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Stainless steels for general purposes —

Part 1: Corrosion-resistant flat products

Aciers inoxydables pour usage général —

Partie 1: Produits plats en acier résistant à la corrosion

Reference number
ISO 16143-1:2014(E)

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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 17, *Steels*, Subcommittee SC 4, *Heat treatable and alloy steels*.

This second edition cancels and replaces the first edition (ISO 16143-1:2004), which has been technically revised.

This corrected version of ISO 16143-1:2014 incorporates the following corrections: in Tables 1, 6, A.3 and B.1, the steel designation name "X2CrNbCu22" has been corrected to "X2CrTiCu22"; normative reference ISO 15510 has been updated to the latest edition (2014); some cross-references and footnotes have been corrected or deleted.

ISO 16143 consists of the following parts, under the general title *Stainless steels for general purposes*:

— *Part 1: Corrosion-resistant flat products*

— *Part 2: Corrosion-resistant semi-finished products, bars, rods and sections*

— *Part 3: Wire*

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Stainless steels for general purposes —

Part 1:
Corrosion-resistant flat products

1 Scope

This part of ISO 16143 specifies the technical delivery conditions for hot- or cold-rolled sheet/plate and strip for general purposes made of the most important corrosion-resistant stainless steel grades.

NOTE 1 In the text, under the term "general purposes", purposes other than the special purposes mentioned in References [1] to [4] are understood.

NOTE 2 Heat-resistant steel grades can be found in ISO 4955 and they can be used for corrosion-resistant purposes.

In addition to this part of ISO 16143, the general technical delivery requirements of ISO 404 are applicable.

This part of ISO 16143 does not apply to components manufactured by further processing of the product forms listed in the first paragraph where quality characteristics are altered as a result of such processing.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 148-1, *Metallic materials — Charpy pendulum impact test — Part 1: Test method*

ISO 377, *Steel and steel products — Location and preparation of samples and test pieces for mechanical testing*

ISO 404, *Steel and steel products — General technical delivery requirements*

ISO 3651-2, *Determination of resistance to intergranular corrosion of stainless steels — Part 2: Ferritic, austenitic and ferritic-austenitic (duplex) stainless steels — Corrosion test in media containing sulfuric acid*

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

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)*

ISO 6892-1:2009, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 6892-2, *Metallic materials — Tensile testing — Part 2: Method of test at elevated temperature*

ISO 6929, *Steel products — Vocabulary*

ISO 10474, *Steel and steel products — Inspection documents*

ISO 14284, *Steel and iron — Sampling and preparation of samples for the determination of chemical composition*

ISO 15510:2014, *Stainless steels — Chemical composition*

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ISO/TS 4949, *Steel names based on letter symbols*

ISO/TR 9769, *Steel and iron — Review of available methods of analysis*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6929 and the following apply.

3.1
corrosion-resistant stainless steel
steel, with at least 10,5 % (mass fraction) Cr and a maximum of 1,2 % (mass fraction) C, for which resistance to corrosion is of primary importance

3.2
product form
shape of a product

Note 1 to entry: Different forms of products are given in ISO 6929.

4 Designation

For the steel grades covered by this part of ISO 16143, the steel names as given in the tables are allocated in accordance with ISO/TS 4949.

For the steel grades covered by this part of ISO 16143, the steel numbers as given in the tables are allocated in accordance with ISO 15510.

5 Information to be supplied by the purchaser

It shall be the responsibility of the purchaser to specify all requirements that are necessary for products covered by this part of ISO 16143. Such requirements to be considered include, but are not limited to, the following:

a) the desired quantity;

b) the product form (strip or sheet/plate);

c) the number of the appropriate dimensional standard, e.g. ISO 9444-1, ISO 9444-2, ISO 9445-1, ISO 9445-2, and ISO 18286 (see Annex D), the nominal dimensions, plus any choice of requirements;

d) the type of material (steel);

e) the number of this part of ISO 16143 (i.e. ISO 16143-1);

f) the steel name or steel number;

g) if, for the relevant steel in Tables 4 to 8, more than one treatment condition is covered, the symbol for the desired heat treatment or cold-worked condition;

h) the desired process route/surface finish (see Table 3);

i) if a verification of internal soundness is required for flat products with thickness ≥6 mm, requirements can be agreed at the time of enquiry and order (see 7.7);

j) any further optional test agreed between the manufacturer and purchaser at the time of enquiry and order [see 8.2.3 b)];

k) the type of inspection document and its designation in accordance with ISO 10474 (see 8.2.1).

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