NZS 3404 Parts 1 and 2:1997 Steel structures standard

Table of Contents

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Abbreviation
NZS 3404 Parts 1 and 2:1997
Amendment
Amendments 1, 2 - incorporated.
Valid from
25/06/1997
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Cites
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Description

Part 1 sets out minimum requirements for the design, fabrication, erection and modification of steelwork in structures in accordance with the limit state design method or in accordance with the alternative design method.

Scope

This Standard sets out minimum requirements for the design, fabrication, erection, and modification of steelwork in structures in accordance with the limit state design method or in accordance with the alternative design method. The Standard sets out the minimum general requirements for the limit state design, fabrication, erection, and modification of safe, serviceable and durable steel structures.

This Standard gives member and structure design requirements for general application of steelwork.

Steel elements less than 3 mm in thickness, unless designed to AS 1163, are excluded from this Standard.

The limit of 450 MPa for the yield stress used in design, except as noted in 1.1.4 (b), stems from a lack of research data on steel grades above this value, meaning that not all the member design provisions presented herein can be currently confirmed as applicable to steels with higher yield stress. The great majority can, however; designers wishing to use steels with fy > 450 should read (1.5) and then use this Standard to the extent recommended therein. Alternatively, use a limit state design provision which covers high strength steel. The clause does not preclude the use of steels having a specified yield stress greater than 450 MPa provided that the yield stress used in design (fy) is limited to 450 MPa. Note, however, that the use of a steel having a specified yield stress greater than 350 MPa is specifically excluded from plastic design by 4.6.2 and the use of grade 450 MPa steel is considerably restricted for use in applications involving earthquake loads by 12.4.

Quenched and tempered steels used as splice cover plates in bolted connections have shown satisfactory behaviour and are permitted to be used in that application, by 1.1.4 (b), with the yield stress in design taken as appropriate to that grade of steel (fy = 690 MPa). Suitably conservative criteria relating to bearing stresses have been applied, due to a lack of experimental data, to substantiate the use of the higher bearing stresses from 9.3.2.4 2 associated with lower strength grades of steel. Hollow section members designed to AS 1163 are most commonly cold-formed, but have traditionally been designed using the 1989 edition of this Standard since they were, for many years, hot-formed. Tests carried out on members manufactured to AS 1163 confirm the applicability of the provisions of this Standard to such members. Similarly, cold-formed hollow members to BS 6363 or JIS G3141, with wall thickness over 3 mm, may be designed in accordance with this Standard.

This Standard is not intended to be used for thin-walled shell or plate structures, since such structures are subject to failure modes not addressed in this Standard. It is, however, considered reasonable to design floor plates using this Standard. (See Introduction to Commentary on section 5.)

NZS 3404 Parts 1 and 2:1997 Steel structures standard

NZS 3404 Parts 1 and 2:1997 is cited by Verification Method B1/VM1: Structure - General from 01/12/2000

- B1/VM1 (First Edition, Amendment 18)

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- B1/VM1 (First edition, Amendment 19))

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  NZS 3404 Parts 1 and 2:1997 is cited by NZS 4541:2013 Automatic fire sprinkler systems

Back

NZS 3404 Parts 1 and 2:1997 Steel structures standard

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Description

Part 1 sets out minimum requirements for the design, fabrication, erection and modification of steelwork in structures in accordance with the limit state design method or in accordance with the alternative design method.

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This resource cites:

NZS 3404 Parts 1 and 2:1997 Steel structures standard

This document CITES:

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Table of Contents

1 Scope And General

1.1 Scope

1.2 Referenced Documents

1.3 Definitions

1.4 Notation

1.5 Use Of Alternative Materials Or Methods

1.6 Design And Construction Review

2 Materials And Brittle Fracture

2.1 Yield Stress And Tensile Strength Used In Design

2.2 Structural Steel

2.3 Fasteners

2.4 Steel Castings

2.5 Concrete

2.6 Material Selection To Suppress Brittle Fracture

3 General Design Requirements

3.1 Design

3.2 Loads And Other Effects

3.3 Ultimate Limit State

3.4 Serviceability Limit State

3.5 Ultimate And Serviceability Limit States By Load Testing

3.6 Brittle Fracture

3.7 Fatigue

3.8 Fire

3.9 Earthquake

4 Structural Analysis

4.1 Methods Of Structural Analysis

4.2 Structural Form

4.3 Assumptions And Approximations For Analysis

4.4 Elastic Analysis

4.5 Elastic Analysis With Moment Or Shear Redistribution

4.6 Plastic Analysis

4.7 Limits On Plastic Hinge Rotation In Yielding Regions Ofmembers

4.8 Member Buckling Analysis

4.9 Frame Buckling Analysis

5 Members Subject To Bending And Shear

5.1 Design For Bending Moment

5.2 Nominal Section Moment Capacity For Bending About Aprincipal Axis

5.3 Nominal Member Moment Capacity Of Segments Andmembers Subject To Major Principal X-Axis Bending Andwith Full Lateral Restraint

5.4 Restraints

5.5 Critical Flange

5.6 Nominal Member Moment Capacity Of Segments Subjectto X-Axis Bending And With Or Without Full Lateralrestraint

5.7 Bending In A Non-Principal Plane

5.8 Separators And Diaphragms

5.9 Design Of Webs

5.10 Arrangement Of Webs

5.11 Nominal Shear Capacity Of Webs

5.12 Interaction Of Shear And Bending Moment

5.14 Design Of Load Bearing Stiffeners

5.15 Design Of Intermediate Transverse Web Stiffeners

5.16 Design Of Longitudinal Web Stiffeners

6 Members Subject To Axial Compression

6.1 Design For Axial Compression

6.2 Nominal Section Capacity

6.3 Nominal Member Capacity

6.4 Laced And Battened Compression Members

6.5 Compression Members Back To Back

6.6 Discontinuous Angle, Channel And Tee Sectioncompression Members Not Requiring Design For Momentaction

6.7 Restraining Elements

7 Members Subject To Axial Tension

7.1 Design For Axial Tension

7.2 Nominal Section Capacity

7.3 Distribution Of Forces

7.4 Tension Members With 2 Or More Main Components

7.5 Members With Pin Connections

8 Members Subject To Combined Actions

8.1 General

8.2 Design Actions

8.3 Section Capacity

8.4 Member Capacity

9 Connections

9.1 General

9.2 Definitions

9.3 Design Of Bolts

9.4 Assessment Of The Strength Of A Bolt Group

9.5 Design Of A Pin Connection

9.6 Design Details For Bolts And Pins

9.7 Design Of Welds

9.8 Assessment Of The Strength Of A Fillet Weld Group

9.9 Packing In Construction

10 Fatigue

10.1 General

10.2 Fatigue Loading

10.3 Design Spectrum

10.4 Exemption From Assessment

10.5 Detail Category

10.6 Fatigue Strength

10.7 Exemption From Further Assessment

10.8 Fatigue Assessment

10.9 Punching Limitation

11 Fire

11.1 Requirements

11.2 Definitions

11.3 Determination Of Period Of Structural Adequacy

11.4 Variation Of Mechanical Properties Of Steel Withtemperature

11.5 Determination Of Limiting Steel Temperature

11.6 Determination Of Time At Which The Limiting Temperatureis Attained For Unprotected Members

11.7 Determination Of Time At Which The Limiting Temperatureis Attained For Protected Members

11.8 Determination Of Psa From A Single Test

11.9 Three-Sided Fire Exposure Condition

11.10 Special Considerations

12 Seismic Design

12.1 Definitions

12.2 General Design And Analysis Philosophy

12.3 Methods Of Analysis And Design

12.4 Material Requirements

12.5 Section Geometry Requirements

12.6 Member Restraint

12.7 Beams

12.8 Columns

12.9 Connections And Built-Up Members

12.10 Design Of Moment-Resisting Framed Seismic-Resistingsystems

12.11 Design Of Eccentrically Braced Framed Seismicresistingsystems

12.12 Design Of Concentrically Braced Framed Seismicresistingsystems

12.13 Dual Seismic-Resisting Systems

12.14 Fabrication In Yielding Regions

13 Design Of Composite Members And Structures

13.1 Scope And General Introduction

13.2 Composite Slab Design

13.3 Connections Between Steel And Concrete Forcomposite Action

13.4 Design Of Composite Beams With Shear Connectors

13.5 Design Of Composite Beams Without Shear Connectors

13.6 Shear Strength Of Composite Beams

13.7 End Connections To Composite Beams

13.8 Design Of Composite Columns

14 Fabrication

14.1 Rejection Of A Fabricated Item

14.2 Material

14.3 Fabrication Procedures

14.4 Tolerances

15 Erection

15.1 General

15.2 Erection Procedures

15.3 Tolerances

15.4 Inspection Of Bolted Connections

15.5 Grouting At Supports

16 Modification Of Existing Structures

16.1 General

16.2 Materials

16.3 Cleaning

16.4 Special Provisions

17 Testing Of Structures Or Elements

17.1 General

17.2 Definitions

17.3 Test Requirements

17.4 Proof Testing

17.5 Prototype Testing

17.6 Reporting Of Tests

Appendices

Appendix A Referenced Documents

Appendix B Maximum Levels Of Ductility Demand Onstructural Steel Seismic-Resisting Systems

Appendix C Corrosion Protection

Appendix D Inspection Of Welding To As/Nzs 1554.1

Appendix E Second-Order Elastic Analysis

Appendix F Moment Amplification For A Sway Member

Appendix G Braced Member Buckling In Frames

Appendix H Elastic Resistance To Lateral Buckling

Appendix J Strength Of Stiffened Web Panels Undercombined Actions

Appendix K Standard Test For Evaluation Of Slip Factor

Appendix Li Nspection Of Bolt Tension Using A Torquewrench

Appendix N Section Properties To Use In Ultimate Andserviceability Limit State Calculations Fordeflection

Appendix P Alternative Design Method

Appendix Q Corresponding Detail From As 4100