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## **Welding consumables — Covered electrodes for manual metal arc welding of stainless and heat-resisting steels — Classification**

*Produits consommables pour le soudage — Électrodes enrobées pour le soudage manuel à l'arc des aciers inoxydables et résistant aux températures élevées — Classification*



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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 document 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](http://www.iso.org/directives)).

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This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 3, *Welding consumables*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding and allied processes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 3581:2016), which has been technically revised.

The main changes are as follows:

- the document has been updated in accordance with the drafting guidelines laid out in the ISO House Style;
- the dates of normative references have been updated to show their latest editions;
- a new [Clause 3](#) (Terms and definitions) has been added in accordance with the standard structure of ISO documents;
- “weld metal recovery” now reads “nominal electrode efficiency” throughout, in accordance with ISO 2401;
- a new [Table 2](#) has been added listing classification systems;
- new alloys have been added to [Table 3](#) (formerly Table 2) and associated clauses of the document;
- the chemical compositions of several alloys have been updated in [Table 3](#) (formerly Table 2);
- certain alloys have been reclassified in [Table 3](#) (formerly Table 2);
- a new footnote was added to [Table 3](#) (formerly Table 2) regarding Co content;

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— the wording of [Clause 9](#) (formerly Clause 8) has been updated.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html). Official interpretations of ISO/TC 44 documents, where they exist, are available from this page: <https://committee.iso.org/sites/tc44/home/interpretation.html>.

## Introduction

This document provides a classification system for covered electrodes for manual metal arc welding of stainless and heat-resisting steels in terms of chemical composition of deposited weld metal and type of electrode covering. Other properties of the electrodes are specified by reference to tables.

This document recognizes that there are two somewhat different approaches in the global market for classifying a given covered electrode for arc welding of stainless steel. It allows for either or both to be used to suit a particular need. Application of either (or both) type(s) of classification designation identifies a product as classified according to this document. It is important to note that the two systems are not exactly equivalent; therefore, each system is to be used independently of the other, without combining designators in any way.

The classification according to nominal composition (system A) is mainly based on EN 1600. The classification according to alloy type (system B) is mainly based on standards used around the Pacific Rim.