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## Verification Method B1/VM1: Structure - General

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Abbreviation

B1/VM1

Amendment

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Ministry of Business, Innovation and Employment

Information type

Verification Method

Format

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Cites

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Description

The Standards cited in this Verification Method provide a means for the design of structures to meet the performance requirements of New Zealand Building Code Clause B1 Structure. For any particular building or building design, the Verification Method shall consist of AS/NZS 1170 used in conjunction with the relevant cited material standards as modified by this Verification Method.

#### Scope

The citation covers only the scope stated or implicit in each Standard. Aspects outside the scope, when applied to a particular building, are not part of the Verification Method.

#### Previous versions:

[B1/VM1 \(First edition, Amendment 14\)](#)

[B1/VM1 \(First edition, Amendment 13\)](#)

[B1/VM1 \(First Edition, Amendment 12.\)](#)

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## Description

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## Verification Method B1/VM1: Structure - General

This document CITES:

### New Zealand Standards

- [AS/NZS 1170.0:2002](#)

B1/VM1 cites AS/NZS 1170.0:2002 Structural Design Actions - General principles from 01/12/2008

- [AS/NZS 1170.1:2002](#)

B1/VM1 cites AS/NZS 1170.1:2002 Structural Design Actions - Permanent, imposed and other actions from 01/12/2008

- [AS/NZS 1170.2:2011](#)

B1/VM1 cites AS/NZS 1170.2:2011 Structural Design Actions - Wind Actions from 14/02/2014

- [AS/NZS 1170.3:2003](#)

B1/VM1 cites AS/NZS 1170.3:2003 Structural Design Actions - Snow and ice actions from 01/12/2008

- [AS/NZS 1664.1:1997](#)

B1/VM1 cites AS/NZS 1664.1:1997 Aluminium structures - Limit state design from 01/12/2000

- [AS/NZS 1748.1:2011](#)

B1/VM1 cites AS/NZS 1748.1:2011 Timber - Solid - Stress-graded for structural purposes - General requirements from 14/02/2014

- [AS/NZS 1748.2:2011](#)

B1/VM1 cites AS/NZS 1748.2:2011 Timber - Stress graded - Product requirements for mechanically stress-graded timber - Qualification of grading method from 14/02/2014

- [AS/NZS 3725:2007](#)

B1/VM1 cites AS/NZS 3725:2007 Design for installation of buried concrete pipes from 30/09/2010

- [AS/NZS 4058:2007](#)

B1/VM1 cites AS/NZS 4058:2007 Pre cast concrete pipes (pressure and non-pressure) from 30/09/2010

- [AS/NZS 4600:2005](#)

B1/VM1 cites AS/NZS 4600:2005 Cold-formed steel structures from 30/09/2010

- [NZS 1170.5:2004](#)

B1/VM1 cites NZS 1170.5:2004 Structural Design Actions - Part 5: Earthquake design actions - New Zealand from 19/05/2011

- [NZS 3101.1&2:2006](#)

B1/VM1 cites NZS 3101.1&2:2006 Concrete structures standard. The design of concrete structures from 30/09/2010

- [NZS 3106:2009](#)

B1/VM1 cites NZS 3106:2009 Design of concrete structures for the storage of liquids from 30/09/2010

- [NZS 3404 Parts 1 and 2:1997](#)

B1/VM1 cites NZS 3404 Parts 1 and 2:1997 Steel structures standard from 01/12/2000

- [NZS 3603:1993](#)

B1/VM1 cites NZS 3603:1993 Timber structures standard from 01/09/1993

- [NZS 3622:2004](#)

B1/VM1 cites NZS 3622:2004 Verification of timber properties from 01/04/2007

- [NZS 4211:2008](#)

B1/VM1 cites NZS 4211:2008 Specification for performance of windows from 01/08/2011

- [NZS 4219:2009](#)

B1/VM1 cites NZS 4219:2009 Seismic performance of engineering systems in buildings from 01/08/2011

- [NZS 4230:2004](#)

B1/VM1 cites NZS 4230:2004 Design of reinforced concrete masonry structures from 01/12/2008

- [NZS 4297:1998](#)

B1/VM1 cites NZS 4297:1998 Engineering design of earth buildings from 01/12/2000

- [NZS 4402.2.4:1986](#)

B1/VM1 cites NZS 4402.2.4:1986 Methods of testing soils for civic engineering purposes - Soil classification tests - Test 2.4 Determination of the plasticity index from 01/07/1992

- [NZS 4402.2.8.1:1986](#)

B1/VM1 cites NZS 4402.2.8.1:1986 Methods of testing soils for civil engineering purposes - Soil classification tests - Test 2.8.1 Standard method by wet sieving from 01/07/1992

- [NZS 4402.2.8.2:1986](#)

B1/VM1 cites NZS 4402.2.8.2:1986 Methods of testing soils for civic engineering purposes - Soil classification tests - Test 2.8.2 Standard method by dry sieving from 01/07/1992

- [NZS 4402.2.8.3:1986](#)

B1/VM1 cites NZS 4402.2.8.3:1986 Methods of testing soils for civic engineering purposes - Soil classification tests - Test 2.8.3 Standard method for fine soils (pipette method) from 01/07/1992

- [NZS 4402.2.8.4:1986](#)

B1/VM1 cites NZS 4402.2.8.4:1986 Methods of testing soils for civil engineering purposes - Soil classification tests - Test 2.8.4 Standard method for fine soils (hydrometer method) from 01/07/1992

- [NZS 4402.4.1.1:1986](#)

B1/VM1 cites NZS 4402.4.1.1:1986 Methods of testing soils for civil engineering purposes - Part 4: Soil compaction tests - Determination of the dry density/water content relationship - Test 4.1.1 New Zealand standard compaction test from 01/07/1992

- [NZS 4402.4.2.1:1988](#)

B1/VM1 cites NZS 4402.4.2.1:1988 Methods of testing soils for civil engineering purposes - Soil compaction tests -Determination of the minimum and maximum dry densities and relative density of a cohesionless soil - Test 4.2.1 Minimum dry density from 01/07/1992

- [NZS 4402.4.2.2:1988](#)

B1/VM1 cites NZS 4402.4.2.2:1988 Methods of testing soils for civil engineering purposes - Soil compaction tests -Determination of the minimum and maximum dry densities and relative density of a cohesionless soil - Test 4.2.2 Maximum dry density from 01/07/1992

- [NZS 4402.4.2.3:1988](#)

B1/VM1 cites NZS 4402.4.2.3:1988 Methods of testing soils for civic engineering purposes - Soil compaction tests - Determination of the minimum and maximum dry densities and relative density of a cohesionless soil - Test 4.2.3 Relative density from 01/07/1992

- [NZS 4402.5.1.1:1986](#)

B1/VM1 cites NZS 4402.5.1.1:1986 Methods of testing soils for civil engineering purposes - Soil density tests - Determination of the density of soil - Test 5.1.1 Sand replacement method for the determination of in situ density from 01/07/1992

- [NZS 4431:1989](#)

B1/VM1 cites NZS 4431:1989 Code of practice for earth fill for residential development from 01/07/1992

- [SNZ HB 8630:2004](#)

B1/VM1 cites SNZ HB 8630:2004 Tracks and outdoor visitor structures from 01/12/2008

#### Australian Standards

- [AS 1391-2007](#)

B1/VM1 cites AS 1391-2007 Metallic materials - Tensile testing at ambient temperature from 04/11/2016

#### Other

- [2002 No 17](#)

B1/VM1 cites Chartered Professional Engineers of New Zealand Act 2002 from 01/12/2008

- [Guidelines for the Field Description of Soils and Rocks in Engineering Use](#)

B1/VM1 cites Guidelines for the Field Description of Soils and Rocks in Engineering Use (1988) from 01/07/1992

- [ISO 15630-2:2010](#)

B1/VM1 cites ISO 15630-2:2010 Steel for the reinforcement and prestressing of concrete - Test methods - Part 2 Welded fabric from 04/11/2016

- [ISO/IEC 17025:2005](#)

B1/VM1 cites ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories from 04/11/2016

- [NASH Part 1 2010 Design criteria](#)

B1/VM1 cites NASH Standard - Residential and Low-Rise Steel Framing Part 1 2010 Design Criteria from 01/08/2011

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