

Australian/New Zealand Standard™

Structural steel welding

Part 3: Welding of reinforcing steel



AS/NZS 1554.3:2008

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee WD-003, Welding of Structures. It was approved on behalf of the Council of Standards Australia on 26 February 2008 and on behalf of the Council of Standards New Zealand on 11 April 2008.
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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/NZS 1554.3—2002, *Structural steel welding, Part 3: Welding of reinforcing steel*.

The objective of this Standard is to provide a code for the welding of reinforcing steel.

This edition takes cognizance of the ISO Standards for the welding of reinforcing steels, ISO 17660-1, *Welding—Welding of reinforcing steel, Part 1: Load-bearing welded joints* and ISO 17660-2, *Welding—Welding of reinforcing steel, Part 2: Non load-bearing welded joints* and, where deemed relevant by the Committee, appropriate requirements have been incorporated or adopted with modification. Changes associated with Australia and New Zealand adopting the ISO welding consumable Standards have also been included in this edition, as have changes to maintain consistency with other parts of the AS/NZS 1554 series of Standards.

The differences with the 2002 edition of AS/NZS 1554.3 are as follow:

- (a) Clarification of general requirements: Clause 1.7 and 1.9.3.
- (b) New Zealand specific requests: Clauses 2.1, 8.3 and Table 8.3.
- (c) Provision for the welding of stainless reinforcing steels: Clause 2.1.
- (d) Changes to welding consumable classification Standards: Clauses 2.3.1, 2.3.3, and Tables 3.2, 4.5(A), 4.5(B), 4.9(A), 4.9(C).
- (e) Clarification of requirements for the welding of non-loadbearing welding joints including provision for Cross-joints: Clause 3.3, 4.10.2.1, 7.3.4, and Table 7.2(B).
- (f) Changes associated with ISO 17660 1 and ISO 17660 2: Clauses 1.4.15.1, 3.3, 4.4.3, 4.10.1, 4.11.6, 7 (all), 8.5 and Tables 4.5(A), 4.10.2, 4.11.6, 7.2(A), 7.2(B) and 9.2 and Table F3, Appendix F.
- (g) Clarification of test acceptance requirements: Clauses 8.3, 8.4 and 8.5.
- (h) Inspection requirements: Clauses 10.2 and 10.3.2.
- (i) Correction of errors and other amendments: Clause 9.5, Tables 4.10.2 and Table F4, Appendix F.

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 are deemed to be requirements of this Standard.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for the welding of reinforcing steel used in concrete structures that are designed and constructed in accordance with AS 3600 or NZS 3101.1, as well as other Standards that may be appropriate, by the following processes:

- (a) Manual metal-arc welding (MMAW).
- (b) Gas metal-arc welding (GMAW).
- (c) Flux-cored arc welding (FCAW).
- (d) Flash butt welding.
- (e) Flame-pressure welding or other processes approved by the principal.

The Standard applies specifically to the welding of reinforcing steels complying with AS/NZS 4671, but other steels may be used as provided for in Clause 2.1. It also applies to the welding of steel connection devices, inserts, anchors and anchor details, including prefabricated assemblies required in reinforced and precast concrete constructions.

NOTE: Further information is given in WTIA Technical Note 11.

1.2 INNOVATION

Any alternative materials, welding processes, consumables, methods of construction or testing that give equivalent results to those specified, but do not comply with the specific requirement of this Standard or are not mentioned in it, are not necessarily prohibited.

The Joint Standards Australia/Standards New Zealand Committee on welding of structures can act in an advisory capacity concerning equivalent suitability, but specific approval remains the prerogative of the inspecting authority.

1.3 REFERENCED DOCUMENTS

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

1.4 DEFINITIONS

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

1.4.1 Approved

Except as may be otherwise stated, approved by the principal or the designer as appropriate.

1.4.2 Designer

The person, persons or organization responsible for the design of a structure.