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Stainless steels for general purposes — Part 1: Flat products

*Aciers inoxydables pour usage général —
Partie 1: Produits plats*



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 16143-1 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 4, *Heat treatable and alloy steels*.

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

- *Part 1: Flat products*
- *Part 2: Semi-finished products, bars, rods and sections*
- *Part 3: Wire*

Stainless steels for general purposes —

Part 1: 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 In the text, under the term “general purposes”, purposes other than the special purposes mentioned in the bibliographic references [1] — [4] are understood.

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 paragraph 1 where quality characteristics are altered as a result of such processing.

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 377:1997, *Steel and steel products — Location and preparation of samples and test pieces for mechanical testing*

ISO 404:1992, *Steel and steel products — General technical delivery requirements*

ISO 3651-2:1998, *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/TS 4949:2003, *Steel names based on letter symbols*

ISO 6506-1:1999, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 6507-1:1997, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 6508-1:1999, *Metallic materials — Rockwell hardness test — Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)*

ISO 6892:1998, *Metallic materials — Tensile testing at ambient temperature*

ISO 6929:1987, *Steel products — Definitions and classification*

ISO 9444:2002, *Continuously hot-rolled stainless steel strip, plate/sheet and cut lengths — Tolerances on dimensions and form*

ISO 9445:2002, *Continuously cold-rolled stainless steel narrow strip, wide strip, plate/sheet and cut lengths — Tolerances on dimensions and form*

ISO/TR 9769:1991, *Steel and iron — Review of available methods of analysis*

ISO 10474:1991, *Steel and steel products — Inspection documents*

ISO 14284:1996, *Steel and iron — Sampling and preparation of samples for the determination of chemical composition*

ISO/TS 15510:2003, *Stainless steels — Chemical composition*

ISO 18286:2004, *Hot-rolled stainless steel plates — Tolerances on dimensions and shape*

3 Terms and definitions

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

3.1
corrosion-resistant stainless steels
steels, 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 forms
See ISO 6929

4 Designation

The steel names given in Tables 1, 4, 5, 6, 7 and 8 are allocated in accordance with ISO/TS 4949.

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 specification. 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 (see ISO 9444, ISO 9445 and ISO 18286), the nominal dimensions, plus any choice of requirements;
- d) the type of material (steel);
- e) the number of this International Standard, i.e. ISO 16143-1;
- f) the steel name;
- 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;
- h) the desired process route (see Table 3);
- i) if an inspection document is required, its designation in accordance with ISO 10474.

EXAMPLE 5 t of cold-rolled narrow strip in accordance with ISO 9445 with a specified thickness of 0,25 mm, precision thickness tolerance (P), with a specified width of 250 mm, precision tolerance on width (P) and with restricted tolerances on edge camber (R) made of steel grade X5CrNi18-9 as specified in ISO 16143-1, in process route 2D and inspection certificate 3.1.B as specified in ISO 10474 is designated as follows:

5 t cold-rolled narrow strip ISO 9445 — 0,25P × 250P — R
Steel ISO 16143-1-X5CrNi18-9 + 2D
3.1 B