

Australian/New Zealand Standard™

Structural steel

Part 1: Hot-rolled bars and sections



AS/NZS 3679.1:2010

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee BD-023, Structural Steel. It was approved on behalf of the Council of Standards Australia on 25 June 2010 and on behalf of the Council of Standards New Zealand on 25 June 2010.

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The following are represented on Committee BD-023:

Austrroads
Association of Consulting Engineers Australia
Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Steel Institute
Bureau of Steel Manufacturers of Australia
Business New Zealand
New Zealand Heavy Engineering Research Association
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee BD-023, Structural Steel, to supersede AS/NZS 3679.1:1996.

The objective of this Standard is to specify requirements for hot-rolled structural steel bars and sections for general structural and engineering applications.

This edition incorporates the following major changes to the previous edition:

- (a) The definition of a batch has been clarified.
- (b) A new grade S0, which complies with the seismic material requirements in NZS 3404.
- (c) Redundant grades 250, 250L0, 250L15, 400, 400L0, 400L15 have been removed.
- (d) References to tapered-flange channels have been removed.
- (e) The new requirement for individual length markings.
- (f) The new requirement for test reports and test certificates to be performed by third-party accredited laboratories.
- (g) The introduction of mandatory minimum information required on test certificates.
- (h) The inclusion of Appendix B on 'Product Conformity' as a mandatory provision for conformance with this Standard.
- (i) Appendix F—Steel for seismic and fracture critical applications for New Zealand only has been added.

To permit the steel industry time to adjust to the new edition of the Standard, the 1996 version of AS/NZS 3679.1 will remain available superseded and will be withdrawn 12 months from the date of publication of this Standard.

A statement expressed in mandatory terms in a note to a table is deemed to be a requirement of this Standard.

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.

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**Australian/New Zealand Standard
Structural steel****Part 1: Hot-rolled bars and sections****1 SCOPE**

This Standard specifies the requirements for the production and supply of hot-rolled structural steel bars and sections.

For general structural and engineering applications, all grades specified in this Standard are suitable for—

- (a) welding in accordance with AS/NZS 1554.1; or
- (b) riveting and bolting as specified in AS/NZS 4600, AS 3990, AS 4100 and NZS 3404.

This Standard does not cover the following:

- (i) Structural steel—Hot-rolled plates, floorplates and slabs, and welded I sections.
- (ii) Steel plates for pressure equipment.
- (iii) Structural steel hollow sections.
- (iv) Carbon steels and carbon-manganese steels—Hot-rolled bars and semifinished products.
- (v) Steel reinforcing bars for concrete.
- (vi) Structural and pressure vessel steel—Quenched and tempered plate.

Requirements for product conformity to this Standard are given in Appendix B.

NOTES:

- 1 Guidelines to purchasers on requirements that should be specified by the purchaser and those that should or may be agreed on at the time of enquiry and order are given in Appendix A.
- 2 Guidelines on cold-bending of rounds, flats and squares during fabrication are given in Appendix C.

2 NORMATIVE REFERENCES

The following normative documents are referenced in this Standard:

NOTE: Documents referenced for informative purposes are listed in the Bibliography.

AS

- 1391 Metallic materials—Tensile testing at ambient temperature
- 1544 Methods for impact tests on metals
- 1544.2 Part 2: Charpy V-notch
- 2706 Numerical values—Rounding and interpretation of limiting values
- 3990 Mechanical equipment—Steelwork
- 4100 Steel structures

AS/NZS

- 1050 Methods for the analysis of iron and steel
- 1050.1 Part 1: Sampling iron and steel for chemical analysis