



MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Acceptable Solutions and Verification Methods

For New Zealand Building Code Clause
F2 Hazardous Building Materials



Status of Verification Methods and Acceptable Solutions

Verification Methods and Acceptable Solutions are prepared by the Ministry of Business, Innovation and Employment in accordance with section 22 of the Building Act 2004. Verification Methods and Acceptable Solutions are for use in establishing compliance with the New Zealand Building Code.

A person who complies with a Verification Method or Acceptable Solution will be treated as having complied with the provisions of the Building Code to which the Verification Method or Acceptable Solution relates. However, using a Verification Method or Acceptable Solution is only one method of complying with the Building Code. There may be alternative ways to comply.

Users should make themselves familiar with the preface to the New Zealand Building Code Handbook, which describes the status of Verification Methods and Acceptable Solutions and explains alternative methods of achieving compliance.

Defined words (italicised in the text) and classified uses are explained in Clauses A1 and A2 of the Building Code and in the Definitions at the start of this document.

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**Verification Methods and Acceptable Solutions
are available from www.building.govt.nz**

New Zealand Government

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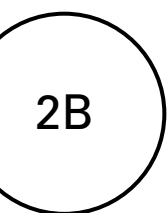
Document Status

The most recent version of this document (Amendment 3), as detailed in the Document History, is approved by the Chief Executive of the Ministry of Business, Innovation and Employment. It is effective from 1 January 2017 and supersedes all previous versions of this document.

The previous version of this document (Amendment 2) will cease to have effect on 30 May 2017.

People using this document should check for amendments on a regular basis. The Ministry of Business, Innovation and Employment may amend any part of any Verification Method or Acceptable Solution at any time. Up-to-date versions of Verification Methods and Acceptable Solutions are available from www.building.govt.nz

| F2: Document History | | | |
|--|--------------------------------------|---|---|
| | Date | Alterations | |
| First published | July 1992 | | |
| Amendment 1 | 19 August 1994 | pp. i and ii, Document History p. v, Contents p. vi, References | p. 3, 1.1, 1.1.1, 1.2, 1.2.1, 1.3 to 1.4.3 deleted p. 4, 1.4.4 deleted p. 5, Index |
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| Note: Page numbers relate to the document at the time of Amendment and may not match page numbers in current document. | | | |



New Zealand Building Code

Clause F2 Hazardous Building Materials

This Clause is extracted from the New Zealand Building Code contained in the First Schedule of the Building Regulations 1992.

| | | |
|---|---|----------|
| 42 | Building Regulations 1992 | 1992/150 |
| FIRST SCHEDULE—continued | | |
| Clause F2—HAZARDOUS BUILDING MATERIALS | | |
| Provisions | Limits on application | |
| OBJECTIVE | | |
| F2.1 The objective of this provision is to safeguard people from injury and illness caused by exposure to <i>hazardous building materials</i> . | | |
| FUNCTIONAL REQUIREMENT | | |
| F2.2 <i>Building materials</i> which are potentially <i>hazardous</i> , shall be used in ways that avoid undue risk to people. | | |
| PERFORMANCE | | |
| F2.3.1 The quantities of gas, liquid, radiation or solid particles emitted by materials used in the <i>construction of buildings</i> , shall not give rise to harmful concentrations at the surface of the material where the material is exposed, or in the atmosphere of any space. | | |
| F2.3.2 Transparent panels capable of being mistaken for an unimpeded path of travel shall be marked to make them visible. | Performance F2.3.2 does not apply to <i>Housing</i> | |
| F2.3.3 Glass or other brittle materials with which people are likely to come into contact shall: | | |
| (a) If broken on impact, break in a way which is unlikely to cause injury, or | | |
| (b) Resist a reasonably foreseeable impact without breaking, or | | |
| (c) Be protected from impact. | | |

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Amend 3
Jan 2017

Amend 1
Aug 1994

References

For the purposes of New Zealand Building Code compliance, the New Zealand and other Standards, and other documents referred to in this Acceptable Solution (primary reference documents) shall be the editions, along with their specific amendments, listed below. Where the primary reference documents refer to other Standards or other documents (secondary reference documents), which in turn may also refer to other Standards or other documents, and so on (lower order reference documents), then the applicable version of these secondary and lower order reference documents shall be the version in effect at the date this Acceptable Solution was published.

Amend 3
Jan 2017

Standards New Zealand

Amends
1 and 2

Amend 3
Jan 2017

| | |
|--------------|----------------------------------|
| NZS 4223:- | Glazing in buildings |
| Part 3: 2016 | Human impact safety requirements |
| | <i>Amendment 1</i> |

Amend 1
Aug 1994

Where quoted

AS1 1.1.1

Definitions

This is an abbreviated list of definitions for words or terms particularly relevant to this Verification Method and Acceptable Solution. The full list of definitions for italicised words may be found in the New Zealand Building Code Handbook.

Asbestos means the asbestiform varieties of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals, including the following:

- (a) actinolite asbestos:
- (b) grunerite (or amosite) asbestos (brown):
- (c) anthophyllite asbestos:
- (d) chrysotile asbestos (white):
- (e) crocidolite asbestos (blue):
- (f) tremolite asbestos:
- (g) a mixture that contains 1 or more of the minerals referred to in paragraphs (a) to (f).

Building has the meaning ascribed to it by Sections 8 and 9 of the Building Act 2004.

Construct in relation to a building, includes to design, build, erect, prefabricate, and relocate the building.

Hazardous Creating an unreasonable risk to people of bodily injury or deterioration of health.

Intended use, in relation to a building,—

- (a) includes any or all of the following:
 - (i) any reasonably foreseeable occasional use that is not incompatible with the *intended use*:
 - (ii) normal maintenance:
 - (iii) activities undertaken in response to fire or any other reasonably foreseeable emergency; but
- (b) does not include any other maintenance and repairs or rebuilding

Safety glass means a glass so treated or combined with other materials as to reduce the likelihood of injury to persons when it is cracked or broken.

Amend 3
Jan 2017

Amend 3
Jan 2017

Verification Method F2/VM1

No specific test methods have been adopted
for verifying compliance with the Performance
of NZBC F2.

Acceptable Solution F2/AS1

1.0 Glazing

1.1 Human impact safety

1.1.1 Glazing likely to be subject to human impact shall comply with NZS 4223: Part 3.

COMMENT:

1. NZS 4223: Part 3: 2016 now requires manifestation for shopfronts whereas previously they were exempt.

Transoms or rails with a face width not less than 20 mm and with their centreline between 800 mm and 1200 mm from the finished floor level can provide manifestation.
2. F4/AS1 Paragraph 2.1 gives safety from falling requirements for opening windows where the possible fall through the opening is 1 m or more, measured from the adjacent floor level.
3. D1/AS1 in Figure 6 shows where open windows could be a dangerous projection..

2.0 Asbestos

COMMENT:

New building materials can be expected to be free of asbestos but many *buildings* constructed before the 1990s do include materials that contain asbestos. Therefore, for *alterations* to older *buildings*, Clause F1 'Hazardous Agents on Site' may be relevant because an existing *building* can be considered as part of a site.

The handling of asbestos-containing materials is covered by the Health and Safety at Work (Asbestos) Regulations 2016. These Regulations require the Licensing of asbestos removalists and asbestos assessors.

Refer to the WorkSafe New Zealand website <http://www.business.govt.nz/worksafe/information-guidance/guidance-by-hazard-type/asbestos/working-with-asbestos>

Amend 1
Aug 1994

Amend 2
Dec 2000

Amend 2
Dec 2000

Amends
1 and 2

Amend 3
Jan 2017

Amend 3
Jan 2017

Index F2/VM1 & AS1

All references to Verification Methods and Acceptable Solutions are preceded by **VM** or **AS** respectively.

Asbestos **AS1** 2.0

Glazing

human impact safety. **AS1** 1.1

Amend 1
Aug 1994
Amend 3
Jan 2017

