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AS/NZS 1554.5:1995 Structural steel welding - Part 5: Welding of steel structures subject to high levels of fatigue loading

Table of Contents

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Abbreviation

AS/NZS 1554.5:1995

Amendment

AS/NZS 1554.5:1995 A1 - incorporated. Published 04/07/1998.

Valid from

04/01/1995

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Standards New Zealand

Author

Standards New Zealand, Standards Australia

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New Zealand Standard

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Cited By

[This resource is cited by 2 documents \(show Citations\)](#)

Description

This Standard specifies requirements for the welding of steel structures subject to fatigue loading exceeding the range allowed by AS 1554 Structural steel welding, Part 1: Welding of steel structures. Reprinted to append Amendment 1:1998

Scope

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. It applies to fusion 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);
- (d) Flux-cored arc welding (FCAW);
- (e) Electroslag welding (ESW) (including consumable guide);
- (f) Electrogas welding (EGW).

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 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 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 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:

- (i) Gas welding (GW);
- (ii) Gas tungsten arc welding (GTAW);
- (iii) Resistance welding (RW);
- (iv) Friction welding (FW);
- (v) Thermit welding (TW).

It also 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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[Table of Contents](#) [View on Information Provider website](#) [{{ linkText }}](#)

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- [AS 2159:1995](#)

AS/NZS 1554.5:1995 is cited by AS 2159:1995 Rules for the design and installation of piling (known as the SAA Piling Code)

- [NZS 3404 Parts 1 and 2:1997](#)

AS/NZS 1554.5:1995 is cited by NZS 3404 Parts 1 and 2:1997 Steel structures standard

[Back](#)

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Back

Close

Table of Contents

Section 1 Scope And General

1.1 Scope

1.2 Innovation

1.3 Referenced Documents

1.4 Definitions

1.5 Basic Welding Requirements

1.6 Safety Precautions

Section 2 Materials Of Construction

2.1 Parent material

2.2 Backing material

2.3 Welding Consumables

Section 3 Details Of Welded Connections

3.1 General

3.2 Butt Welds

3.3 Fillet Welds

3.4 Compound Welds

Section 4 Qualification Of Procedures And Personnel

- 4.1 Qualification Of Welding Procedure**
- 4.2 Method Of Qualification Of Welding Procedure**
- 4.3 Prequalified Welding Procedures**
- 4.4 Prequalified Joint Preparations**
- 4.5 Qualification Of Welding Consumables**
- 4.6 Qualification Of Welding Procedure By Testing**
- 4.7 Extension Of Qualification**
- 4.8 Combination Of Processes**
- 4.9 Records Of Tests**
- 4.10 Requalification Of Welding Procedures**
- 4.11 Qualification Of Welding Personnel**

Section 5 Workmanship

- 5.1 Preparation Of Edges For Welding**
- 5.2 Assembly**
- 5.3 Preheating And Interrun Control**
- 5.4 Welding Under Adverse Weather Conditions**
- 5.5 Tack Welds**
- 5.6 Weld Depth-To-Width Ratio**
- 5.7 Control Of Distortion And Residual Stress**
- 5.8 Repair Of Defects In Welds**
- 5.9 Temporary Attachments**
- 5.10 Arc Strikes**
- 5.11 Cleaning Of Finished Welds**
- 5.12 Dressing Of Butt Welds**

Section 6 Quality Of Welds

6.1 Methods Of Inspection And Permissible Levels Of Imperfections

6.2 Radiography

6.3 Ultrasonic Examination

6.4 Magnetic Particle Examination

6.5 Weld Defects

6.6 Reporting

Section 7 Inspection

7.1 General

7.2 Qualifications Of Inspectors

7.3 Visual Inspection Of Work

7.4 Non-Destructive Examination Other Than Visual Examination

Appendices

Appendix A - List Of Referenced Documents

Appendix B - Brittle Fracture

Appendix D - Method For Joint And Process Identification

Appendix E - Check List Of Matters For Discussion

Appendix F - Suggested Extent Of Non-Destructive Examination

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