INTERNATIONAL STANDARD

ISO 17577

First edition
2006-09-15

Steel — Ultrasonic testing for steel flat products of thickness equal to or greater than 6 mm

Aciers — Contrôle ultrasonore des produits plats en acier d'épaisseur égale ou supérieure à 6 mm

Reference number
ISO 17577:2006(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

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 17577 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 7, *Methods of testing (other than mechanical tests and chemical analysis)*.

Steel — Ultrasonic testing for steel flat products of thickness equal to or greater than 6 mm

1 Scope

This International Standard specifies a method for the automated and/or manual ultrasonic testing of uncoated steel flat products for internal discontinuities by the reflection method. It is applicable to non-alloyed or alloyed steel flat products, in a nominal thickness range of 6 mm to 200 mm. However, this standard may be applied to austenitic and austenitic-ferritic steels, provided that the difference between the amplitude of the noise signal and that of the echo detection threshold is sufficient for the limit fixed. Unless otherwise agreed, for testing of steel flat products for welded steel tubes, ISO 12094 applies.

Other methods of testing (e.g. by transmission) or other test equipment may be used at the manufacturer's discretion, provided that they give identical results to those obtained under the conditions of this standard. In the event of a dispute, only the method defined in this standard will prevail.

Testing of flat products, of thickness less than 6 mm and over 200 mm, may be the subject of special agreements between the parties concerned.

The inspection is normally carried out in the place of production or on the premises of the supplier.

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

ISO 12094, *Welded steel tubes for pressure purposes — Ultrasonic testing for the detection of laminar imperfections in strips/plates used in the manufacture of welded tubes*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
internal discontinuity
any imperfection lying within the thickness of the flat products, e.g. planar or laminar imperfection, single-plane or multi-plane inclusion bands or clusters

3.2
defect
unacceptable internal discontinuities, i.e. exceeding the specified maximum size or population density limits

3.3
population density
number of individual internal discontinuities of a size greater than a specified minimum size and less than a specified maximum size per specified area of body or length of edge zone