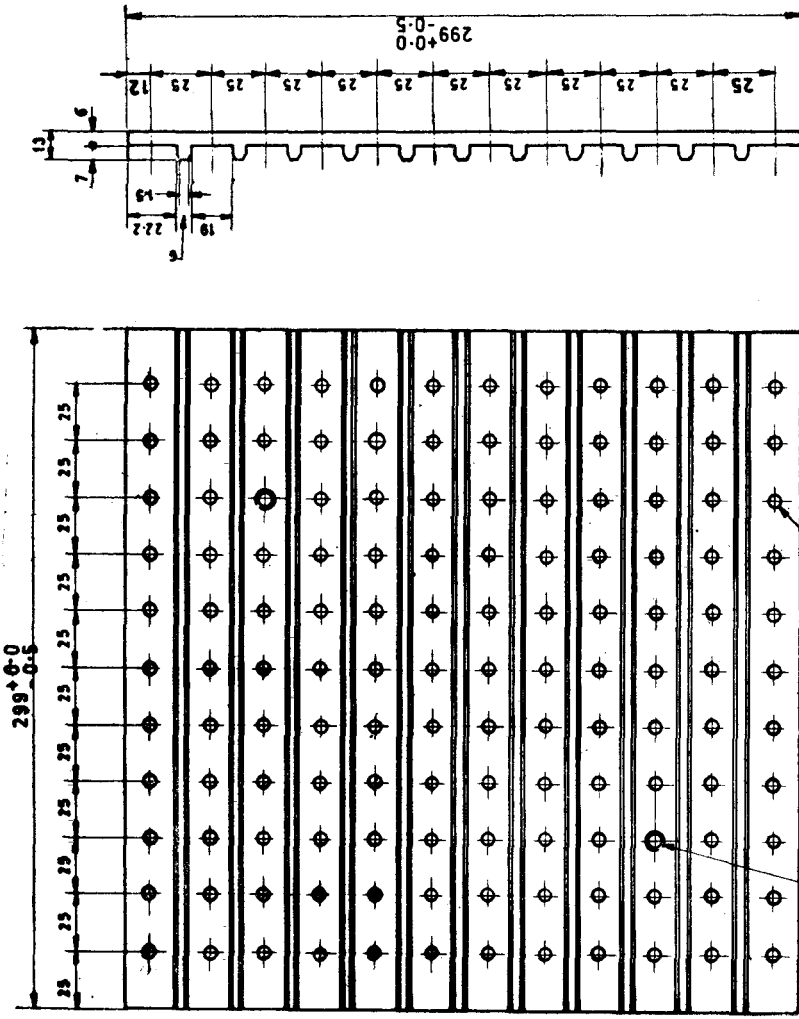
All dimensions in millimetres.

FIG. 2 DETAILS OF UPPER AND LOWER HALVES OF SHEAR BOX



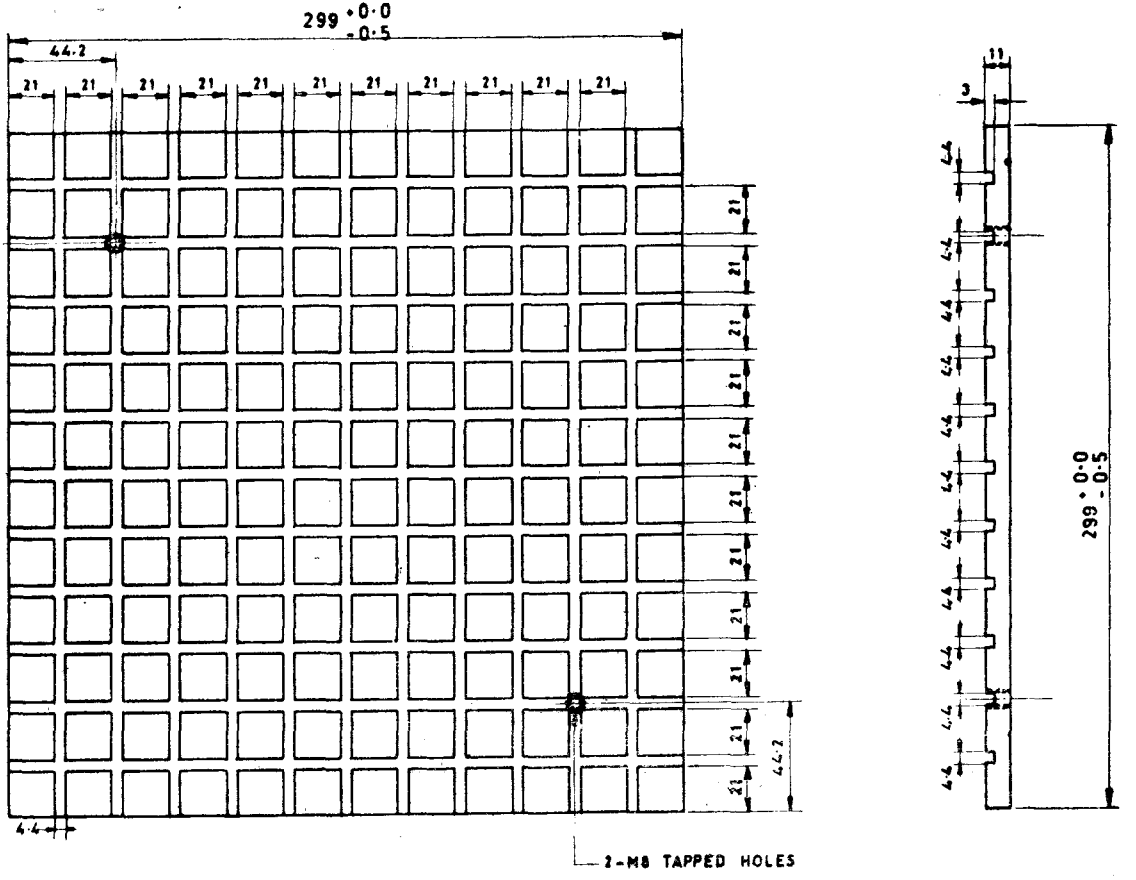
All dimensions in millimetres.

FIG. 3 SPACER PLATE



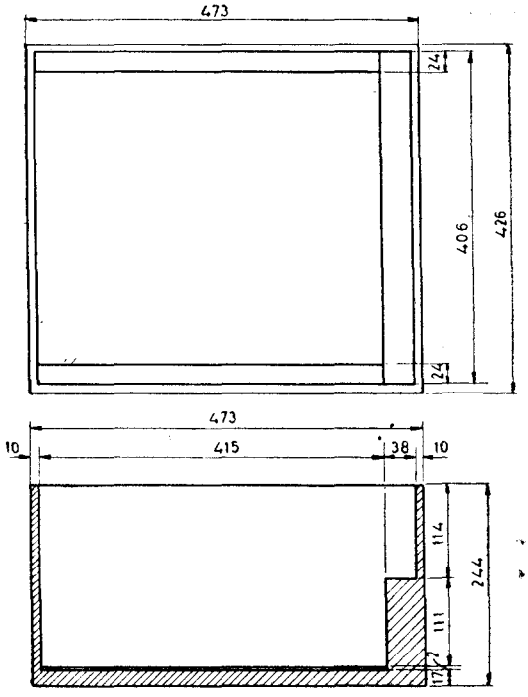
All dimensions in millimetres.

FIG. 4 GRID PLATE



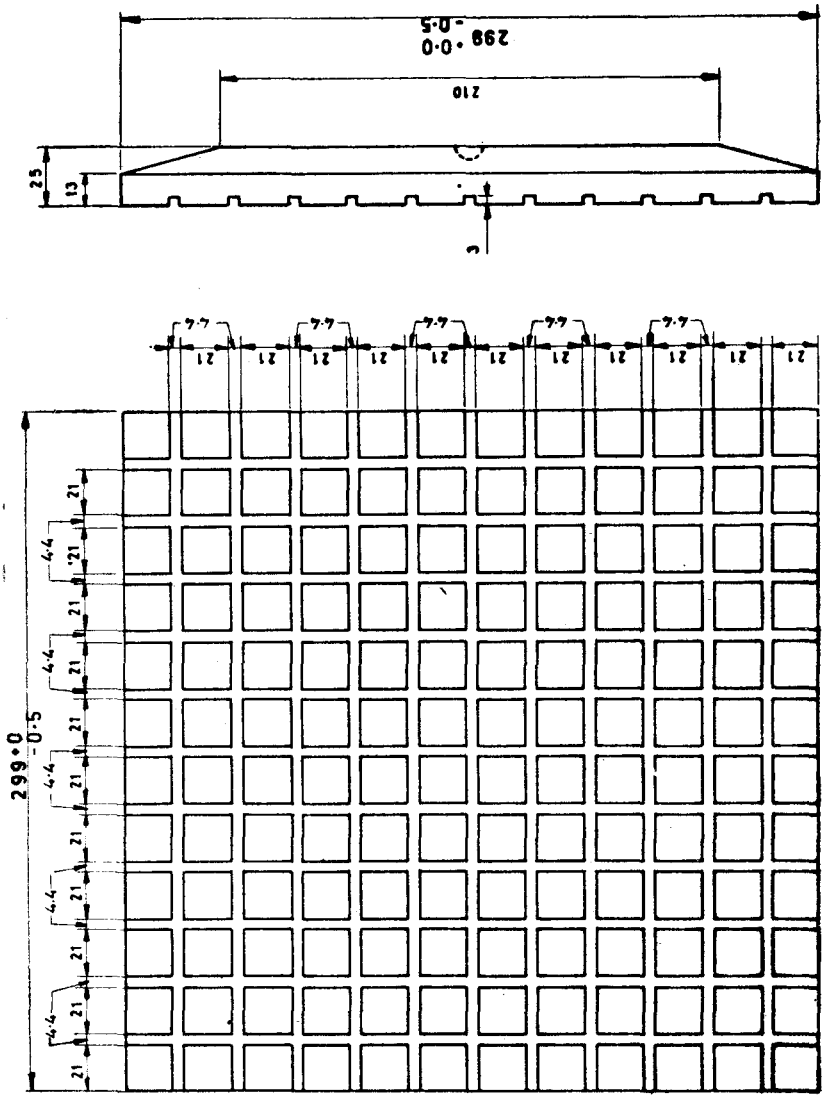
All dimensions in millimetres.

FIG. 5 BASE PLATE



All dimensions in millimetres.

FIG. 6 WATER JACKET



All dimensions in millimetres.

FIG. 7 LOADING PAD

4. SHAPE AND DIMENSIONS

4.1 The shape and dimensions of the various components of the shear box shall be as given 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 indelibily marked on each component of equipment:

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

b) 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.

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

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