

भारतीय मानक ब्यूरो

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भारतीय मानक प्रारूप

पेट्रोलियम और प्राकृतिक गैस उद्योग – स्टील ड्रिल पाइप

Draft Indian Standard

**PETROLEUM AND NATURAL GAS INDUSTRIES – STEEL
DRILL PIPE**

ICS 75.180.10, 77.140.75

Steel Tubes, Pipes and Fittings Sectional
Committee, MTD 19.

Last date of comment:
11/11/2024

NATIONAL FOREWORD

This draft Indian Standard which is identical with ISO 11961 : 2018 ‘Petroleum and natural gas industries — Steel drill pipe’ issued by the International Organization for Standardization (ISO), and subject to its finalization, is to be adopted by the Bureau of Indian Standards on the recommendation of the Steel Tubes, Pipes and Fittings Sectional Committee and approval of the Metallurgical Engineering Division Council.

The text of ISO standard has been approved as suitable for publication as in Indian Standard without deviations. Certain terminologies and conventions are, however, not identical with those used in Indian Standard. Attention is especially drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, it should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exists. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the edition indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 6506-1: 2014 Metallic materials - Brinell hardness test: Part 1 test method	IS 1500 (Part 1): 2019 Metallic materials - Brinell hardness test: Part 1 test method (Fifth Revision)	Identical
ISO 6507-1: 2023 Metallic materials — Vickers hardness test Part 1: Test method	IS 1501 (Part 1): 2020 Metallic Materials — Vickers Hardness Test Part 1 Test Method (Fifth Revision)	Identical
ISO 6508-1: 2023 Metallic materials — Rockwell hardness test Part 1: Test method	IS 1586 (Part 1): 2018 Metallic materials — Rockwell hardness test: Part 1 test method (Fifth Revision)	Identical
ISO 6892-1: 2019 Metallic materials — Tensile testing Part 1: Method of test at room temperature	IS 1608 (Part 1): 2022 Metallic materials — Tensile testing — Part 1: Method of test at room temperature	Identical
ISO 7500-1:2018 Metallic materials — Calibration and verification of static uniaxial testing machines Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system	IS 1828 (Part 1): 2022 Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: tension/compression testing machines — Calibration and verification of the force-measuring system	Identical
ISO 9513: 2012 Metallic materials — Calibration of extensometer systems used in uniaxial testing	IS 12872: 2021 Metallic Materials — Calibration of Extensometer Systems Used in Uniaxial Testing (Second Revision)	Identical
ISO 10893-2: 2011 Non-destructive testing of steel tubes — Part 2: Automated eddy current testing of seamless and welded (except submerged arc-welded) steel tubes for the detection of imperfections	IS 6398 (Part 2): 2020 Non-destructive testing of steel tubes — Part 2: Automated eddy current testing of seamless and welded (except submerged arc-welded) steel tubes for the detection of imperfections (Second Revision)	Identical

The technical committee responsible for the preparation of this standard has reviewed the provisions of following International Standards referred in these adopted standards and decided their acceptability for use in conjunction with this standard:

<i>International Standard</i>	<i>Title</i>
ISO 10424-2: 2007	Petroleum and natural gas industries — Rotary drilling equipment Part 2: Threading and gauging of rotary shouldered thread connections
ISO 10893-3: 2011	Non-destructive testing of steel tubes — Part 3: Automated full peripheral flux leakage testing of seamless and welded (except submerged arcwelded) ferromagnetic steel tubes for the detection of longitudinal and/or transverse imperfections
ISO 10893-5: 2011	Non-destructive testing of steel tubes — Part 5: Magnetic particle inspection of seamless and welded ferromagnetic steel tubes for the detection of surface imperfections
ISO 10893-10: 2011	Non-destructive testing of steel tubes — Part 10: Automated full peripheral ultrasonic testing of seamless and welded (except submerged arc-welded) steel tubes for the detection of longitudinal and/or transverse imperfections
ISO 11484: 2019	Steel products — Employer's qualification system for non-destructive testing (NDT) personnel

This standard also makes a reference to the BIS Certification Marking of the product, details of which are given in National Annex A.

In reporting the result of a test or analysis made in accordance with this standard, is to be rounded off, it shall be done 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.

The scope of the standard is as follows:

SCOPE

This document specifies the technical delivery conditions for steel drill-pipes with upset pipe-body ends and weld-on tool joints for use in drilling and production operations in petroleum and natural gas industries for three product specification levels (PSL-1, PSL-2 and PSL-3). The requirements for PSL-1 form the basis of this document. The requirements that define different levels of standard technical requirements for PSL-2 and PSL-3 are in Annex G.

This document covers the following grades of drill-pipe:

- grade E drill-pipe;
- high-strength grades of drill-pipe, grades X, G and S;
- enhanced H₂S resistance drill pipe, grades D and F.

A typical drill-pipe configuration is given, showing main elements and lengths (see Figure B.1). The main dimensions and masses of the grades of drill-pipe are given in both SI units (see Table A.1) and in USC units (see Table C.1).

This document can also be used for drill-pipe with tool joints not specified by ISO or API standards.

By agreement between purchaser and manufacturer, this document can also be applied to other drill pipe body and/or tool-joint dimensions. This document lists supplementary requirements that can optionally be agreed between purchaser and manufacturer, for testing, performance verification and non-destructive examination (see Annex E).

This document does not consider performance properties, nor performance degradation of the product when in service.

NOTE 1 In this document, drill-pipe is designated by label 1, label 2, grade of material (E, X, G, S, D and F), upset type and type of rotary shouldered connection. Designations are used for the purpose of identification in ordering.

NOTE 2 Reference can be made to ISO 10424-2 or API Spec 7-2 for the detailed requirements for the threading of drill-pipe tool joints.

NOTE 3 Reference can be made to API RP 7G for the performance properties of the drill-pipe.

The complete document/text of ISO 11961 : 2018 'Petroleum and natural gas industries — Steel drill pipe' may be made available, on request to:

संजीव मैनी / Sanjiv Maini

वरिष्ठ निदेशक, वैज्ञानिक 'एफ' एवं प्रमुख / Senior Director, Scientist 'F' & Head

धातुकर्म अभियांत्रिकी विभाग / Metallurgical Engg. Department

भारतीय मानक ब्यूरो / Bureau of Indian Standards,

मानक भवन, 9 बहादुर शाह ज़फर मार्ग, नई दिल्ली / Manak Bhavan, 9, B.S.Z. Marg,

New Delhi-110002

E-mail: mtd@bis.gov.in, mtd19@bis.gov.in

Tel: + 91 11 23608265

National Annex A
(National Foreword)

A-1 BIS CERTIFICATION MARKING

The product(s) 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 products may be marked with the standard mark.