AS/NZS 1665:2004
Reconfirmed 2016

Australian/New Zealand Standard™

Welding of aluminium structures

STANDARDS AUSTRALIA

STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee WD-003, Welding of Steel Structures. It was approved on behalf of the Council of Standards Australia on 16 December 2003 and on behalf of the Council of Standards New Zealand on 5 March 2004. It was published on 22 March 2004.

The following are represented on Committee WD-003:

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Australian Industry Group
AUSTROADS
Bureau of Steel Manufacturers of Australia
Electricity Supply Association of Australia
Institution of Engineers Australia
New Zealand Heavy Engineering Research Association
New Zealand Non-destructive Testing Association
New Zealand Welding School
Steel Reinforcement Institute of Australia
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Welding Technology Institute of Australia

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This Standard was issued in draft form for comment as DR 02451.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF
AS/NZS 1665:2004
Welding of aluminium structures

RECONFIRMATION NOTICE

Technical Committee WD-003 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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Steel Reinforcement Institute of Australia
The University of Sydney
Welding Technology Institute of Australia

NOTES

Australian/New Zealand Standard™

Welding of aluminium structures

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WD-003, Welding of Structures, to supersede AS 1665—1992.

The objective of this Standard is to standardize the welding of aluminium structures and incorporate the latest techniques used in industry.

This is a major revision of the previous edition, including references to the latest materials being used.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard.

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S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE

This Standard specifies requirements for the welding of aluminium and its weldable alloys in structures, components and equipment complying with AS/NZS 1664.1 or AS/NZS 1664.2, by the following processes:

(a) Gas tungsten-arc welding (GTAW).

(b) Gas metal-arc welding (GMAW).

(c) Pulsed-arc welding (GTAW or GMAW).

(d) Plasma-arc welding (PAW).

The Standard can also be used for all welded constructions other than those excluded in Section 1.2.

NOTES:

1 Throughout this Standard, 'aluminium' is taken to refer to 'aluminium and its weldable alloys'.

2 Welded components may be made up of combinations of sheets, plates, extrusions or sections, including hollow sections, built-up sections, castings and forgings.

1.2 EXCLUSIONS

This Standard does not apply to resistance welding, brazing, soldering, or the welding of pressure vessels and pressure piping (which should comply with AS/NZS 1200).

NOTE: The welding of pressure vessels and pressure piping are covered in AS/NZS 1200.

1.3 INNOVATION

It is not intended to prevent the use of novel materials, welding processes, consumables, methods of construction or testing that do not comply with a specific requirement of this Standard or are not mentioned in it, but which give equivalent results to those specified. The Standard can be applied to other welding processes such as friction welding, including friction stir, laser welding and electron beam welding, provided all requirements of the Standard are met, as well as specific constraints of needs, demands and operation of the individual welding processes.

1.4 REFERENCED DOCUMENTS

The documents referred to in this Standard are listed in Appendix A

1.5 DEFINITIONS

For the purpose of this Standard, the symbols and definitions given in AS 1101.3 and AS 2812 and the definitions below apply.