BUILDING PERFORMANCE

Get to know B1/VM1 Second edition

INFORMATION ON THE NEW EDITION OF THE VERIFICATION METHOD

On 28 July 2025, MBIE published Verification method B1/VM1 Second Edition.

If you have used B1/VM1 in the past, you may see some changes in the new version.

New layout

Since 2021, MBIE has been publishing new editions of the acceptable solutions and verification methods in an updated document format. The new format has a consistent layout and structure and should be easier to use in an electronic format. Consequently, headings and paragraph numbers in B1/VM1 have changed to fit in the new layout.

Building Product Specifications

The verification method now includes references to the Building Product Specifications. Further information on the Building Product Specifications and what purposes it is used for are provided in the verification method.

Minor amendments that do not affect the level of performance

Other minor amendments have been made to the verification method that do not affect the level of performance require but may assist in the interpretation and use of the document. This includes corrections for typos, grammar, formatting, cross-references, and punctuation. Since B1/VM1 has remained in the same edition since 1992, the document has also been revised to reflect current practices for drafting the text and written into sentence and paragraph format.

We have provided the table on the follow pages to outline the differences between the First edition and Second edition including:

- A side-by-side index of the headings and paragraph numbers that have changed, and
- Comments on specific headings and paragraphs where the text has changed.

This table has been provided for information only. The wording and numbering in the verification method itself takes precedence.

The previous edition of B1/VM1 can still be used to demonstrate compliance with the Building Code until 31 July 2026.

Information on the second edition

B1/VM1 First edition Reference	B1/VM1 Second edition Reference	Comments on B1/VM1 Second edition
Document title: General	Document title: Structural design of buildings	Document title revised to reflect the scope of the document.
1.0 General	Part 1. General	
	1.1 Introduction	New heading to align with drafting of other AS/VMs
	1.1.1 Scope of this document	New heading to align with drafting of other AS/VMs
1.0.1	1.1.1.1	Rewritten to align with drafting of other AS/VMs. Portions relocated to 1.1.3.1
	1.1.1.2	New paragraph based on the intent of 1.0.3 a) and drafted to align with B1/AS1.
1.0.2	1.2.1.1	Relocated to Section 1.2 and rewritten for consistency with B1/AS1
	1.1.2 Items outside the scope of this document	New heading to align with drafting of other AS/VMs
	1.1.3 Compliance pathway	New heading to align with drafting of other AS/VMs
	1.1.3.1	New paragraph including some text from previous 1.0.1
	1.1.3.2	New paragraph to remind users that alternatives may also be used for compliance.
	1.2 Using this verification method	New heading to align with drafting of other AS/VMs
	1.2.1 Modification and citation of standards	New heading based on text in this subsection.
1.0.3 a)	1.1.2.2	Relocated to subsection 1.1.2 as it relates to the scope of the document.
1.0.3 b)	1.2.1.1	Combined with 1.2.1.1 and redundant text removed.
1.0.3 c)	1.2.1.2(a)	Rewritten in paragraph format as a list.
1.0.3 d)	1.2.1.2(b)	
1.0.3 e)	1.2.1.2(c)	
	1.2.2 Building Product Specifications	New subsection on the Building Product Specifications

Information on the second edition

B1/VM1 First edition Reference	B1/VM1 Second edition Reference	Comments on B1/VM1 Second edition
	1.2.2.1	New paragraph on the scope of the Building Product Specifications
	1.2.2.2	New paragraph on the compliance pathway using the Building Product Specifications
2.0 Structural Design Actions Standards	Part 2. Structural design actions	
	2.1 AS/NZS 1170 suite of standards	New heading based on paragraph text
	2.1.1 Overview	New heading to maintain consistent structure and drafting as other VM documents.
2.1	2.1.1.1	Rewritten based on current drafting practices and combined with 2.2
2.2	2.1.1.1	Combined with 2.1.
2.2.1 Material Standards	2.1.1.2	Rewritten into paragraph format.
2.2.2 Notes in AS/NZS 1170	2.1.1.3	
	2.2 General principles	New heading based on title of AS/NZS 1170.0
2.2.3 AS/NZS 1170 Part 0, Clause 4.1 General	2.2.1 Combinations of actions	New heading based on the title of the sections of the standard being modified.
2.2.3 [Paragraph text]	2.2.1.1	Heading combined with paragraph text and re-written into paragraph format.
2.2.4 AS/NZS 1170 Part 0, Clause 4.2.4	2.2.1.2	Heading combined with paragraph text and re-written into paragraph format.
	2.3 Permanent, imposed, and other actions	New heading based on title of AS/NZS 1170.1
	2.3.1 Imposed actions	New heading based on section of the standard being modified.
2.2.6 AS/NZS 1170 Part 1, Table 3.2	2.3.1.1	Heading combined with paragraph text and rewritten into paragraph format.
2.2.7 AS/NZS 1170 Part 1, Clause 3.6 Barriers	2.3.1.2	Heading combined with paragraph text and rewritten into paragraph format. Comment box re-drafted to use defined terms and consistent referencing of code clauses.

Information on the second edition

B1/VM1 First edition Reference	B1/VM1 Second edition Reference	Comments on B1/VM1 Second edition
2.2.8 AS/NZS 1170 Part 1, Clause 3.8 Car Park	2.3.2 Car parks	Heading based on content of standard being revised.
2.2.8 [Paragraph text]	2.3.2.1	Heading combined with paragraph text and re-written into paragraph format.
2.2.9 AS/NZS 1170 Part 1, Appendix B	2.3.3 Track and outdoor visitor structures	Heading based on content of standard being revised.
2.2.9 AS/NZS 1170 Part 1, Appendix B	2.3.3.1	Heading combined with paragraph text and re-written into paragraph format.
	2.4 Wind	New heading based on the title of AS/NZS 1170.2
	2.4.1 Local wind information	New heading based on content of the standard being revised.
2.2.10 AS/NZS 1170 Part 2, Clauses 3.2 and 4.4.3	2.4.1.1	Heading combined with paragraph text and re-written into paragraph format.
	2.5 Snow and ice	New heading based on the title of AS/NZS 1170.3
	2.5.1 Local snow and ice design information	New heading based on content of the standard being revised.
2.2.12 AS/NZS 1170 Part 3, Clause 2.1	2.5.1.1	Heading combined with paragraph text and re-written into paragraph format.
	2.5.2 Ground snow loads	New heading based on the content of the standard being revised.
2.2.13 AS/NZS 1170 Part 3, Clause 5.4.3	2.5.2.1	Heading combined with paragraph text and re-written into paragraph format.
	2.6 Earthquakes	New heading based on the title of NZS 1170.4
	2.6.1 Special studies	New heading based on content of standard being revised.
2.2.14 NZS 1170 Part 5, Clause 1.4	2.6.1.1	Rewritten into paragraph format.
Consequence changes due to the 2010/2011 Canterbury earthquakes	2.6.2 Consequence changes due to the 2010/2011 Canterbury earthquakes	
	2.6.2.1	New paragraph to introduce the subsection.
2.2.14A NZS Part 5, Clause 3.1.4	2.6.2.1(a)	
2.2.14B NZS 1170 Part 5, Table 3.3	2.6.2.1(b)	

Information on the second edition

B1/VM1 First edition Reference	B1/VM1 Second edition Reference	Comments on B1/VM1 Second edition
2.2.14D NZS 1170 Part 5, Figure 3.4	2.6.2.1(c)	Rewritten to be specific to the modification.
2.2.15 NZS 1170 Part 5, Clause 4.2 Seismic weight and seismic mass	2.6.3 Seismic weight and seismic mass	
2.2.15 [Paragraph text]	2.6.3.1	
2.2.16 NZS 1170 Part 5, Sections 5 and 6 Time history analysis	2.6.4 Time history analysis	Heading revised based on content being modified.
2.2.16 [Paragraph text]	2.6.4.1	
	2.6.5 Design earthquake actions and structural analysis	New heading based on the content being modified.
2.2.17 NZS 1170 Part 5, Clause 5.2.2.3, equation 5.2(4)	2.6.5.1	
2.2.18 NZS 1170 Part 5, Clause 6.1.4.1 Requirement for modelling	2.6.5.2	
	Part 3. Buildings and structures	New heading to contain main standards for concrete, steel, timber and earth buildings following the same order as B1/AS1.
3.0 Concrete	3.1 Concrete	
	3.1.1 Concrete structures	Heading title revised to align with the title of NZS 3101.1
	3.1.1.1	New paragraph to introduce the section
	3.1.2 Modifications to NZS 3101.1 for concrete structures	
3.1 NZS 3101: Part 1	3.1.1.1(a)	
3.1.0 Referenced Documents	3.1.2.1	Rewritten to be simpler and align with B1/AS1.
3.1.1 Clause 18.7.4.4 Detailing requirements for support of hollow-core floors	3.1.2.2	Heading text re-written into paragraph format and heading removed. Comment box item 3 revised to align with the subsection in the document.
3.2 NZS 3106	3.1.1.1(b)	Rewritten into paragraph format.
4.0 Concrete Masonry	<Heading removed>	Heading removed as this section combined with concrete structures.
4.1 NZS 4230	3.1.1.1(c)	
4.1.0 Referenced Documents	3.1.3.1	Sentence rewritten to be simpler and align with B1/AS1.
5.0 Steel	3.2 Steel	

Information on the second edition

B1/VM1 First edition Reference	B1/VM1 Second edition Reference	Comments on B1/VM1 Second edition
	3.2.1 Steel structures	New heading added based on the scope of NZS 3404.
5.1 NZS 3404: Part 1	3.2.1.1(a)	New paragraph to introduce the section.
	3.2.2 Modifications to NZS 3404.1 for steel structures	New heading for modifications
5.1.1 Clause 2.2.1 Specification	3.2.2.1(a)	Rewritten into paragraph format and amended to reference the Building Product Specifications.
5.1.2 Clause 2.3.1 Steel bolts, nuts and washers	3.2.2.1(b)	Rewritten into paragraph format and amended to reference the Building Product Specifications.
5.1.3 new Clause 3.10 Documentation	3.2.2.2	Rewritten into paragraph format
5.1.4 Clause 9.3.1 Bolts and bolting category	3.2.2.3	Rewritten into paragraph format
5.1.4A Section 13 Design of composite members and structures	3.2.2.4	Rewritten into paragraph format
5.1.5 Section 14 Fabrication	3.2.2.5(a)	Rewritten into paragraph format
5.1.6 Section 15 Erection	3.2.2.5(b)	Rewritten into paragraph format
5.1.7 Section 16 Modification of Existing Structures	3.2.2.5(c)	Rewritten into paragraph format
5.1.8 new Section 18 Architecturally Exposed Structural Steelwork	3.2.2.5(d)	Rewritten into paragraph format
5.1.9 Appendix A	3.2.2.6(a)	Rewritten into paragraph format. Changed reference to AS/NZS 3769.1 to AS/NZS 3679.1 as it is typo.
5.1.9A Appendix C	3.2.2.6(b)	Rewritten into paragraph format
5.1.10 Appendix D	3.2.2.6(c)	Rewritten into paragraph format
5.1.11 Appendix K	3.2.2.6(d)	Rewritten into paragraph format
5.1.12 Appendix L	3.2.2.6(e)	Rewritten into paragraph format
5.1.13 new Appendix R	3.2.2.6(f)	Rewritten into paragraph format
	3.2.3 Modifications to AS/NZS 4600 for cold-formed steel structures	New heading for the modifications

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5.2 AS/NZS 4600	3.2.3.1	a) Rewritten to reference AS/NZS 1170 as modified in B1/VM1. Reference to "territorial authority" in c) replaced with "building consent authority". A BCA is responsible for building consent applications.
6.0 Timber	3.3 Timber	
	3.3.1 Timber structures	New heading based on title of NZS 3603
6.1 NZS 3603	3.3.1.1	a) Rewritten to reference AS/NZS 1170 as modified in B1/VM1.
7.0 Aluminium	3.4 Aluminium	
	3.4.1 Aluminium structures	New heading based on title of AS/NZS 1664.1
7.1 AS/NZS 1664.1	3.4.1.1	Re-written into paragraph format. a) Rewritten to reference AS/NZS 1170 as modified in B1/VM1. Reference to "territorial authority" in c) replaced with "building consent authority". A BCA is responsible for building consent applications.
8.0 Earth Buildings	3.5 Earth buildings	
	3.5.1 Earth walled buildings	New heading to align with B1/AS1.
8.1 NZS 4297	3.5.1.1	Re-written in paragraph format and modification re-written to reference AS/NZS 1170 as modified in B1/VM1.
9.0 Foundations	1.1.2.1	Heading removed as there are no additional requirements in this verification method. Relevant text added to the introduction of the document.
10.0 Siteworks	Part 5. Siteworks	
	5.1 Lightweight structures	New heading
	5.1.1 Engineered fill	

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10.1 NZS 4431	5.1.1.1	Re-written into paragraph format.
	5.1.1.2	New paragraph to reference the Building Product Specifications.
	Part 4. Individual building elements	New heading following the same order as B1/AS1.
11.0 Drains	4.1 Drains	
	4.1.1 Buried concrete pipes	New heading based on the title of AS/NZS 3725
11.1 AS/NZS 3725	4.1.1.1	Re-written into paragraph format with new sentence to introduce the section.
	4.1.2 Referenced documents, definitions, and notation	New heading for modifications to clauses 3, 4, and 5
11.1 [Modifications to clauses 3, 4, and 5]	4.1.2.1	Re-written into paragraph format.
	4.1.3 Vertical loads, internal water loads, and test loads	New heading for modifications to clauses 6, 7, and 10 and appendices.
11.1 [Modifications to clauses 6, 7, and 10 and Appendix A and Appendix B]	4.1.3.1	Rewritten into paragraph format. “Delete” changed to “remove” to match the drafting of other documents.
12.0 Windows	4.2 Windows	
12.1 NZS 4211	4.2.1 Structural performance of windows	New heading
	4.2.1.1	Rewritten in paragraph format to reference the Building Product Specifications.
13.0 Seismic Performance of Engineering Systems in Buildings	4.3 Engineering systems in buildings	Heading revised to maintain document structure.
	4.3.1 Seismic performance	New heading to maintain document structure.
13.1 NZS 4219	4.3.1.1	Rewritten into paragraph format.
14.0 Ductile Steel Mesh	3.1.4 Welded steel mesh	Relocated to the section for concrete masonry to mimic the location in B1/AS1.
14.1 Grade 500E welded steel mesh	3.1.4.1	Rewritten into paragraph format and amended to reference the Building Product Specifications.
References	Appendix A. References	References relocated to Appendix A.

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B1/VM1 First edition Reference	B1/VM1 Second edition Reference	Comments on B1/VM1 Second edition
Reference entries for: AS 1391, ISO 15630.2, and ISO 17025	<Removed from document>	These citations were removed from B1/VM1 in 2021.
Definitions	Appendix B. Definitions	Definitions relocated to Appendix B.
Definition entries	Add: Building consent authority, building consent, construct	Added to the document as used in the verification method.
Definition entries for: Alter, Baluster, chimney, chimney back, chimney jambs, combustible, concealed space, factor of safety, fireplace, flue, gather, good ground, hearth, intended use, nominal pile with, non-combustible, notional boundary, other property, specified intended life, Verification method	<Removed from document>	

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CONTACT DETAILS PO Box 1473, Wellington 6140 | T 0800 242 243 | E info@building.govt.nz
For more information, visit building.govt.nz
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