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AS/NZS 1554.5:2004 Structural steel welding - Welding of steel structures subject to high levels of fatigue loading

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Abbreviation

AS/NZS 1554.5:2004

Valid from

23/03/2004

Replaces

[AS/NZS 1554.5:1995](#)

Information provider

Standards New Zealand

Author

Standards New Zealand, Standards Australia

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Format

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Description

This Standard specifies requirements for the welding of steel structures made up of combinations of steel plate, sheet or sections, including hollow sections and built-up sections, or castings and forgings, by the MMAW, SAW, GMAW, GTAW or TIG, FCAW, ESW and EGW processes. The Standard is limited to the welding of steel parent material with a specified minimum yield strength not exceeding 500 MPa.

Scope

This Standard specifies requirements for the welding of steel 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 or MIG), including pulsed mode;
- (d) Gas tungsten-arc welding (GTAW or TIG);
- (e) Flux-cored arc welding (FCAW);
- (f) Electroslag (including consumable guide) welding (ESW);

- (g) Electrogas welding (EGW).

The Standard is limited to the welding of steel parent material with a specified minimum yield strength not exceeding 500 MPa.

The Standard applies specifically to the welding of steelwork in structures complying with AS 3990, AS 4100 or NZS 3404.1. Where welded joints in these structures are governed by dynamic loading conditions, the Standard applies only to those welded joints that comply with the fatigue provisions of AS 3990, where the stress range in the welded joint is greater than 80% of the permissible stress range for Category B of AS 3990, or exceeds the stress range permitted for detail Category 112 of AS 4100 or NZS 3404.1, but does not exceed the maximum stress ranges permitted for these categories.

In addition to the abovementioned structures, the Standard applies to the welding of bridges, cranes, hoists, other dynamically loaded structures and steelwork in applications other than structural.

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