CAN/CSA-ISO 14341:11

(ISO 14341:2010, IDT)

National Standard of Canada

(reaffirmed 2016)

Welding consumables — Wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels — Classification

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Welding consumables — Wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels — Classification

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Welding consumables — Wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels — Classification

CSA Preface

This is the second edition of CAN/CSA-ISO 14341, *Welding consumables — Wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels — Classification*, which is an adoption without modification of the identically titled ISO (International Organization for Standardization) Standard 14341 (second edition, 2010-02-15). This Standard supersedes the previous edition published in 2006 as CAN/CSA-ISO 14341 (adopted ISO 14341:2002).

Standards development within the Canadian Welding and Structural Metals sector is harmonized with international standards development.

This Standard was reviewed for Canadian adoption by the harmonized Canadian Advisory Committee and the CSA Technical Committee to ISO/TC 44/SC 3, Welding Consumables. This Standard has been formally approved by the CSA Technical Committee on Welding Filler Metals, under the jurisdiction of the Strategic Steering Committee on Welding and Structural Metals. This Standard has been approved as a National Standard of Canada by the Standards Council of Canada.

September 2011

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INTERNATIONAL STANDARD

ISO 14341

Second edition
2010-02-15

Welding consumables — Wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels — Classification

Produits consommables pour le soudage — Fils-électrodes et métaux d'apport déposés en soudage à l'arc sous protection gazeuse des aciers non alliés et à grains fins — 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.

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.

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ISO 14341 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 3, *Welding consumables*.

This second edition cancels and replaces the first edition (ISO 14341:2002).

Requests for official interpretation 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.

Introduction

This International Standard recognizes that there are two somewhat different approaches in the global market to classifying a given wire electrode, and allows for either or both to be used, to suit a particular market need. Application of either type of classification designation (or both where suitable) identifies a product as classified in accordance with this International Standard.

This International Standard provides a classification in order to designate wire electrodes in terms of their chemical composition and, where required, in terms of the yield strength, tensile strength and elongation of the all-weld metal. The ratio of yield strength to tensile strength of weld metal is generally higher than that of parent metal. Users should note that matching weld metal yield strength to parent metal yield strength does not necessarily ensure that the weld metal tensile strength matches that of the parent material. Therefore, where the application requires matching tensile strength, selection of the consumable should be made by reference to column 3 of Table 1A or 1B.

It should be noted that the mechanical properties of all-weld metal test specimens used to classify the electrodes vary from those obtained in production joints because of differences in welding procedures such as electrode size, width of weave, welding position and material composition.

Welding consumables — Wire electrodes and weld deposits for gas shielded metal arc welding of non alloy and fine grain steels — Classification

1 Scope

This International Standard specifies requirements for classification of wire electrodes and weld deposits in the as-welded condition and in the post-weld heat-treated condition for gas shielded metal arc welding of non alloy and fine grain steels with a minimum yield strength of up to 500 MPa or a minimum tensile strength of up to 570 MPa. One wire electrode can be tested and classified with different shielding gases.

This International Standard constitutes a combined specification providing classification utilizing a system based upon the yield strength and the average impact energy of 47 J of all-weld metal, or utilizing a system based upon the tensile strength and the average impact energy of 27 J of all-weld metal.

a) Clauses and tables which carry the suffix letter “A” are applicable only to wire electrodes classified to the system based upon the yield strength and the average impact energy of 47 J of all-weld metal in accordance with this International Standard.

b) Clauses and tables which carry the suffix letter “B” are applicable only to wire electrodes classified to the system based upon the tensile strength and the average impact energy of 27 J of all-weld metal in accordance with this International Standard.

c) Clauses and tables which have neither the suffix letter “A” nor the suffix letter “B” are applicable to all wire electrodes classified in accordance with this International Standard.

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

ISO 13916, *Welding — Guidance on the measurement of preheating temperature, interpass temperature and preheat maintenance temperature*

ISO 14175:2008, *Welding consumables — Gases and gas mixtures for fusion welding and allied processes*

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

ISO 15792-1:2000, *Welding consumables — Test methods — Part 1: Test methods for all-weld metal test specimens in steel, nickel and nickel alloys*

ISO 80000-1:2009, *Quantities and units — Part 1: General*