



भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS

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व्यापक परिचालन मसौदा

हमारा संदर्भ : सीईडी 43/टी-111

09 नवम्बर 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 रुचि रखने वाले अन्य निकाय

महोदया/महोदय,

निम्नलिखित मसौदा संलग्न है:

प्रलेख संख्या	शीर्षक
सीईडी 43 (21138)WC	मृदु इस्पात की पतली दीवार वाली नमूना लेने के लिए नलिकाएँ एवं नमूना शीर्ष – विशिष्टि का भारतीय मानक मसौदा (IS 11594 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 इस पर अमल करने में, आपको व्यवसाय अथवा कारोबार में क्या कठिनाइयाँ आ सकती हैं।

सम्मतियाँ भेजने की अंतिम तिथि: 10 दिसम्बर 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-111	09 November 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, CED 43
3. All other interests

Dear Madam/Sir,

Please find enclosed the following draft:

Doc. No.	Title
CED 43 (21138)WC	Draft Indian Standard Mild steel thin walled sampling tubes and sampler heads — Specification (<i>First Revision</i> of IS 11594) (ICS No. 93.020; 13.080.20)

Kindly examine the draft revision 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 Standard.

Last Date for comments: 10 December 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

(Not to be reproduced without the permission of BIS or used as a Standard)

Draft Indian Standard

**MILD STEEL THIN WALLED SAMPLING TUBES
AND SAMPLER HEADS — SPECIFICATION**

(First Revision of IS 11594)

Soil and Foundation Engineering
Sectional Committee, CED 43

Last date of Comments:
10 December 2022

Soil and Foundation Engineering Sectional Committee, CED 43

FOREWORD

(Formal clauses to 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 for carrying out undisturbed sampling of soils covered in IS 2132 : 1986 'Code of practice for thin-walled tube sampling of soils (*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) Existing sizes of 40 mm, 65 mm and 80 mm sampling tubes have been replaced by 38 mm, 50 mm and 75 mm considering the actual requirement of sample size for various laboratory tests.
- b) Requirement of cutting shoe for sizes 38 mm and 50 mm has been removed considering the practical difficulty of providing threads in shoes of very less wall thickness.
- c) Connection between sampler head and the tube has been modified to internal threading or bolting as per the current manufacturing practice to provide stronger and more stable connection between the tube and the sampler head.

- d) Other dimensional requirements for the sampling tube, cutting shoes and sampler heads have also been modified considering the above changes in the size of the tube as well the requirements for inside clearance, area ratio and outside clearance as given in IS 1892 : 2021 'Subsurface investigation for foundations — Code of practice (*second revision*)'.
- e) 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

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Draft Indian Standard

**MILD STEEL THIN WALLED SAMPLING TUBES
AND SAMPLER HEADS — SPECIFICATION**

(First Revision of IS 11594)

Soil and Foundation Engineering
Sectional Committee, CED 43

Last date of Comments:
10 December 2022

1 SCOPE

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

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>
1239 (Part 1) : 2004	Steel tubes, tubulars and other wrought steel fittings — Specification : Part 1 steel tubes (<i>sixth revision</i>)
1892 : 2021	Subsurface investigation for foundations — Code of practice (<i>second revision</i>)
1875 : 1992	Carbon steel billets, blooms, slabs and bars for forgings — Specification (<i>fifth revision</i>)
2809 : 1972	Glossary of terms and symbols relating to soil engineering (<i>first revision</i>)
4432 : 1988	Specification for case hardening steels (<i>first revision</i>)

3 TERMINOLOGY

For the purpose of this standard, definitions given in IS 2809 shall apply.

4 MATERIALS

Materials 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*(Clause 4)*

SI No.	Part	Material	Special Requirement	Conforming to Indian Standard
(1)	(2)	(3)	(4)	(5)
i)	Tube	Mild steel	Smooth surface	Light tubes as per IS 1239 (Part 1)
ii)	Cutting shoes	Mild steel case hardened	45-50 HRC, with smooth surface	IS 4432
iii)	Sampler head	Mild steel	—	IS 1875

5 DIMENSIONS

There shall be 4 sizes, 38, 50, 75 and 100 mm based on internal diameter of the tube. The tolerance on all dimensions shall be ± 0.5 mm.

6 CONSTRUCTION

The sampling tubes, cutting shoes (or cutting edges) and sampler heads shall be made as per details given in Table 2 read along with Fig. 1 (see Note). The length shall be as desired. For sampling tube having internal diameter 38 mm and 50 mm, it is not practical to provide cutting shoe keeping in view the requirement to maintain inside clearance and area ratio as laid down in 7.7.2.1 of IS 1892. In such cases, one end of the tube shall be tapered. Sampler head shall have external threads (see Fig. 1) or bolting arrangement for connection (see Fig. 2) with sampling tube.

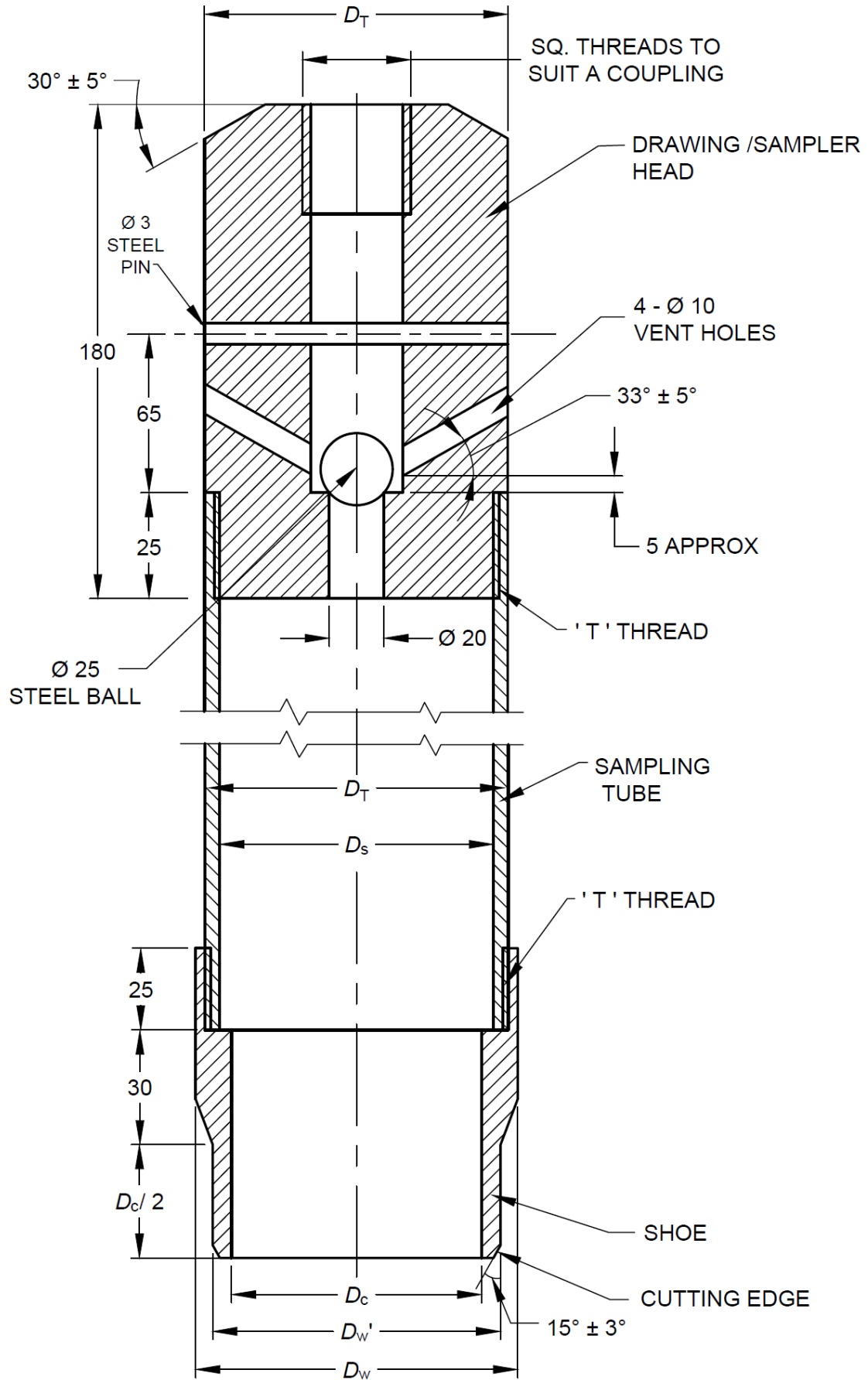
NOTE — The cutting shoes are so designed so that an area ratio within 20 percent, and inside clearance of 1 to 3 percent can be provided (see IS 1892).

Table 2 Dimensions of Sampling Tubes, Cutting Shoes and Sampler Heads*(Clause 6)*

All dimensions in millimetres.

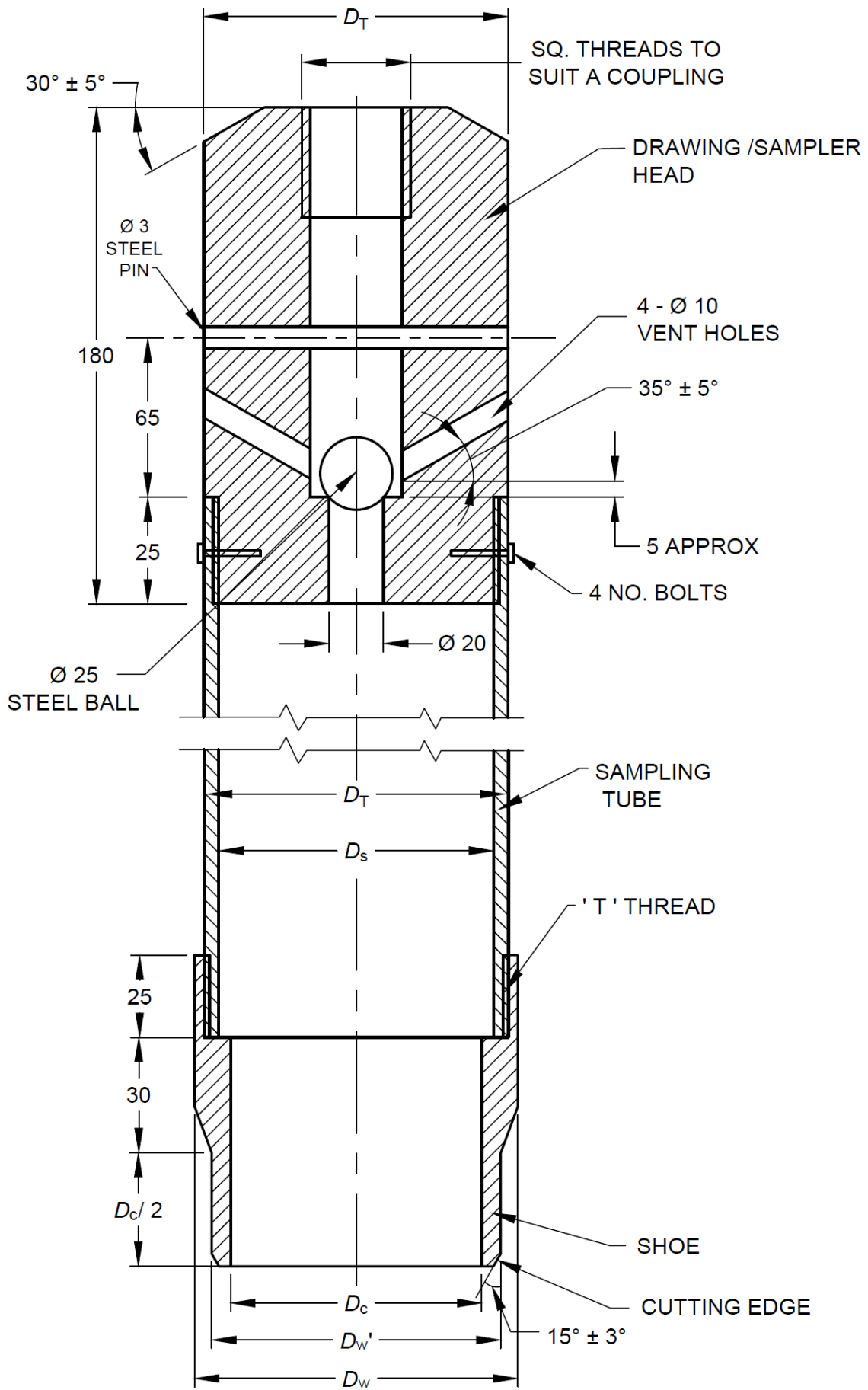
SI No.	Dimensions	Size			
		38 (3)	50 (4)	75 (5)	100 (6)
i)	Nominal diameter of tube (D_s)	38	50	75	100
ii)	Thread size (T), wherever applicable	M45x3	M75x3	M85x3	M110x3
iii)	Bolt size (B), wherever applicable	10	10	10	12
iv)	Outer diameter of sampling tube/sampler head (D_T)	40.0 - 41.5	52.5 - 54.5	78 - 80	104 - 106
v)	Outer diameter of shoes (D_w) ¹⁾	–	–	82	108
vi)	Internal diameter of cutting edge/shoes (D_c) ¹⁾	–	–	73	98
vii)	Outer diameter of cutting edge (D_w) ¹⁾	–	–	77	103

¹⁾ Cutting shoes are not provided in case of sizes 38 mm and 40 mm considering the practical difficulty of providing threads in shoes of very less wall thickness.



All dimensions in millimetres.

FIG. 1 DETAILS OF SAMPLING TUBE THREADED WITH SAMPLER HEAD



All dimensions in millimetres.

FIG. 2 DETAILS OF SAMPLING TUBE BOLTED WITH SAMPLER HEAD.

7 MARKING

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

- a) Name of the manufacturer or his registered trade-mark or both;
- b) Size and length of the sampling tube; and
- c) Date of manufacture.

7.2 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.