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Stainless steels — Chemical composition

Aciers inoxydables — Composition chimique

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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, *Steel*, Subcommittee SC 4, *Heat treatable and alloy steels*.

This second edition cancels and replaces the first edition (ISO 15510:2010), which has been technically revised.

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Stainless steels — Chemical composition

1 Scope

This International Standard lists the chemical compositions of stainless steels agreed by ISO/TC 17/SC 4, mainly on the basis of a composition of the specifications in existing ISO, ASTM, EN, JIS, and GB (Chinese) standards. They apply to all wrought product forms including ingots and semi-finished material.

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

ISO 6929, *Steel products — Vocabulary*

3 Terms and definitions

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

3.1
stainless steel
steel with at least 10,5 % (mass fraction) Cr and maximum 1,2 % (mass fraction) C

Note 1 to entry: For the classification of stainless steels according to their structure, composition and application, see Annex C.

4 Chemical composition

The chemical composition of stainless steels approved by ISO/TC 17/SC 4 is given in Table 1.

WARNING — Due to hazardous effects to health and environmental problems of lead (Pb), it is recommended to use steels with sulfur additions instead. These steels generally have comparable properties relating to machinability.

NOTE If, in special cases, for example, an ISO committee charged with the establishment or revision of a standard for a specific product or application of stainless steels sees the necessity of deviating from the specifications in Table 1, it should inform ISO/TC 17/SC 4 (Secretariat's address: FES/DIN, Postfach 10 51 45, 40042 Dusseldorf, Germany) of the reasons for this and try, before such deviations are considered, to achieve consensus for a corresponding modification to Table 1.

5 Designation of comparable steels

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

For the steel grades covered by this International Standard, the steel numbers as given in the tables are based on a 10-digit code presented in 4 subgroups of digits: 4 digits-3 digits-2 digits-1 digit.

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