AS/NZS 2327:2017

Australian/New Zealand Standard™

Composite structures—Composite steel-concrete construction in buildings

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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee BD-032, Composite Construction. It was approved on behalf of the Council of Standards Australia on 25 October 2017 and by the New Zealand Standards Approval Board on 6 November 2017.
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Australian Building Codes Board
Australian Industry Group
Australian Steel Institute
Bureau of Steel Manufacturers of Australia
Cement Concrete and Aggregates Australia—Concrete
Consult Australia
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Technical Committee BD-032, Composite Construction, to supersede AS 2327.1—2003 *Composite structures*, Part 1—*Simply supported beams*.

The objective of this Standard is to set out minimum requirements for the design, detailing and construction of composite steel-concrete members (beams, columns, slabs, joints) in buildings. The Standard is to be used by structural engineers when designing steel framed building structures.

This revision incorporates a number of technical and editorial changes, as follows:

(a) Changes to the strength of concrete, raising the maximum compressive cylinder strength to 100 MPa.

(b) Changes to the yield strength of steel, raising the maximum tensile yield strength to 690 MPa.

(c) Provisions for the design of composite slabs using profiled steel sheeting.

(d) Provisions for the design of composite beams.

(e) Provisions for the design of composite columns.

(f) Provisions for the design of composite joints.

(g) Provisions for system behaviour floor design.

(h) Provisions for fire design.

(i) Provisions for earthquake design.

Statements expressed in mandatory terms in Notes to Tables are deemed to be requirements of this Standard.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendices 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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SECTION 1 GENERAL

1.1 APPLICATION

1.1.1 Scope

This Standard sets out minimum requirements for the design, detailing and construction of composite steel-concrete members (beams, columns, slabs, joints) in buildings.

This Standard does not cover the design of composite beams and columns—

(a) where the elements of the steel section are less than 3 mm thick or the value of the yield stress (f_y) assumed in design exceeds 690 MPa;

(b) where the concrete characteristic compressive strength at 28 days is outside the range of 20 MPa to 100 MPa; or

(c) for road or railway bridges (see NOTE).

NOTE: For the design of composite bridge beams, reference should be made to AS/NZS 5100.6 the AUSTROADS Bridge Design Code.

1.1.2 Normative references

The following normative documents are referred to in this Standard:

AS

1012 Methods of testing concrete

1012.12.1 Determination of mass per unit volume of hardened concrete—Rapid measuring method

1012.12.2 Determination of mass per unit volume of hardened concrete—Water displacement method

1110 ISO metric hexagon bolts and screws—Product grades A and B (series)

1111 ISO metric hexagon bolts and screws—Product grade C (series)

1112 ISO metric hexagon nuts (series)

1163 Cold-formed structural steel hollow sections

1170 Structural design actions

1170.4 Part 4: Earthquake actions in Australia

1275 Metric screw threads for fasteners

1379 Specification and supply of concrete

1397 Continuous hot-dip metallic coated steel sheet and strip—Coatings of zinc and zinc alloyed with aluminium and magnesium

1530 Methods for fire tests on building materials, components and structures

1530.4 Part 4: Fire-resistance tests for elements of construction

1554 Structural steel welding

1554.2 Part 2: Stud welding (steel studs to steel)

1579 Arc-welded steel pipes and fittings for water and waste-water

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