AS/NZS ISO 14343:2006
ISO 14343:2002
Reconfirmed 2017

AS/NZS ISO 14343:2006

Australian/New Zealand Standard™

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


This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee WD-002, Welding Consumables. It was approved on behalf of the Council of Standards Australia on 13 January 2006 and on behalf of the Council of Standards New Zealand on 20 January 2006.
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The following are represented on Committee WD-002:

Australian Chamber of Commerce and Industry
Bureau of Steel Manufacturers of Australia
Business New Zealand
CSIRO Manufacturing and Infrastructure Technology
Welding Technology Institute of Australia

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*This Standard was issued in draft form for comment as DR 05471.*

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

**RECONFIRMATION**

**OF**

**AS/NZS ISO 14343:2006**

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

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Technical Committee WD-002 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 20 January 2017.

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The following are represented on Technical Committee WD-002:

Australian Chamber of Commerce and Industry
Bureau of Steel Manufacturers of Australia
New Zealand Heavy Engineering Research Association
Welding Technology Institute of Australia

NOTES

Australian/New Zealand Standard™

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

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# PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WD-002, Welding Consumables, to supersede AS 2717.3:1992 *Welding—Electrodes—Gas metal arc,* Part 3*: Corrosion-resisting chromium and chromium-nickel steel electrodes.*

The objective of this Standard is to specify requirements for classification of wire electrodes, wires and rods for gas-shielded metal arc welding, gas tungsten arc welding, plasma arc welding, submerged arc welding and laser beam welding of stainless and heat-resisting steels.

This Standard is identical to, and has been reproduced from, ISO 14343:2002, *Welding consumables—Wire electrodes, wires and rods for arc welding of stainless and heat resisting steels—Classification*.

An informative Annex giving information on health and safety has been added to this Standard.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘ISO 14343 should read ‘AS/NZS ISO 14343’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

References to International Standards should be replaced by references to Australian/New Zealand Standards, as follows:

| *Reference to International Standard* | | *Australian/New Zealand Standard* | |
|---|---|---|---|
| ISO | | AS/NZS ISO | |
| 544 | Welding consumables—Technical delivery conditions for welding filler metals—Type of product, dimensions tolerances and markings | 544 | Welding consumables—Technical delivery conditions for welding filler metals—Type of product, dimensions tolerances and markings |
| 14344 | Welding and allied processes—Flux and gas shielded electrical welding processes—Procurement guidelines for consumables | 14344 | Welding and allied processes—Flux and gas shielded electrical welding processes—Procurement guidelines for consumables |

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# 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 market allows for either or both to be used, to suit a particular market need. One is termed the “Nominal Composition” approach, which uses designators that indicate the principal alloying elements at their nominal levels, in a particular sequence, sometimes followed by chemical element symbols to indicate compositional modifications to the original grade. The other is termed 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 which indicate compositional modifications from 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, in the two approaches.

Application of either type of classification designation (or both where suitable) identifies a product as 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 may be so marked. The classification according to system A is mainly based on EN 12072. The classification according to system B 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, wire or rod) and the welding process used (gas-shielded metal arc welding, gas tungsten arc welding, plasma arc welding or submerged arc welding). For this reason, the wire electrodes, wires or rods may 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.

AUSTRALIAN/NEW ZEALAND STANDARD

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

## 1 Scope

This International Standard specifies requirements for classification of wire electrodes, wires and rods for gas-shielded metal arc welding, gas tungsten arc welding, plasma arc welding, submerged arc welding and laser beam welding of stainless and heat-resisting steels. The classification of the wire electrodes, wires and rods is based upon their chemical composition.

This document is a combined standard providing for classification utilizing a system based upon classification according to nominal composition or utilizing a system based upon classification according to alloy type.

a) Paragraphs and table entries which carry the label “classification according to nominal composition”, or which are identified by “ISO 14343-A”, are applicable only to products classified to that system.

b) Paragraphs and table entries which carry the label “classification according to alloy type”, or which are identified by “ISO 14343-B”, are applicable only to products classified to that system.

c) Paragraphs and table entries which carry neither label are applicable to products classified according to either or both systems.

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 31-0:1992, *Quantities and units — Part 0: General principles*

ISO 544, *Welding consumables — Technical delivery conditions for welding filler metals — Type of product, dimensions, tolerances and markings*

ISO 864, *Arc welding — Solid and tubular cored wires which deposit carbon and carbon manganese steel — Dimensions of wires, spools, rims and coils*

ISO 14344, *Welding and allied processes — Flux and gas shielded electrical welding processes — Procurement guidelines for consumables*