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Welding consumables — Solid wire electrodes, solid wires and rods for fusion welding of magnesium and magnesium alloys — Classification

Produits consommables pour le soudage — Fils-électrodes pleins, fils pleins et baguettes pleines pour le soudage par fusion du magnésium et des alliages de magnésium — 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 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).

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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 44, *Welding and allied processes*, Subcommittee SC 3, *Welding consumables*.

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 these bodies can be found at www.iso.org.

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Introduction

This International Standard proposes a classification in order to designate solid wire electrodes, solid wires and rods in terms of their chemical composition.

There is no unique relationship between the product form (solid wire electrodes, solid wires or rods) and the welding process used (gas-shielded metal arc welding, tungsten inert gas arc welding, plasma arc welding or laser beam welding). For this reason, solid wire electrodes, solid wires and rods may be classified in terms of their chemical composition.

In this International Standard, the symbol of the welding process is not used because

a) different joining processes are performed with the same chemical component consumable, and

b) the producer is not able to determine the process symbol before shipping.

Mechanical properties of all-weld metal test specimens or welded joints will vary from those obtained in production due to differences in welding procedure and the parent material. Mechanical properties of all-weld metal or welded joints are consequently not specified.

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Welding consumables — Solid wire electrodes, solid wires and rods for fusion welding of magnesium and magnesium alloys — Classification

1 Scope

This International Standard specifies requirements for the classification of solid wire electrodes, solid wires and rods for fusion welding of magnesium and magnesium alloys. The classification is based on their chemical composition.

The compositions of solid wire electrodes for metal inert gas (MIG) welding are the same as solid wire electrodes, solid wires and rods for tungsten inert gas (TIG) arc welding, plasma arc welding, laser beam welding, laser-MIG hybrid welding and other fusion welding processes.

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 544, *Welding consumables — Technical delivery conditions for filler materials and fluxes — Type of product, dimensions, tolerances and markings*

ISO 14344, *Welding consumables — Procurement of filler materials and fluxes*

ISO 80000-1:2009, *Quantities and units — Part 1: General*. Corrected by ISO 80000-1:2009/Cor 1:2011

3 Classification

The classification is divided into two parts as follows:

a) the first part gives a symbol indicating the product to be identified (see 4.1);

b) the second part gives a symbol indicating the chemical composition of the solid wire electrodes, solid wires and rods (see Table 1).

4 Symbols and requirements

4.1 Symbol for the product

The symbol for the solid wire electrodes, solid wires and rods shall be S.

4.2 Symbol for the chemical composition

The numerical symbols in Table 1 indicate the chemical composition of a solid wire or rod, determined under the conditions given in Clause 6. The first two digits indicate the alloy group. See Annex A for an explanation of the numerical symbols.

The optional additional chemical symbols in Table 1 indicate the chemical composition and include an indication of the characteristic alloying elements.

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