

AS 4100—1998
(Incorporating Amendment No. 1)

AS 4100—1998

Australian Standard[®]

Steel structures



This Australian Standard® was prepared by Committee BD-001, Steel Structures. It was approved on behalf of the Council of Standards Australia on 17 April 1998. This Standard was published on 5 June 1998.

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- Association of Consulting Engineers Australia
 - Australian Construction Services
 - Australian Institute of Steel Construction
 - AUSTROADS
 - Building Management Authority, W.A.
 - Bureau of Steel Manufacturers of Australia
 - CSIRO, Division of Building, Construction and Engineering
 - Confederation of Australian Industry
 - Institution of Engineers, Australia
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 - New Zealand Heavy Engineering Research Association
 - Public Works Department, N.S.W.
 - Railways of Australia Committee
 - University of New South Wales
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This Standard was issued in draft form for comment as DR 97347.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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PREFACE

This Standard was prepared by the Standards Australia Committee BD-001, Steel Structures, to supersede AS 4100—1990.

This Standard incorporates Amendment No. 1 (February 2012). 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 provide designers of steel structures with specifications for steel structural members used for load-carrying purposes in buildings and other structures.

This new edition of the Standard incorporates Amendments No. 1—1992, No. 2—1993, No. 3—1995 and draft Amendment No. 4 issued for public comment as DR 97347. Draft Amendment No. 4 was not published separately as a green slip.

Amendment No. 1—1992 includes the following major changes:

- (a) Strength of steels complying with AS 1163 and AS/NZS 1594. (Table 2.1.)
- (b) Shear buckling capacity for stiffened web. (Clause 5.11.5.2.)
- (c) Bearing buckling capacity. (Clause 5.13.4.)

Amendment No. 2—1993 includes the following major changes:

- (a) Shear and bending interaction method. (Clause 5.12.3.)
- (b) Minimum area for the design of intermediate transverse web stiffeners. (Clause 5.15.3.)
- (c) Section capacity of members subject to combined actions. (Clause 8.3.)
- (d) Strength assessment of a butt weld. (Clause 9.7.2.7.)
- (e) Fatigue. (Section 11.)

Amendment No. 3—1993 includes the following major changes:

- (a) Compressive bearing action on the edge of a web. (Clause 5.13.)
- (b) Section capacity of members subject to combined actions. (Clause 8.3.)
- (c) In-plane and out-of-plane capacity of compression members. (Clauses 8.4.2.2 and 8.4.41.)
- (d) Strength assessment of a butt weld. (Clause 9.7.2.7.)
- (e) Earthquake. (Section 13.)

Amendment No. 4 includes the following major changes:

- (a) Strengths of steels complying with AS/NZS 3678, AS/NZS 3679.1 and AS/NZS 3679.2. (Table 2.1.)
- (b) Minimum edge distance of fasteners. (Clause 9.6.2.)
- (c) Permissible service temperatures according to steel type and thickness. (Table 10.4.1.)
- (d) Steel type relationship to steel grade. (Table 10.4.4.)
- (e) Welding of concentrically braced frames for structures of earthquake Design Category D and E. (Clause 13.3.4.2.)

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Amendment No. 1—2012 to the 1998 edition includes the following major changes:

- (a) Revisions to AS/NZS 1163, AS/NZS 3678, AS/NZS 3679.1 and AS/NZS 3679.2 reflected by amendments to Sections 2 and 10.
- (b) Revisions to AS/NZS 1554.1, AS/NZS 1554.4 and AS/NZS 1554.5 reflected by amendments to Sections 9 and 10.
- (c) Section 13 brought into line with revisions to AS 1170.4.
- (d) Quenched and tempered steels included by adding ‘AS 3597’ to listed material Standards in Section 2.
- (e) Typographical errors corrected.

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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