

Menu

- [Home Home](#)
- [About this portal](#)
- [Latest updates](#)

Print

[Save](#)

Email

[Resource detail](#)

[Citations](#)

AS/NZS 1554.4:2004 Structural steel welding - Welding of high strength quenched and tempered steels

Table of Contents

[View on Information Provider website](#) `{{ linkText }}`

Abbreviation

AS/NZS 1554.4:2004

Valid from

23/03/2004

Replaces

[AS/NZS 1554.4:1995](#)

Information provider

Standards New Zealand

Author

Standards New Zealand, Standards Australia

Information type

New Zealand Standard

Format

Hard copy, PDF

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 following processes:

- Manual metal-arc welding (MMAW);
- Submerged arc welding (SAW);

- Gas metal-arc welding (GMAW), including pulsed mode;
- Gas tungsten-arc welding (GTAW or TIG);
- Flux-cored arc welding (FCAW);
- Electroslag (including consumable guide) welding (ESW);
- Electrogas welding (EGW).

It is limited to the welding of quenched and tempered steel parent material.

Scope

The Standard applies to the welding of steelwork in structures complying with appropriate Standards. 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, as limited by Item 2 below, or with the directly equivalent fatigue provisions of other application Standards.

The Standard applies to welded joints that are

1. not subject to fatigue conditions; or
 2. subject to fatigue conditions; and
- 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
 - the stress range in the welded joint is not more than 80% of the permissible stress range of stress Category B of AS 3990; or
 - the stress range in the welded joint is greater than 80% of the permissible stress range for stress 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, earthmoving equipment, other dynamically loaded structures and steelwork in applications other than structural.

For assistance with locating previous versions, please contact the information provider.

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

For assistance with locating previous versions, please contact the information provider.

This resource is not cited by any other resources.

AS/NZS 1554.4:2004 Structural steel welding - Welding of high strength quenched and tempered steels

This document is not CITED BY any other resources:

AS/NZS 1554.4:2004 Structural steel welding - Welding of high strength quenched and tempered steels

Show what documents this resource is CITED BY

Show what documents this resource CITES

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 following processes:

- Manual metal-arc welding (MMAW);
- Submerged arc welding (SAW);
- Gas metal-arc welding (GMAW), including pulsed mode;
- Gas tungsten-arc welding (GTAW or TIG);
- Flux-cored arc welding (FCAW);
- Electroslag (including consumable guide) welding (ESW);
- Electrogas welding (EGW).

It is limited to the welding of quenched and tempered steel parent material.

[View on Information Provider website](#)

[AS/NZS 1554.4:2004 Structural steel welding - Welding of high strength quenched and tempered steels](#)

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 following processes:

- Manual metal-arc welding (MMAW);
- Submerged arc welding (SAW);
- Gas metal-arc welding (GMAW), including pulsed mode;
- Gas tungsten-arc welding (GTAW or TIG);
- Flux-cored arc welding (FCAW);
- Electroslag (including consumable guide) welding (ESW);
- Electrogas welding (EGW).

It is limited to the welding of quenched and tempered steel parent material.

[View on Information Provider website](#)

This resource does not cite any other resources.

AS/NZS 1554.4:2004 Structural steel welding - Welding of high strength quenched and tempered steels

This resource does not CITE any other resources.

Back

Close

Table of Contents

Section 1 Scope And General

1.1 Scope

1.2 Exclusions

1.3 Innovation

1.4 Referenced Documents

1.5 Definitions

1.6 Weld Categories

1.7 Basic Welding Requirements

1.8 Safety

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

3.5 Seal Welds

3.6 Plug Welds

3.7 Slot 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 Portability Of Qualified Welding Procedures

4.5 Prequalified Joint Preparations

4.6 Qualification Of Welding Consumables

4.7 Qualification Of Welding Procedure By Testing

4.8 Extension Of Qualification

4.9 Combination Of Processes

4.10 Records Of Tests

4.11 Requalification Of Welding Procedures

4.12 Qualification Of Welding Personnel

Section 5 Workmanship

5.1 Preparation Of Edges For Welding

5.2 Assembly

5.3 Preheating And Inter-Run 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 Back gouging And 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 Weld Categories

6.2 Methods Of Inspection And Permissible Levels Of Imperfections

6.3 Radiography

6.4 Ultrasonic Examination

6.5 Magnetic Particle Examination

6.6 Liquid Penetrant Examination

6.7 Weld Defects

6.8 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

Appendices

Appendix A - List Of Referenced Documents

Appendix B - Brittle Fracture

Appendix C - Typical Forms For Welding Procedures

Appendix D - Check List Of Matters For Discussion

Appendix E - Welded Joint And Process Identification

Print [Save](#) Email

[Feedback](#)

- [Contact us](#)
- [Privacy policy](#)
- [Disclaimer](#)
- [Copyright](#)

[Feedback](#)