

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:

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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  
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*This Standard was issued in draft form for comment as DR AS/NZS 1163.*

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# Australian/New Zealand Standard™

## Cold-formed structural steel hollow sections

Originated in Australia as AS A177—1969.  
Previous and first joint edition AS/NZS 1163:2009.  
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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 inspections 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 3.
- (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 a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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## STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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**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.