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AS/NZS 1554.1:1995 Structural steel welding - Part 1: Welding of steel structures

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Abbreviation

AS/NZS 1554.1:1995

Amendment

AS/NZS 1554.1:1995A1 - incorporated.

Valid from

04/10/1995

Information provider

Standards New Zealand

Author

Standards New Zealand, Standards Australia

Information type

New Zealand Standard

Format

PDF

Cited By

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Description

This Standard specifies materials of construction, weld preparations and weld qualities, qualification of welding procedures and welding personnel and fabrication and inspection requirements for welds related to the welding of steelwork in structures made up of combinations of steel plate, sheet or

sections, including hollow sections and built-up sections, or castings and forgings, by the following processes:

- (a) Manual metal-arc welding (MMAW).
- (b) Submerged arc welding (SAW).
- (c) Gas metal-arc welding (GMAW), including pulsed mode.
- (d) Gas tungsten-arc welding (GTAW).
- (e) Flux-cored arc welding (FCAW).
- (f) Electroslag (including consumable guide) welding (ESW).
- (g) Electro gas welding (EGW).

Scope

The Standard is limited to the welding of steel parent material with a specified minimum yield strength not exceeding 450 MPa.

The Standard applies specifically to the welding of steelwork in structures complying with AS 1538, AS 3990, AS 4100 or NZS 3404.1. Where the proportions of welded joints in these structures are governed by dynamic loading conditions, the Standard applies only to those welded joints which comply with the fatigue provisions of AS 3990, AS 4100 or NZS 3404.1, as limited by Item (ii) below, or the directly equivalent fatigue provisions of other application Standards. Welded joints complying with the above requirements are those which are

- (i) not subject to fatigue conditions; or
- (ii) subject to fatigue conditions, and
 - (A) the stress range in the welded joint complies with the permissible stress range of stress categories C, D, E or F of AS 3990, or weld categories lower than or equal to detail category 112 of AS 4100 or NZS 3404.1; or
 - (B) the stress range in the welded joint is not more than 80 percent of the permissible stress range of stress category B of AS 3990. In addition to the abovementioned structures the Standard applies to the welding of cranes, hoists and other dynamically loaded structures, the welding of road and pedestrian bridges and the welding of steelwork in applications other than structural.

The Standard does not apply to the welding of structures by the following processes:

1. Oxyacetylene welding (OAW).
2. Friction welding (FW).
3. Thermit welding (TW).
4. Resistance welding (RW).

The Standard does not apply to the welding of pressure vessels and pressure piping.

The Standard does not cover the design of welded connections or permissible stresses in welds, nor the production, rectification or repair of castings.

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