INTERNATIONAL STANDARD

ISO 10332

Second edition
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Non-destructive testing of steel tubes — Automated ultrasonic testing of seamless and welded (except submerged arc-welded) steel tubes for verification of hydraulic leak-tightness

Essais non destructifs des tubes en acier — Contrôle automatisé par ultrasons pour vérification de l'étanchéité hydraulique des tubes en acier sans soudure et soudés (sauf à l'arc immergé)

Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10332 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 19, *Technical delivery conditions for steel tubes for pressure purposes*.

This second edition cancels and replaces the first edition (ISO 10332:1994), which has been technically revised.

Non-destructive testing of steel tubes — Automated ultrasonic testing of seamless and welded (except submerged arc-welded) steel tubes for verification of hydraulic leak-tightness

1 Scope

This International Standard specifies requirements for automated ultrasonic shear-wave (generated by single element probes or the phased-array technique) testing of seamless and welded (except submerged arc-welded) steel tubes, for verification of hydraulic leak-tightness.

The testing technique is applied for the detection of predominantly longitudinal imperfections.

Where applicable, Lamb-wave testing may be applied at the discretion of the manufacturer.

This International Standard is applicable to the inspection of tubes with an outside diameter greater than or equal to 10 mm, and with an outside diameter-to-thickness ratio greater than or equal to 5.

2 Normative references

The following referenced documents are indispensable for the application 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 5577, *Non-destructive testing — Ultrasonic inspection — Vocabulary*

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

ISO 11484, *Steel products — Employer's qualification system for non-destructive testing (NDT) personnel*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5577, ISO 11484 and the following apply.

3.1
reference standard
standard for the calibration of non-destructive testing equipment

EXAMPLE Drill hole(s), notch(es), recess(es).

3.2
reference tube
tube or length of tube containing the reference standard(s)

3.3
reference sample
sample containing the reference standard(s)