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Petroleum and natural gas industries - Steel pipes for use as casing or tubing for wells (ISO 11960:2020)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Petroleum and natural gas industries - Steel pipes for use as casing or tubing for wells (ISO 11960:2020)

Industries du pétrole et du gaz naturel - Tubes d'acier
utilisés comme cuvelage ou tubes de production dans
les puits (ISO 11960:2020)

Erdöl- und Erdgasindustrie - Stahlrohre zur
Verwendung als Futter - oder Steigrohre für
Bohrungen (ISO 11960:2020)

This European Standard was approved by CEN on 16 April 2021.

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European foreword

This document (EN ISO 11960:2021) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" in collaboration with Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" the secretariat of which is held by NEN.

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**INTERNATIONAL
STANDARD**

**ISO
11960**

Sixth edition
2020-03

**Petroleum and natural gas
industries — Steel pipes for use as
casing or tubing for wells**

*Industries du pétrole et du gaz naturel — Tubes d'acier utilisés
comme cuvelage ou tubes de production dans les puits*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 5, *Casing, tubing and drill pipe*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 12, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This sixth edition cancels and replaces the fifth edition (ISO 11960:2014), which has been technically revised. The main changes compared to the previous edition are as follows:

- deletion of Groups;
- deletion of Product Specifications Levels (PSL) and re-integration of the main requirements into the body of the text or into [Annex A](#) as a supplementary requirement;
- addition of [Annex H](#) on high collapse requirements;
- modification of NDT requirements for sour service grades.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Users of this document are advised that further or differing requirements can be needed for individual applications. This document is not intended to inhibit a vendor from offering, or the purchaser from accepting, alternative equipment or engineering solutions for the individual application. This can be particularly applicable where there is innovative or developing technology. Where an alternative is offered, it is advisable that the vendor identify any variations from this document and provide details.

This document includes statements of various nature. These are identified by the use of certain verbal forms:

- "Shall" is used to indicate that a provision is mandatory;
- "Should" is used to indicate that a provision is not mandatory but recommended as good practice;
- "May" is used to indicate that a provision is optional.

Petroleum and natural gas industries — Steel pipes for use as casing or tubing for wells

1 Scope

This document specifies the technical delivery conditions for steel pipes (casing, tubing and pup joints), coupling stock, coupling material and accessory material.

By agreement between the purchaser and manufacturer, this document can also be applied to other plain-end pipe sizes and wall thicknesses.

This document is applicable to the following connections:

- short round thread casing (SC);
- long round thread casing (LC);
- buttress thread casing (BC);
- non-upset tubing (NU);
- external upset tubing (EU);
- integral-joint tubing (IJ).

NOTE 1 For further information, see API Spec 5B.

For such connections, this document specifies the technical delivery conditions for couplings and thread protection.

NOTE 2 Supplementary requirements that can optionally be agreed for enhanced leak resistance connections (LC) are given in [A.9](#) SR22.

This document can also be applied to tubulars with connections not covered by ISO or API standards.

This document is applicable to products including the following grades of pipe: H40, J55, K55, N80, L80, C90, R95, T95, P110, C110 and Q125.

This document is not applicable to threading requirements.

NOTE 3 Dimensional requirements on threads and thread gauges, stipulations on gauging practice, gauge specifications, as well as, instruments and methods for inspection of threads are given in API Spec 5B.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 80000-1, *Quantities and units — Part 1: General*

ISO 643, *Steels — Micrographic determination of the apparent grain size*

ISO 6506-1:2004, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 6506-2, *Metallic materials — Brinell hardness test — Part 2: Verification and calibration of testing machines*

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ISO 6508-1:2006, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 6508-2, *Metallic materials — Rockwell hardness test — Part 2: Verification and calibration of testing machines and indenters*

ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

ISO 8501-1, *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings*

ISO 9513, *Metallic materials — Calibration of extensometer systems used in uniaxial testing*

ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel*

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koniec náhľadu – text ďalej pokračuje v platenej verzii STN