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Jawaharlal Nehru

“Step Out From the Old to the New”

IS 9640 (1980): split spoon sampler [CED 43: Soil and Foundation Engineering]



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Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 9640 - 1980
Reaffirmed 2007

Indian Standard

SPECIFICATION FOR
SPLIT SPOON SAMPLER

UDC 624·131·381: 620·1·05



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

March 1981

Indian Standard

SPECIFICATION FOR SPLIT SPOON SAMPLER

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AMENDMENT NO. 1 NOVEMBER 1984
TO

IS : 9640 - 1980 SPECIFICATION FOR
SPLIT SPOON SAMPLER

Alterations

(Page 3, *claus 0.3, line 2*) — Substitute ' IS : 2131-1981*' for ' IS : 2131-1963*'.
(Page 3, *clause 2.1, line 4*) — Substitute 'for medium class in IS : 2102 (Part 1)-1980†' for ' in IS : 2102-1969†'.

(Page 3, *foot-notes with ' * ' and ' † ' marks*) — Substitute the following for the existing foot-notes:

*Method for standard penetration test for soils (*first revision*).

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

(Page 4, *Fig. 1*) — Substitute the following for the existing figure:

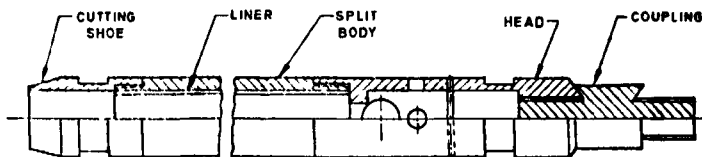
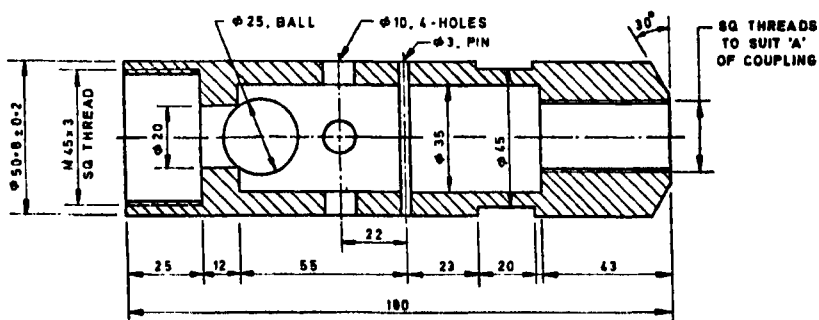


FIG. 1 ASSEMBLY OF SPLIT SPOON SAMPLER

(Page 5, *Fig. 3*) — Substitute the following for the existing figure.



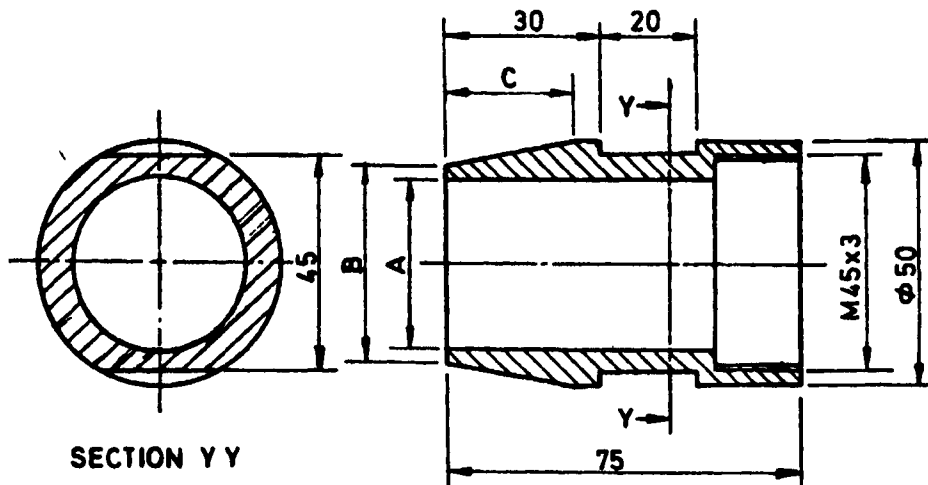
All dimensions in millimetres.

FIG. 3 HEAD

(BDC 23)

AMENDMENT NO. 2 FEBRUARY 1993
TO
IS 9640 : 1980 SPECIFICATION FOR SPLIT
SPOON SAMPLER

(Page 5, Fig. 2) — Substitute the following for the existing figure:



Type of Sampler	A (Dia)	B (Dia)	C
Without Liner	38 ± 0.2	41	20
With Liner	35 ± 0.2	38	27

All dimensions in millimetres.

FIG. 2 CUTTING SHOE

(CED 23)

Printed at Printwell Printers, Aligarh, India

Indian Standard

SPECIFICATION FOR SPLIT SPOON SAMPLER

0. F O R E W O R D

0.1 This Indian Standard was adopted by the Indian Standards Institution on 10 November 1980, after the draft finalized by the Soil Engineering and Rock Mechanics 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. 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 for conducting the *in situ* standard penetration test in soils covered in IS : 2131-1963*.

0.4 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 : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard covers the requirements of split spoon sampler used for conducting *in situ* standard penetration test in soils.

2. DIMENSIONS

2.1 Dimensions with tolerances of different component parts of this apparatus are given in Fig. 1 to 6. Except where tolerances are specifically mentioned against the dimensions, all dimensions shall be taken as nominal dimensions and tolerance shall be as given in IS : 2102-1969‡.

*Method for standard penetration test for soils.

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

‡Specification for allowable deviations for dimensions without specified tolerances (*first revision*).

3. MATERIALS

3.1 The materials of construction of the different component parts shall be as given in Table 1.

TABLE 1 MATERIALS OF CONSTRUCTION OF DIFFERENT COMPONENT PARTS OF THE SPLIT SPOON SAMPLER

PART	MATERIALS	SPECIAL REQUIREMENTS	CONFORMING TO
Cutting shoe (see Fig. 2)	Mild steel, case-hardened	Cutting edge case hardened to 45 HRC, Min	IS : 4432-1977*
Head (see Fig. 3)	Mild steel, case-hardened	Smooth surface	IS : 4432-1967*
Body (see Fig. 4)	Mild steel	Smooth surface	IS : 513-1973†
Liner (see Fig. 5)	Brass pipe	Smooth surface	IS : 407-1966‡
Coupling (see Fig. 6)	Mild steel	To suit A-Type drill rods	IS : 1239(Part I)-1973§

*Specification for case hardening steels.

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

‡Specification for brass tubes for general purposes (second revision).

§Specification for mild steel tubes, tubulars and other wrought steel fittings : Part I Mild steel tubes (third revision).

4. CONSTRUCTION

4.1 The split spoon sampler shall be constructed as per details given in Fig. 1 to 4 and 6. The split spoon sampler may also be provided with a liner in the body as per details given in Fig. 5 in which case it is called as composite sampler.

NOTE — The composite sampler is not used for the determination of N values.

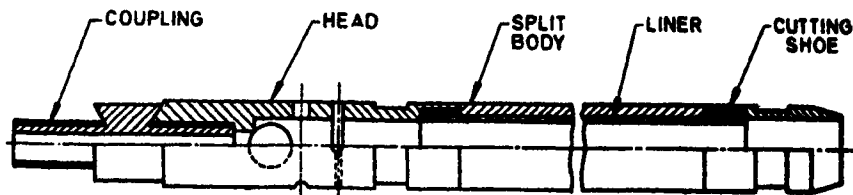
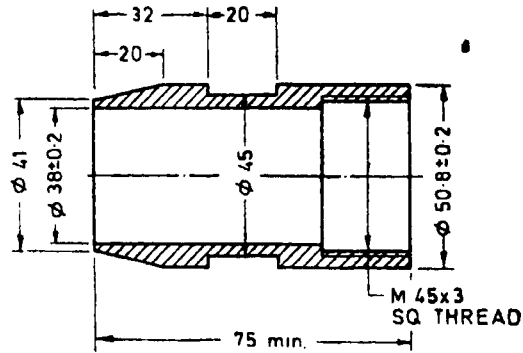
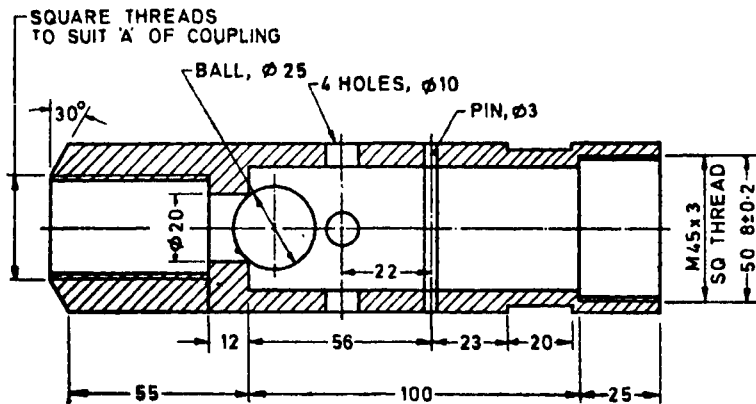


FIG. 1 ASSEMBLY OF SPLIT SPOON SAMPLER



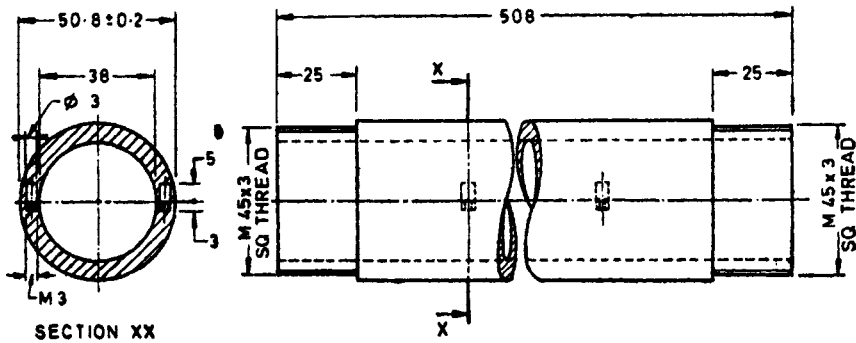
All dimensions in millimetres.

FIG. 2 CUTTING SHOE



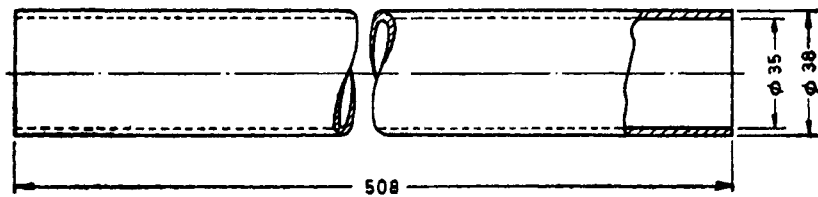
All dimensions in millimetres.

FIG. 3 HEAD



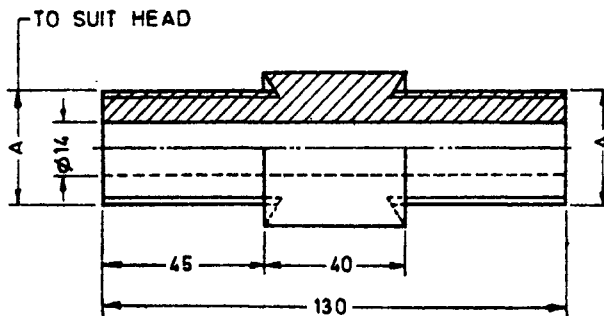
All dimensions in millimetres.

FIG. 4 SPLIT BODY (FOR USE WITH LINER)



All dimensions in millimetres.

FIG. 5 LINER



All dimensions in millimetres.

FIG. 6. COUPLING

5. MARKING

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

- a) The name of the manufacturer or his registered trade-mark or both;
- b) Date of manufacture; and
- c) Type (*see 4.1*).

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.

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INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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