

Please find enclosed Amendment 12, effective 28 November 2019 to the Acceptable Solution and Verification Method for Clause B2 Durability of the New Zealand Building Code. The previous amendment to the B2 Acceptable Solutions and Verification Methods (Amendment 11) was in June 2019.

<b>Section</b>	<b>Previous amendment</b>	<b>November 2019 Amendment 12</b>
Title pages	Remove document status and history pages 2A/2B	Replace with new document status and history pages 2A/2B
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## Document Status

The most recent version of this document (Amendment 12), as detailed in the Document History, is approved by the Chief Executive of the Ministry of Business, Innovation and Employment. It is effective from 28 November 2019 and supersedes all previous versions of this document.

The previous version of this document (Amendment 11) will cease to have effect on 31 March 2020.

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](http://www.building.govt.nz)

<b>B2: Document History</b>			
	<b>Date</b>	<b>Alterations</b>	
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Amendment 1	September 1993	p. 3, Table 1	
Second Edition	28 February 1998	Document revised – second edition issued	
Amendment 2	1 December 2000	p. ii, Document History p. v, Contents p. vi, References	p. 5, 3.2.2, 3.3, 3.4 p. 9, Index
Amendment 3	1 July 2001	p. 2, Document History, Status p. 7, References	p. 8, 5.0.1
Amendment 4	1 April 2004	p. 2, Document History p. 7, References pp. 9–10, Definitions	p. 15, 3.2.1 Comment pp. 17–22 Table 1 p. 23 Index
Amendment 5	1 April 2004	p. 7, References p. 9, Definitions	p. 15, 3.2.1, 3.2.2, 3.2.3
Amendment 5 regarding timber treatment is subject to a transitional provision.			
Reprinted incorporating Amendments 3, 4 and 5	April 2004		
Amendment 6	Effective 30 September 2010 until 1 July 2011	p. 2, Document History, Status p. 5, Contents p. 7, References	pp. 9–10, Definitions pp. 13–15, B2/AS1 1.1, 3.1.1, 3.2.1, 3.2.2
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Amendment 7	Effective 4 April 2011 until 14 August 2014	p. 2, Document History, Status p. 5, Contents	p. 7, References pp. 15–15F, 3.2.1, 3.2.2, 3.2.3
Amendment 8	14 February 2014 until 30 May 2017	p. 2A, Document History, Status p. 5, Contents p. 7, References	p. 9, Definitions pp. 13, 15, 15D–15F B2/AS1 3.2, 3.2.2, 3.2.2.3, 3.2.3, 3.2.3.1, 3.2.3.2,
Amendment 9	Effective 1 January 2017 until 31 March 2019	p. 5 Contents p. 7 References	p. 15F B2/AS1 3.5 p. 23 Index
Amendment 10	Effective from 30 November 2018 until 31 October 2019	p. 5 Contents p. 7 References	p. 15F B2/AS1 3.6 p. 23 Index

<b>B2: Document History</b>			
	<b>Date</b>	<b>Alterations</b>	
Amendment 11	Effective 27 June 2019 until 31 March 2020	p. 7 References p. 15F B2/AS1 3.6.2, 3.6.3	p. 23 Index
Amendment 12	Effective 28 November 2019	p. 14 B2/AS1 2.2.1	
<b>Note: Page numbers relate to the document at the time of Amendment and may not match page numbers in current document.</b>			

# Acceptable Solution B2/AS1

## 1.0 Durability Applications

**1.0.1** This acceptable solution applies to materials and components required to satisfy the performances specified in other NZBC clauses.

### COMMENT:

All *building work* shall comply with the NZBC. This means that *building elements*, both individually and as part of a system, shall meet all the performances required by the applicable NZBC clauses and shall continue to do so for the required durability period. In some cases, *building elements* (e.g. decorative coatings and trim) are not required to satisfy an NZBC performance criterion. Such *building elements* will then have no B2 durability requirement. However, where a *building element* serves two purposes, only one of which must satisfy the NZBC, it shall have the durability appropriate to its location and use. For example, a decorative finish applied to a *building element* required by the NZBC to have an impervious easily cleaned surface will need to satisfy the 5 year durability performance.

## 1.1 Acceptable Solutions and Verification Methods

**1.1.1** *Building elements*, including materials, components and systems, complying with a publication referenced in the Acceptable Solutions and Verification Methods, satisfy B2 requirements only when the conditions of use stated in the publication and Acceptable Solutions and Verification Methods prevail.

### COMMENT:

It is not practicable within the Acceptable Solutions and Verification Methods to cover all possible combinations, uses and conditions which may be applied to a *building element*. In special circumstances and where elements are called up but are used outside the scope of the application in the Acceptable Solution or Verification Method, durability shall be verified by B2/MM1.

Amends  
6 and 8

## 1.2 Assessing required durability

**1.2.1** Evaluation of *building elements* shall be based on the following concepts:

- a) **Difficult to access or replace** – applies to *building elements* where access or replacement involves significant removal or alteration of other *building elements*. Examples are works involving the removal of masonry or concrete *construction*, or structural elements or repair of buried tanking membranes. A 50 year durability is required.
- b) **Moderately difficult to access or replace** – applies to *building elements* where access or replacement involves the removal or alteration of other *building elements*. Examples are the replacement of services reticulation in wall cavities and skillion roofs, or of plant and hotwater cylinders built into roof spaces without adequately sized access openings. A 15 year durability is required.
- c) **Easy to access and replace** – applies to *building elements* where access or replacement involves little alteration or removal of other *building elements*. Examples are linings, trim, light fittings, hotwater cylinder elements and door hardware, or where specific provision for removal has been made. A 5 year durability is required.
- d) **Failure to comply with the NZBC would go undetected during both normal use and maintenance of the building** – applies where the *building elements* are hidden from view with no provision for inspection access, and failure would not be apparent until significant damage had occurred to other *building elements*. Examples are building paper behind a masonry veneer cladding, and insulation in a skillion roof. A 50 year durability is required.
- e) **Failure to comply with the NZBC would go undetected during normal use of the building but would be easily detected during normal maintenance** – applies where normal maintenance will identify faults unlikely to be observed by *building occupants* until significant damage has occurred. Examples are degradation of exterior claddings on roofs and walls, sealant filled joints, flashings, services with specific provision for inspection access, chimneys and flues. A 15 year durability is required.

f) **Failure to comply with the NZBC would be easily detected during normal use of the building** – applies where the failure is obvious to the *building* occupants. Examples are exposed *building elements* which are damaged or inoperative such as protective finishes, essential signs, sticking doors, slip resistant surfaces, stair treads and surface-run *building services* equipment. A 5 year durability is required.

1.2.2 Figure 1 provides a means of assessing the durability requirements for *building elements*.

1.3 **Examples of durability requirements**

1.3.1 Table 1 is an acceptable solution establishing durability requirements of nominated *building elements*.

2.0 **Maintenance**

2.1 **Normal maintenance**

2.1.1 Normal maintenance is that work generally recognised as necessary to achieve the expected durability for a given *building element*. The extent and nature of that maintenance will depend on the material, or system, its geographical location and position within the *building*, and can involve the replacement of components subject to accelerated wear.

2.1.2 It is the responsibility of the person specifying the *building element* to determine normal maintenance requirements. These may be based on the manufacturer’s recommendations and may also include periodic inspections of elements not readily observable without a specific effort (e.g. access to roof or subfloor spaces).

2.1.3 Basic normal maintenance tasks shall include but not be limited to:

- a) Where applicable, following manufacturers’ maintenance recommendations,
- b) Washing down surfaces, particularly exterior *building elements* subject to wind driven salt spray,

- c) Re-coating interior and exterior protective finishes,
- d) Replacing sealant, seals and gaskets in joints,
- e) Replacing valves, washers and similar high wear components in easily accessed service equipment and other *building elements*,
- f) Cleaning and replacing filters in *building services* systems,
- g) The regular servicing of boilers, cooling towers, lifts, escalators, emergency lighting and *fire* protection equipment, and
- h) The maintenance of signs for access, *escape routes*, emergency equipment and *hazardous* areas.

**COMMENT:**  
Maintenance does not include such things as upgrading *building elements* to meet the demands of new technology or the increased environmental expectations of users.

2.2 **Scheduled maintenance**

2.2.1 Scheduled maintenance comprises the inspection, maintenance and reporting procedures for *building elements* required to have a *compliance schedule* in terms of section 100 of the Building Act. By those procedures the *building elements* concerned are effectively deemed to have a durability of the life of the *building* because they are required to perform as designed at all times. The relevant maintenance procedures may include total replacement.

3.0 **Generic Materials**

3.1 **Concrete**

3.1.1 **NZS 3101:** Part 1 Section 3 is an acceptable solution for meeting the durability requirements of concrete building elements subject to the following modification:

Provisions in this Standard that are in non-specific or unquantified terms do not form part of the Acceptable Solution. Non-specific

Amend 12  
Nov 2019

Amend 6  
Sep 2010