AS/NZS 5131:2016 (Incorporating Amendment No. 1)

Australian/New Zealand Standard™

Structural steelwork—Fabrication and erection





AS/NZS 5131:2016

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee BD-001, Steel Structures. It was approved on behalf of the Council of Standards Australia on 21 November 2016 and by the New Zealand Standards Approval Board on 17 November 2016.

This Standard was published on 8 December 2016.

The following are represented on Committee BD-001:

Australian Building Codes Board Australian Chamber of Commerce and Industry Australian Steel Association Australian Steel Institute Austroads Bureau of Steel Manufacturers of Australia Engineers Australia New Zealand Heavy Engineering Research Association Rail Industry Safety and Standards Board Steel Construction New Zealand University of New South Wales University of Sydney University of Western Sydney Welding Technology Institute of Australia

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Site at www.standards.org.au or Standards New Zealand web site at www.standards.govt.nz and looking up the relevant Standard in the online catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

This Standard was issued in draft form for comment as DR2 AS/NZS 5131:2016.

AS/NZS 5131:2016 (Incorporating Amendment No. 1)

Australian/New Zealand Standard[™]

Structural steelwork—Fabrication and erection

First published as AS/NZS 5131:2016. Reissued incorporating Amendment No. 1 (August 2020).

COPYRIGHT

© Standards Australia Limited

 $\ensuremath{\mathbb{C}}$ The Crown in right of New Zealand, administered by the New Zealand Standards Executive

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Australia) or the Copyright Act 1994 (New Zealand).

ISBN 978 1 76035 629 3

2

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee BD-001, Steel Structures. The objective of this Standard is to provide best practice requirements for fabrication and erection of structural steel members, components and structural assemblies used for load-carrying purposes in buildings, bridges and other structures.

This Standard incorporates Amendment No. 1 (August 2020). 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.

This Standard is based on the published joint Australian Steel Institute/Steel Construction New Zealand/Heavy Engineering Research Association (HERA) document 'Structural Steelwork Fabrication and Erection Code of Practice', 1st edition, 2014. Reference was made to EN 1090-2:2008, Execution of steel structures and aluminium structures, Part 2: Technical requirements for steel structures in the development of this Standard.

The Standard introduces the fundamental concept of 'construction category' (CC), which is a risk-based fit-for-purpose categorization of a structure or parts thereof. It is expected the CC categorization will be implemented in other related Standards, such as AS 4100, *Steel structures*, in due course.

It is the intention of Committee BD-001 to revise AS 4100 to align with AS/NZS 5131, principally through removal of material that is covered in AS/NZS 5131 and inclusion of guidance on the assessment of the construction category in AS 4100.

In the interim development period for this Standard, the International Standards Organization (ISO) commenced development of ISO 17607, *Steel structures*, which also makes reference to EN 1090-2, *Execution of steel structures and aluminium structures*, Part 2: *Technical requirements for steel structures*. Committee BD-001 has worked to ensure alignment where possible with ISO/CD 17607.

- A1 | Amendment No. 1:2020 includes the following major changes:
 - (a) Revisions throughout the document to the wording to reflect Australian Building Codes Board (ABCB) requirements for documents referenced under the National Construction Code (NCC).
 - (b) Modifications to the definitions (Section 4) and application (Section 5) of traceability to better align with international practice.
 - (c) Normative reference is made to AS/NZS ISO 3834 in Section 7.
 - (d) Standard test for evaluation of slip factor, formerly in Appendix G, was moved back to AS 4100 and reference is made to AS 4100.

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.

CONTENTS

SECTIC	N 1 SCOPE, INCLUSIONS AND EXCLUSIONS	
1.1	SCOPE	
1.2	STRUCTURAL ELEMENTS INCLUDED	6
1.3	STRUCTURES AND ELEMENTS EXCLUDED	8
1.4	[TEXT DELETED]	9
	N 2 NORMATIVE REFERENCED STANDARDS	10
2.1	GENERAL.	
2.2	NORMATIVE REFERENCES	10
SECTIC	N 3 TERMS AND DEFINITIONS	
3.1	GENERAL TERMS	14
3.2	TYPES OF TOLERANCE	
3.3	CONNECTION TYPES USING MECHANICAL FASTENERS	
3.4	WELDED CONNECTIONS	
-		
SECTIC	N 4 DESIGN, SPECIFICATION, DOCUMENTATION AND TRACEABILITY	
4.1	CONSTRUCTION SPECIFICATION	
4.2	DESIGN STAGES	
4.3	USE OF BUILDING INFORMATION MODELLING	
4.4	SHOP DETAILING DOCUMENTATION	20
4.5	DOCUMENTATION REQUIRED	21
4.6	PURCHASING—COMPONENTS AND SUBCONTRACTED SERVICES	23
4.7	TRACEABILITY	24
	N 5 MATERIALS	25
5.1	GENERAL	-
5.2	DESIGNATION, DOCUMENTATION AND TRACEABILITY	
5.3	STRUCTURAL STEELS.	
5.4	WELDING CONSUMABLES	
5.5	MECHANICAL FASTENERS	
5.6	STUDS AND SHEAR CONNECTORS	
5.7	EXPLOSIVE FASTENERS	
5.8	GROUTING MATERIALS	
5.9	STORAGE OF MATERIALS	30
SECTIC	N 6 PREPARATION, ASSEMBLY AND FABRICATION	
6.1	GENERAL	31
6.2	IDENTIFICATION AND TRACEABILITY	
6.3	HANDLING AND STORAGE	
6.4	CUSTOMER SUPPLIED PROPERTY	
6.5	CUTTING	
6.6	SHAPING	-
6.7	HOLING	
6.8	FULL CONTACT BEARING SURFACES	
6.9	ASSEMBLY	
6.10	ASSEMBLY CHECK	
6.10	TRANSIT TO SITE	
6.11		
	REQUIREMENTS FOR YIELDING REGIONS (NEW ZEALAND ONLY)	
0.13	REQUIREMENTS FOR THEDHING REGIONS (NEW ZEALAND ONLY)	30



This is a free preview. Purchase the entire publication at the link below:

Product Page

S Looking for additional Standards? Visit Intertek Inform Infostore

> Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation