

Australian/New Zealand Standard™

**Cold-formed structural steel hollow
sections**



AS/NZS 1163:2016

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 13 January 2016 and on behalf of the Council of Standards New Zealand on 21 January 2016.

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The following are represented on Committee BD-023:

Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Steel Association
Australian Steel Institute
Austroads
Bureau of Steel Manufacturers of Australia
Business New Zealand
New Zealand Heavy Engineering Research Association
Steel Construction New Zealand
University of New South Wales
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This Standard was issued in draft form for comment as DR AS/NZS 1163.

Australian/New Zealand Standard

Cold-formed structural steel hollow sections

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PREFACE

This Standard was prepared by the Standards Australia/Standards New Zealand Committee BD-023, Structural Steel, to supersede AS/NZS 1163:2009.

This Standard incorporates Amendment No. 1 (December 2017). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to specify the requirements for manufacturers and suppliers of longitudinal welded cold-formed structural steel hollow sections for general structural and engineering applications.

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

- (a) Requirements for type testing and minimum production testing and inspection have been included in the normative Appendix on product conformity.
- (b) Test certificates are required to be available for all products produced to this Standard.
- (c) Alignment of definitions associated with test unit, test product, test sample, test specimen and test piece as noted in ISO 404, AS/NZS 3678, AS/NZS 3679.1 and AS/NZS 3679.2.
- (d) Inclusion of notations and additional definitions in Section 5.
- (e) The inclusion of cold-rolled and annealed coil with hot-rolled coil for steel feed.
- (f) Revision to the chemical composition part of the Standard, which includes a new set of limits for finished product analysis.
- (g) Provisions for suitability for zinc coating have been moved to the Appendix on purchasing guidelines.
- (h) Reformatting of the freedom from defects and testing provisions of the Standard.
- (i) Inclusion of the provision for individual length markings for New Zealand.
- (j) Minor revision to test and inspection certificates.
- (k) A new Appendix on formulae for calculating cross-section properties.
- (l) Definitions, clause numbering and layout across the four steel-product Standards AS/NZS 1163, AS/NZS 3678, AS/NZS 3679.1 and AS/NZS 3679.2 are consistent wherever possible.

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 the Standard, whereas an 'informative' appendix is only for information and guidance.

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Australian/New Zealand Standard
Cold-formed structural steel hollow sections

1 SCOPE

This Standard specifies the requirements for the production and supply of cold-formed, electric resistance-welded, steel hollow sections used for structural purposes. It considers three strength grades, with or without impact properties, that are suitable for welding.

This Standard applies to structural hollow sections formed cold without subsequent heat treatment.

This Standard is intended for general structural and engineering applications. All grades specified in this Standard are suitable for—

- (a) welding, in accordance with AS/NZS 1554, Parts 1, 2, 5 and 7; and
- (b) fastening, as specified in AS 3990, AS 4100, AS/NZS 4600, AS 5100.6 and NZS 3404.

The Standard does not cover—

- (i) submerged arc-welded;
- (ii) helically welded; or
- (iii) U'ed and O'ed steel hollow sections.

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

Requirements for cold-bending of galvanized circular hollow sections are given in Appendix C.

NOTE: 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 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
1733	Methods for the determination of grain size in metals
2706	Numerical values—Rounding and interpretation of limiting values
3990	Mechanical equipment—Steelwork
4100	Steel structures
5100	Bridge design
5100.6	Part 6: Steel and composite construction

AS/NZS

1050	Methods for the analysis of iron and steel (series)
1050.1	Part 1: Sampling iron and steel for chemical analysis