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Welding consumables — Wire electrodes, strip electrodes, wires and rods for arc welding of stainless and heat resisting steels — Classification

Produits consommables pour le soudage — Fils-électrodes, électrodes en feuillard, fils d'apport et baguettes de soudage, pour le soudage à l'arc des aciers inoxydables et des aciers résistant aux températures élevées — Classification

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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 14343 was jointly prepared by the International Institute of Welding (IIW), Commission II, *Arc Welding and Filler Metals*, and Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 3, *Welding consumables*. IIW has been approved as an international standardizing body in the field of welding by the ISO Council.

This second edition cancels and replaces the first edition (ISO 14343:2002), which has been technically revised. It also incorporates the Amendment ISO 14343:2002/Amd.1:2006.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 3 via your national standards body, a complete listing of which can be found at http://www.iso.org/.

Introduction

It is recognized that there are two somewhat different approaches in the global market to classifying a given stainless steel welding consumable, and that either or both can be used to suit a particular market need. One is the *nominal composition* approach, which uses designators to indicate the principal alloying elements at their nominal levels, in a particular sequence, and which is sometimes followed by chemical element symbols to indicate compositional modifications to the original grade. The other is the *alloy type* approach, which uses tradition-based three- or four-digit designations for certain original grades, sometimes followed by one or more chemical element symbols indicating compositional modifications of the original. In both approaches, classification is based upon the chemical composition of the product. In many cases, a given product can be classified using both approaches, because the composition ranges, although slightly different, overlap to a considerable extent between the two.

Designation by either type of classification, or both where suitable, identifies a product as being classified according to this International Standard. Many, but not all, commercial products addressed by this International Standard can be classified using both approaches, and suitable products can be so marked. Classification according to system A, by nominal composition, is based mainly on EN 12072[1][1)], while that of system B, by alloy type, is mainly based upon standards used around the Pacific Rim.

For stainless steel welding consumables, there is no unique relationship between the product form (wire electrode, strip electrode, wire or rod) and the welding process used (gas-shielded metal arc welding, gas tungsten arc welding, plasma arc welding, submerged arc welding, electroslag welding and laser beam welding). For this reason, the wire electrodes, strip electrodes, wires or rods can be classified on the basis of any of the above product forms and can be used, as appropriate, for more than one of the above processes.

1) This was replaced by “EN ISO 14343:2007” when CEN adopted the previous edition of this International Standard.