

INTERNATIONAL STANDARD

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Seamless and welded steel tubes for pressure purposes — Magnetic particle inspection of the tube body for the detection of surface imperfections

*Tubes en acier sans soudure et soudés pour service sous pression —
Contrôle par magnétoscopie du corps des tubes pour la détection des
imperfections de surface*



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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.

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.

International Standard ISO 13665 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 19, *Technical delivery conditions for steel tubes for pressure purposes*.

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Seamless and welded steel tubes for pressure purposes — Magnetic particle inspection of the tube body for the detection of surface imperfections

1 Scope

1.1 This International Standard specifies requirements for magnetic particle inspection of the tube body of seamless and welded steel tubes for pressure purposes, for the detection of surface imperfections, according to four different acceptance levels.

It is intended that this International Standard be used to detect surface imperfections on all or part of the outer surface of tubes, excluding the end/bevel face, as may be required by the relevant products standards. However, it may be applied to the inside surface over a limited length from the ends of tubes, dependent on the tube diameter, by agreement between the purchaser and manufacturer.

1.2 In addition, this International Standard may be used, as appropriate, to locate the position of external surface imperfections, detected by another non-destructive testing method, for example, ultrasonics, prior to dressing of the tube surface, and to ensure complete removal of the imperfection after dressing is complete.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most re-

cent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 9934-1:—¹⁾, *Non-destructive testing — Magnetic particle testing — Part 1: General principles*.

ISO 11484:1994, *Steel tubes for pressure purposes — Qualification and certification of non-destructive testing (NDT) personnel*.

3 General requirements

3.1 The magnetic particle inspection covered by this International Standard is usually carried out on tubes after completion of all the primary production process operations.

This inspection shall be carried out by personnel certified in accordance with ISO 11484, as nominated by the manufacturer. In the case of third-party inspection, this shall be agreed between the purchaser and manufacturer.

3.2 The surface of the tube to be tested shall be sufficiently clean and free from oil, grease and other foreign matter which could interfere with the correct interpretation of indications obtained from the magnetic particle inspection of the tube.

3.3 It is emphasized that the type of indications obtained, as well as the minimum dimension of the surface imperfections to be detected, are dependent upon the specific tube manufacturing process and the tube surface finish.

1) To be published.