

Australian/New Zealand Standard™

**Welding consumables—Wire electrodes,
wires and rods for welding of aluminium
and aluminium alloys—Classification**



AS/NZS ISO 18273:2006

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 05472.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF

AS/NZS ISO 18273:2006

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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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New Zealand Heavy Engineering Research Association
Welding Technology Institute of Australia

NOTES

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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 2717.2:1988 *Welding—Electrodes—Gas metal arc, Part 2: Aluminium and aluminium alloy*.

The objective of this Standard is to specify requirements for classification of solid wires and rods for fusion welding of aluminium and aluminium alloys.

This Standard is identical to, and has been reproduced from, ISO 18273:2004, *Welding consumables—Wire electrodes, wires and rods for welding of aluminium and aluminium alloys—Classification*.

An informative Annex giving information on health and safety has been added in 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 18273 should read 'AS/NZS ISO 18273'.
- (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:

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
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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FOREWORD

This document (EN ISO 18273:2004) has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 44 "Welding and allied processes".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2004, and conflicting national standards shall be withdrawn at the latest by September 2004.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

INTRODUCTION

For aluminium welding consumables there is no unique relationship between the product form (solid wire or rod) and the welding process used (e.g. gas shielded metal arc welding, gas tungsten arc welding, plasma arc welding or other welding processes). For this reason the solid 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 welding of aluminium and aluminium alloys—Classification

1 Scope

This standard specifies requirements for classification of solid wires and rods for fusion welding of aluminium and aluminium alloys. The classification of the solid wires and rods is based on their chemical composition.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN ISO 544, *Welding consumables – Technical delivery conditions for welding filler metals – Type of product, dimensions, tolerances and markings (ISO 544:2003)*.

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

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

3 Classification

The classification is divided into two parts:

- a) the first part indicates the product form being solid wires or rods, see 4.1;
- b) the second part gives a numerical symbol indicating the chemical composition of the solid wire or rod, see Table 1.

The aluminium or aluminium alloy chemical composition limits specified are strictly identical to those registered to the Aluminum Association, Washington DC 20006, USA, for the corresponding alloys.

4 Symbols and requirements

4.1 Symbols for the product form

The symbol for the solid wire and rod shall be S.

NOTE One product form may be used for more than one welding process.

4.2 Symbol for the chemical composition

The numerical symbol in Table 1 indicates the chemical composition of a solid wire and rod, determined under conditions given in clause 6.

NOTE In addition the chemical symbol may be used.

5 Mechanical properties of the weld metal

Mechanical properties of the weld metal are not part of the classification.