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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 11594 (1985): mild steel thin walled sampling tubes and sampler heads [CED 43: Soil and Foundation Engineering]



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“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 : 11594 - 1985

REAFFIRMED

— 1995

Indian Standard
SPECIFICATION FOR
MILD STEEL THIN WALLED SAMPLING TUBES
AND SAMPLER HEADS

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INDIAN STANDARDS INSTITUTION
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Indian Standard

SPECIFICATION FOR MILD STEEL THIN WALLED SAMPLING TUBES AND SAMPLER HEADS

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

Indian Standard

SPECIFICATION FOR MILD STEEL THIN WALLED SAMPLING TUBES AND SAMPLER HEADS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 14 December 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 standards on methods of testing soils. It has been recognised that reliable and intercomparable test results can be obtained only with standard testing equipment capable of giving the desired level of accuracy. A series of Indian Standards covering specification of equipment used for testing soils are being formulated so as to encourage its development and manufacture in the country.

0.3 The equipment covered in this standard is used for carrying out undisturbed sampling of soils covered in IS : 2132 - 1985*.

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 requirements of thin wall sampling tubes and sampler heads for *in-situ* sampling of soils, as required for open drive tube samplers.

*Code of practice for thin-walled tube sampling of soils (*second revision*).

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

2. TERMINOLOGY

2.1 For the purpose of this standard, definitions given in IS : 2809 - 1972* shall apply.

3. MATERIALS

3.1 Material for the construction of sampling tubes shall be as given in Table 1.

TABLE 1 MATERIALS OF CONSTRUCTION FOR DIFFERENT PARTS OF THE SAMPLING TUBES

PART	MATERIAL	SPECIAL REQUIREMENT	CONFORMING TO INDIAN STANDARD
Tube	Mild steel	Smooth surface	Grade light of IS : 1239 (Part 1) 1979*
Cutting shoes	Mild steel case hardened	45-50 HRC, with smooth surface	IS : 4432 - 1967†
Sampling head	Mild steel		IS : 226 - 1975‡

*Specification for mild steel tubes, tubulars and other wrought steel fittings : Part 1 Mild steel tubes (*fourth revision*).

†Specification for case hardening steels.

‡Specification for structural steel (standard quality) (*fifth revision*).

4. DIMENSIONS

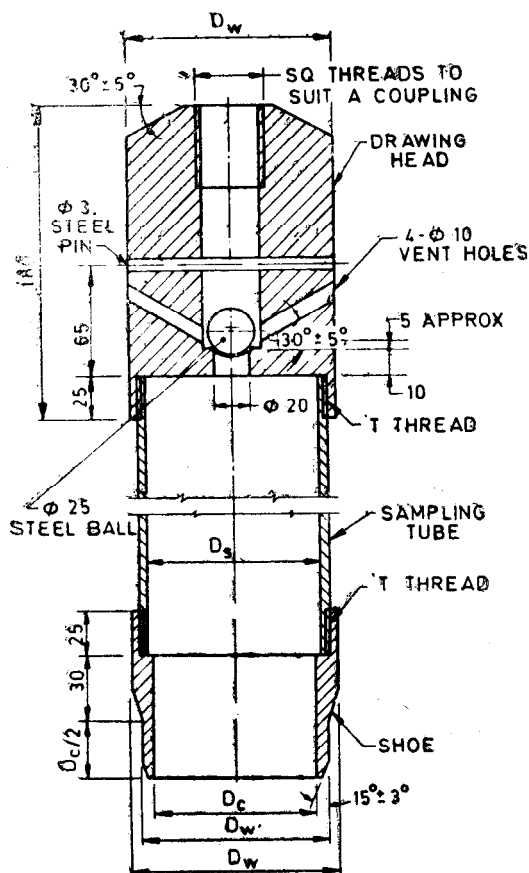
4.1 There shall be 4 sizes, 40, 65, 80 and 100 mm based on internal diameter of the tube. The tolerance on all dimensions shall be ± 0.5 mm.

5. CONSTRUCTION

5.1 The sampling tubes, cutting shoes and sampling heads shall be made as per details given in Fig. 1. The length shall be as desired.

NOTE — The cutting shoes have been so designed that these give area ratio within 10 percent, and inside clearance 1 to 3 percent.

*Glossary of terms and symbols relating to soil engineering (*first revision*).



Size	40	65	80	100
Thread size (T)	M45×3	M75×3	M85×3	M110×3
Outermost dia of the shoes and sampler head (D_w)	50	77	94	115
Nominal dia of tube (D_s)	40	65	80	100
Outer dia of shoes (D_w)	41	66	82	103
Internal dia of shoes (D_c)	39	64	78	98

All dimensions in millimetres.

FIG. 1 DETAILS OF SAMPLING TUBE WITH DRIVING HEAD AND SHOE

6. MARKING

6.1 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, and
- b) Size and length.

6.1.1 The equipment (each part) 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	$1 \text{ N} = 1 \text{ kg} \cdot \text{m}/\text{s}^2$
Energy	joule	J	$1 \text{ J} = 1 \text{ N} \cdot \text{m}$
Power	watt	W	$1 \text{ W} = 1 \text{ J}/\text{s}$
Flux	weber	Wb	$1 \text{ Wb} = 1 \text{ V} \cdot \text{s}$
Flux density	tesla	T	$1 \text{ T} = 1 \text{ Wb}/\text{m}^2$
Frequency	hertz	Hz	$1 \text{ Hz} = 1 \text{ c}/\text{s} \text{ (s}^{-1}\text{)}$
Electric conductance	siemens	S	$1 \text{ S} = 1 \text{ A}/\text{V}$
Electromotive force	volt	V	$1 \text{ V} = 1 \text{ W}/\text{A}$
Pressure, stress	pascal	Pa	$1 \text{ Pa} = 1 \text{ N}/\text{m}^2$