

**SUMMARY OF
CHANGES**



ABCB

**NATIONAL
CONSTRUCTION
CODE**

2016

AMENDMENT 1

VOLUME ONE

Building Code of Australia
Class 2 to Class 9 Buildings

NCC 2016 Volume One Amendment 1

In late 2016 the Australian Building Codes Board (ABCB) developed a comprehensive package of measures designed to address fire safety in high rise buildings, including fire safety related to the combustibility of external walls. Amongst these measures are some that involve amendment to NCC Volume One.

At their 30 June 2017 meeting Building Ministers directed the ABCB to expedite completing and adopting measures from the comprehensive package that involve changes to the NCC. NCC 2016 Volume One Amendment 1 is the result of that direction.

NCC 2016 Volume One Amendment 1 includes the following:

1. The introduction of a new Verification Method (CV3) for testing of external wall assemblies for fire propagation. CV3 references a new testing standard, AS 5113-2016 'Fire propagation testing and classification of external walls of buildings', and in most circumstances requires additional measures (e.g. enhanced sprinkler protection) to mitigate the hazard presented by a combustible façade.
2. Revision of the NCC's evidence of suitability provisions, including clarifying the application and language of A2.2, strengthened wording of the current options, and a new requirement to consider the 'appropriateness' of the evidence being presented to support the use of the material, product, design or form of construction.
3. Clarification of provisions, including provisions relating to external wall claddings and attachments, provisions that provide exemption to the non-combustibility requirements, and provisions that control the fire hazard properties of building elements.
4. Increased stringency for the sprinkler protection of balconies of residential high rise buildings through referencing an updated sprinkler standard, AS 2118.1-2017 'Automatic fire sprinkler systems – General systems'.

The Evidence of Suitability Handbook 2018 accompanies the amendment, and provides guidance for applying A2.2 of Volume One Amendment 1 for the provision of documentary evidence used to support a claim that a material, product, form of construction or design meets a Performance Requirement or Deemed-to-Satisfy Provision.

Advisory Note 2016-3 'Fire Performance of External Walls and Cladding' has been revised on account of the amendment. NCC users are advised that editions of this advisory note dated to prior 2018 are not applicable to NCC 2016 Volume One Amendment 1.

NCC 2016 Volume One Amendment 1 is scheduled for adoption on 12 March 2018.

The 2016 edition of NCC Volume One is amended by Amendment 1 as follows:

A1.1 Definitions

Add the following new term and definition (after 'Accessway'):

Accredited Testing Laboratory means—

- (a) an organisation accredited by the National Association of Testing Authorities (NATA) to undertake the relevant tests; or
- (b) an organisation outside Australia accredited to undertake the relevant tests by an authority recognised by NATA through a mutual recognition agreement; or
- (c) an organisation recognised as being an *Accredited Testing Laboratory* under legislation at the time the test was undertaken.

Add the following new term and definition (after 'Alternative Solution'):

Ancillary element means an element that is secondary to and not an integral part of another element to which it is attached.

Add the following new term and definition (after 'Appropriate authority'):

Appropriately qualified person means a person recognised by the *appropriate authority* as having qualifications and/or experience in the relevant discipline in question.

Add the following new term and definition (after 'Certificate of Conformity'):

Certification body means a person or organisation operating in the field of material, product, form of construction or design certification that has been accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ) for a purpose other than as part of the CodeMark or CodeMark Australia Certification Scheme.

Add the following new term and definition (after 'Private garage'):

Product Technical Statement means a form of documentary evidence stating that the properties and performance of a material, product or form of construction fulfil specific requirements of the NCC, and describes—

- (a) the application and intended use of the material, product or form of construction; and
- (b) how the use of the material, product or form of construction complies with the requirements of the NCC; and
- (c) any limitations and conditions of the use of the material, product or form of construction relevant to (b).

Delete the following term and definition:

Registered Testing Authority means—

- (a) an organisation registered by the National Association of Testing Authorities (NATA) to test in the relevant field; or
- (b) an organisation outside Australia registered by an authority recognised by NATA through a mutual recognition agreement; or
- (c) an organisation recognised as being a Registered Testing Authority under legislation at the time the test was undertaken.

Delete A2.1 and insert A2.1 as follows:

A2.1 Suitability

- (a) Every part of a building must be constructed in an appropriate manner to achieve the relevant requirements of the NCC, using materials, products, forms of construction and designs being fit for the purpose for which they are intended.
- (b) For the purposes of (a), a material, product, form of construction or design is fit for purpose if it is—
 - (i) supported by evidence of suitability in accordance with A2.2; and
 - (ii) constructed or installed in an appropriate manner.

Delete A2.2 and insert A2.2 as follows:

A2.2 Evidence of suitability

- (a) Subject to (b), A2.3, A2.4 and A2.5, evidence to support that the use of a material, product, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision* may be in the form of any one, or any combination of the following:
 - (i) A current CodeMark or CodeMark Australia *Certificate of Conformity*.
 - (ii) A current *Certificate of Accreditation*.
 - (iii) A current certificate, other than a certificate described in (a)(i) and (ii), issued by a *certification body* stating that the properties and performance of a material, product, form of construction or design fulfil specific requirements of the NCC.
 - (iv) A report issued by an *Accredited Testing Laboratory* that—
 - (A) demonstrates that a material, product or form of construction fulfils specific requirements of the NCC; and
 - (B) sets out the tests the material, product or form of construction has been subjected to and the results of those tests and any other relevant information that has been relied upon to demonstrate its suitability for use in the building.
 - (v) A certificate or report from a *professional engineer* or other *appropriately qualified person* that—
 - (A) certifies that a material, product, form of construction or design fulfils specific requirements of the NCC; and
 - (B) sets out the basis on which it is given and the extent to which relevant standards, specifications, rules, codes of practice or other publications have been relied upon to demonstrate its suitability for use in the building.
 - (vi) Another form of documentary evidence, such as but not limited to a *Product Technical Statement*, that—
 - (A) demonstrates that a material, product, form of construction or design fulfils specific requirements of the NCC; and
 - (B) sets out the basis on which it is given and the extent to which relevant standards, specifications, rules, codes of practice or other publications have been relied upon to demonstrate its suitability for use in the building.
- (b) The form of evidence used must be appropriate to the use of the material, product, form of construction or design to which it relates.
- (c) Evidence to support that a calculation method complies with an ABCB protocol may be in the form of any one, or any combination of the following:
 - (i) A certificate from a *professional engineer* or other *appropriately qualified person* that—
 - (A) certifies that the calculation method complies with a relevant ABCB protocol; and
 - (B) sets out the basis on which it is given and the extent to which relevant standards, specifications, rules, codes of practice and other publications have been relied upon.
 - (ii) Another form of documentary evidence that correctly describes how the calculation method complies with a relevant ABCB protocol.
- (d) Any copy of documentary evidence submitted, must be a complete copy of the original certificate, report or document.

Delete A2.5 and insert A2.5 as follows:

A2.5 Resistance to the incipient spread of fire

A ceiling is deemed to have the *resistance to the incipient spread of fire* to the space above itself if—

- (a) it is identical with a prototype that has been submitted to the *Standard Fire Test* and the *resistance to the incipient spread of fire* achieved by the prototype is confirmed in a report from an *Accredited Testing Laboratory* which—
 - (i) describes the method and conditions of the test and form of construction of the tested prototype in full; and
 - (ii) certifies that the application of restraint to the prototype complies with the *Standard Fire Test*; or
- (b) it differs in only a minor degree from a prototype tested under (a) and the *resistance to the incipient spread of fire* attributed to the ceiling is confirmed in a report from an *Accredited Testing Laboratory* which—
 - (i) certifies that the ceiling is capable of achieving the *resistance to the incipient spread of fire* despite the minor departures from the tested prototype; and
 - (ii) describes the materials, construction and conditions of restraint which are necessary to achieve the *resistance to the incipient spread of fire*.

Delete Specification A1.1 Clauses 3.1(a) and (c)(iv) and insert Specification A1.1 Clauses 3.1(a) and (c)(iv) as follows:

SPECIFICATION A1.1 FIRE-PROTECTED TIMBER

3. Determination of time the timber interface temperature exceeds 300°C for timber at least 75 mm thick

3.1 Form of test

- (a) Tests must be carried out in accordance with the *Standard Fire Test*, or an equivalent or more severe test, on the timber element with the proposed *non-combustible* coverings fixed in a representative manner, with the time the timber interface temperatures exceeded 300°C confirmed in a report from an *Accredited Testing Laboratory*.
- (c)
 - (iv) At any other locations where, in the opinion of the *Accredited Testing Laboratory*, the interface temperature may be higher than the above positions.

Delete Specification A1.1 Clause 3.2 and insert Specification A1.1 Clause 3.2 as follows:

3.2 Smaller specimen permitted

An *Accredited Testing Laboratory* may carry out the test specified in **Clause 3.1** at pilot scale provided—

- (a) a specimen (which must be not less than 1000 mm x 1000 mm) adequately represents the proposed construction in the building; and
- (b) the fire resistance of the specimen has already been determined in a full scale test performed in accordance with AS 1530.4 to demonstrate adequate retention of the fire protection system in conjunction with the timber elements being protected; and
- (c) the results of the test do not apply to construction larger than limits defined by the *Accredited Testing Laboratory* conducting the pilot examination.

SPECIFICATION A1.3 DOCUMENTS ADOPTED BY REFERENCE

In Table 1 of Specification A1.3 delete table row for AS 2118 Part 1 and insert table row for AS 2118 Part 1 as follows:

Table 1: Schedule of referenced documents

No.	Date	Title	BCA Clause(s)
AS 2118	1999	Automatic fire sprinkler systems	Spec E1.5, CV3
		Part 1 General requirements Amdt 1	
Part 1	2017	General systems	Spec E1.5, CV3
		Amdt 1 [Note: The 1999 edition has been retained for a transitional period ending on 11 March 2019, except Clause 5.6.13 of the 1999 edition is replaced with Clause 5.9.10 of the 2017 edition]	

In Table 1 of Specification A1.3 **add** table row for AS 5113 (after AS/NZS 4859) as follows:

No.	Date	Title	BCA Clause(s)
AS 5113	2016	Fire propagation testing and classification of external walls of buildings	CV3

Delete Specification A2.3 Clauses 2(b) and (c) and **insert** Specification A2.3 Clauses 2(b) and (c) as follows:

SPECIFICATION A2.3 FIRE-RESISTANCE OF BUILDING ELEMENTS

2. Rating

A building element meets the requirements of this Specification if—

- (b) it is identical with a prototype that has been submitted to the *Standard Fire Test*, or an equivalent or more severe test, and the FRL achieved by the prototype without the assistance of an active fire suppression system is confirmed in a report from an *Accredited Testing Laboratory* which—
 - (i) describes the method and conditions of the test and the form of construction of the tested prototype in full; and
 - (ii) certifies that the application of restraint to the prototype complied with the *Standard Fire Test*; or
- (c) it differs in only a minor degree from a prototype tested under (b) and the FRL attributed to the building element is confirmed in a report from an *Accredited Testing Laboratory* which—
 - (i) certifies that the building element is capable of achieving the FRL despite the minor departures from the tested prototype; and
 - (ii) describes the materials, construction and conditions of restraint which are necessary to achieve the FRL; or

Add Verification Method CV3 (after CV2) as follows:

SECTION C FIRE RESISTANCE

VERIFICATION METHODS

CV3

Compliance with CP2 to avoid the spread of fire via the *external wall* of a building is verified when—

- (a) compliance with CP2(a)(iii) to avoid the spread of fire between buildings, where applicable, is verified in accordance with CV1 or CV2, as appropriate; and
- (b) the *external wall system*—

- (i) has been tested for external wall (EW) performance in accordance with AS 5113; and
 - (ii) has achieved the classification EW; and
 - (iii) if containing a cavity, incorporates cavity barriers and these cavity barriers have been included in the test performed under (i) at the perimeter of each floor; and
- (c) in a building of Type A construction, the building is protected throughout by a sprinkler system complying with **Specification E1.5** and has—
- (i) sprinkler protection to balconies, patios and terraces, and where overhead sprinkler coverage is not achieved alongside the *external wall*, sidewall sprinkler heads are provided at the *external wall* for the extent of the balcony, patio or terrace where overhead sprinkler coverage is not achieved; and
 - (ii) for a building with an *effective height* greater than 25 m—
 - (A) monitored stop valves provided at each floor level arranged to allow the isolation of the floor level containing the stop valve while maintaining protection to the remainder of the building; and
 - (B) the sprinkler system being capable of providing sufficient flow to serve the design area (assumed area of operation) required by AS 2118.1 for the relevant hazard class on each floor level plus the design area (assumed area of operation) required by AS 2118.1 for the floor level above, except where the former level is—
 - (aa) the floor level below the uppermost roof; and
 - (bb) any floor level that is wholly below ground; and
- (d) in a building of Type B construction, the building is—
- (i) a Class 5, 6, 7 or 8 building or Class 4 part of a building; or
 - (ii) a Class 2, 3 or 9 building that—
 - (A) is protected throughout by a sprinkler system complying with **Specification E1.5**; or
 - (B) has any openings in *external walls* separated by a slab or other horizontal construction complying with **C2.6(a)(iv)** as if the building were of Type A construction.

Delete C1.0(a)(i) and insert C1.0(a)(i) as follows:

C1.0 Deemed-to-Satisfy Provisions

- (a)
 - (i) **C1.1** to **C1.14**, **C2.1** to **C2.14** and **C3.1** to **C3.17**; and

Delete C1.1 and insert C1.1 as follows:

C1.1 Type of construction required

- (a) The minimum Type of *fire-resisting construction* of a building must be determined in accordance with **Table C1.1**, except as allowed for—
 - (i) certain Class 2, 3 or 9c buildings in **C1.5**; and
 - (ii) a Class 4 part of a building located on the top *storey* in **C1.3(b)**; and
 - (iii) *open spectator stands* and indoor sports stadiums in **C1.7**.

SA C1.1(a)(iv)

- (b) Each building element must comply with **Specification C1.1** as applicable.

Delete Table C1.1 and insert Table C1.1 as follows:

Table C1.1 TYPE OF CONSTRUCTION REQUIRED

Rise in storeys	Class 2, 3 or 9 building	Class 5, 6, 7 or 8 building
4 or more	A	A
3	A	B

Rise in storeys	Class 2, 3 or 9 building	Class 5, 6, 7 or 8 building
2	B	C
1	C	C

SA C1.1(c) and (d)

Delete C1.9 and insert C1.9 as follows:

C1.9 Non-combustible building elements

- (a) In a building *required* to be of Type A or B construction, the following building elements and their components must be *non-combustible*:
 - (i) *External walls* and *common walls*, including all components incorporated in them including the facade covering, framing and insulation.
 - (ii) The flooring and floor framing of lift pits.
 - (iii) Non-*loadbearing internal walls* where they are *required* to be *fire-resisting*.
- (b) A *shaft*, being a lift, ventilating, pipe, garbage, or similar *shaft* that is not for the discharge of hot products of combustion, that is non-*loadbearing*, must be of *non-combustible* construction in—
 - (i) a building *required* to be of Type A construction; and
 - (ii) a building *required* to be of Type B construction, subject to **C2.10**, in—
 - (A) a Class 2, 3 or 9 building; and
 - (B) a Class 5, 6, 7 or 8 building if the *shaft* connects more than 2 *storeys*.
- (c) A *loadbearing internal wall* and a *loadbearing fire wall*, including those that are part of a *loadbearing shaft*, must comply with **Specification C1.1**.
- (d) The requirements of (a) and (b) do not apply to gaskets, caulking, sealants and damp-proof courses.
- (e) The following materials may be used wherever a *non-combustible* material is *required*:
 - (i) Plasterboard.
 - (ii) Perforated gypsum lath with a normal paper finish.
 - (iii) Fibrous-plaster sheet.
 - (iv) Fibre-reinforced cement sheeting.
 - (v) Pre-finished metal sheeting having a *combustible* surface finish not exceeding 1 mm thickness and where the *Spread-of-Flame Index* of the product is not greater than 0.
 - (vi) Bonded laminated materials where—
 - (A) each lamina, including any core, is *non-combustible*; and
 - (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
 - (C) the *Spread-of-Flame Index* and the *Smoke-Developed Index* of the bonded laminated material as a whole do not exceed 0 and 3 respectively.

Delete C1.10(a) and insert C1.10(a) as follows:

C1.10 Fire hazard properties

- (a) The *fire hazard properties* of the following internal linings, materials and assemblies within a Class 2 to 9 building must comply with **Specification C1.10**:
 - (i) Floor linings and floor coverings.
 - (ii) Wall linings and ceiling linings.
 - (iii) Air-handling ductwork.

- (iv) Lift cars.

NSW C1.10(a)(v)

- (v) In Class 9b buildings used as a theatre, public hall or the like—
 - (A) fixed seating in the audience area or auditorium; and
 - (B) a proscenium curtain *required* by **Specification H1.3**.
- (vi) Escalators, moving walkways and non-*required* non *fire-isolated stairways* or pedestrian ramps subject to **Specification D1.12**.
- (vii) *Sarking-type materials*.
- (viii) Attachments to floors, ceilings, *internal walls*, *common walls*, *fire walls* and to internal linings of *external walls*.
- (ix) Other materials including insulation materials other than *sarking-type materials*.

Delete C1.12 and insert C1.12 as follows:

C1.12 * * * * *

This clause has deliberately been left blank.

Add C1.14 as follows:

C1.14 Ancillary elements

An *ancillary element* must not be fixed, installed or attached to the internal parts or external face of an *external wall* that is *required* to be *non-combustible* unless it is one of the following:

- (a) An *ancillary element* that is *non-combustible*.
- (b) A gutter, downpipe or other plumbing fixture or fitting.
- (c) A flashing.
- (d) A grate or grille not more than 2 m² in area associated with a building service.
- (e) An electrical switch, socket-outlet, cover plate or the like.
- (f) A light fitting.
- (g) A *required* sign.
- (h) A sign other than one provided under (a) or (g) that—
 - (i) achieves a *group number* of 1 or 2; and
 - (ii) does not extend beyond one *storey*; and
 - (iii) does not extend beyond one *fire compartment*; and
 - (iv) is separated vertically from other signs permitted under (h) by at least 2 *storeys*.

- (i) An awning, sunshade, canopy, blind or shading hood other one provided under (a) that—
 - (i) meets the requirements of **Table 4** of **Specification C1.10** as for an internal element; and
 - (ii) serves a *storey*—
 - (A) at ground level; or
 - (B) immediately above a *storey* at ground level; and
 - (iii) does not serve an *exit*, where it would render the *exit* unusable in a fire.
- (j) A part of a security, intercom or announcement system.
- (k) Wiring.
- (l) A paint, lacquer or a similar finish.
- (m) A gasket, caulking, sealant or adhesive directly associated with (a) to (k).

Delete C2.0(a)(i) and insert C2.0(a)(i) as follows:

C2.0 Deemed-to-Satisfy Provisions

- (a)
 - (i) **C1.1 to C1.14, C2.1 to C2.14 and C3.1 to C3.17;** and

Delete C3.0(a)(i) and insert C3.0(a)(i) as follows:

C3.0 Deemed-to-Satisfy Provisions

- (a)
 - (i) **C1.1 to C1.14, C2.1 to C2.14 and C3.1 to C3.17;** and

Delete Specification C1.1 Clause 2.4 and insert Specification C1.1 Clause 2.4 as follows:

SPECIFICATION C1.1 FIRE-RESISTING CONSTRUCTION

2.4 Method of attachment reduce the fire-resistance of building elements

The method of attaching or installing a finish, lining, *ancillary element* or service installation to a building element must not reduce the fire-resistance of that element to below that *required*.

Delete Specification C1.1 Clauses 3.1(b) and (e) and insert Specification C1.1 Clauses 3.1(b) and (e) as follows:

3. TYPE A FIRE-RESISTING CONSTRUCTION

3.1 Fire-resistance of building elements

In a building *required* to be of Type A construction—

- (b) * * * * *
- (e) * * * * *

In Table 3 of Specification C1.1 delete table row for 'EXTERNAL WALL' and insert table row for 'EXTERNAL WALL' as follows:

Table 3 TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building — FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> parts—				
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 60	120/ 90/ 90	180/180/120	240/240/180
3 m or more	90/ 60/ 30	120/ 60/ 30	180/120/ 90	240/180/ 90
For non- <i>loadbearing</i> parts—				
less than 1.5 m	-/ 90/ 90	-/120/120	-/180/180	-/240/240
1.5 to less than 3 m	-/ 60/ 60	-/ 90/ 90	-/180/120	-/240/180
3 m or more	-/-/-	-/-/-	-/-/-	-/-/-

Delete Specification C1.1 Clause 3.10(a) and insert Specification C1.1 Clause 3.10(a) as follows:

3.10 Class 2 and 3 buildings: Concession

- (a) A Class 2 or 3 building having a *rise in storeys* of not more than 3 need not comply with **Clause 3.1(d)** of **Specification C1.1** and the requirements of **C1.9(a), (b)** and **C2.6** for *non-combustible* material, if it is constructed using—
 - (i) timber framing throughout; or
 - (ii) *non-combustible* material throughout; or
 - (iii) a combination of **(i)** and **(ii)**, provided—
 - (iv) * * * * *
 - (v) any insulation installed in the cavity of a wall *required* to have an FRL is *non-combustible*; and
 - (vi) the building is fitted with an *automatic* smoke alarm system complying with **Specification E2.2a**.

Delete Specification C1.1 Clauses 4.1(b), (f) and (h) and insert Specification C1.1 Clauses 4.1(b), (f) and (h) as follows:

4. TYPE B FIRE-RESISTING CONSTRUCTION

4.1 Fire-resistance of building elements

- (b) * * * * *
- (f) * * * * *
- (h) * * * * *

In Table 4 of Specification C1.1 delete table row for 'EXTERNAL WALL' and insert table row for 'EXTERNAL WALL' as follows:

Table 4 TYPE B CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building—FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> parts—				
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 30	120/ 90/ 60	180/120/ 90	240/180/120
3 to less than 9 m	90/ 30/ 30	120/ 30/ 30	180/ 90/ 60	240/ 90/ 60
9 to less than 18 m	90/ 30/–	120/ 30/–	180/ 60/–	240/ 60/–
18 m or more	–/–/–	–/–/–	–/–/–	–/–/–
For non- <i>loadbearing</i> parts—				
less than 1.5 m	–/ 90/ 90	–/120/120	–/180/180	–/240/240
1.5 to less than 3 m	–/ 60/ 30	–/ 90/ 60	–/120/ 90	–/180/120
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–

Delete Specification C1.1 Clause 4.3(a) and insert Specification C1.1 Clause 4.3(a) as follows:

4.3 Class 2 and 3 buildings: Concession

- (a) A Class 2 or 3 building having a *rise in storeys* of not more than 2 need not comply with **Clause 4.1(e)** of **Specification C1.1** and the requirements of **C1.9(a)** and **(b)** for *non-combustible* materials, if it is constructed using—
 - (i) timber framing throughout; or
 - (ii) *non-combustible* material throughout; or
 - (iii) a combination of **(i)** and **(ii)**,
 provided—
 - (iv) * * * * *
 - (v) any insulation installed in the cavity of a wall *required* to have an FRL is *non-combustible*; and
 - (vi) the building is fitted with an *automatic* smoke alarm system complying with **Specification E2.2a**.

In Table 5 of Specification C1.1 delete table row for 'EXTERNAL WALL' and insert table row for 'EXTERNAL WALL' as follows:

5. TYPE C FIRE-RESISTING CONSTRUCTION

Table 5 TYPE C CONSTRUCTION: FRL OF BUILDING ELEMENTS

Building element	Class of building—FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
EXTERNAL WALL (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
Less than 1.5 m	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
1.5 to less than 3 m	–/–/–	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
3 m or more	–/–/–	–/–/–	–/–/–	–/–/–

Delete Specification E1.5 Clauses 4 and 7 and insert Specification E1.5 Clauses 4 and 7 as follows:

SPECIFICATION E1.5 FIRE SPRINKLER SYSTEMS

4. Protection of openings

Any openings, including those for service penetrations, in construction separating sprinklered and non-sprinklered parts of a building, including the construction separating the areas nominated for omitted protection (permitted exceptions) in AS 2118.1, must be protected in accordance with the *Deemed-to-Satisfy Provisions* of **Part C3**.

7. Water supply

- (a) A *required* sprinkler system must be provided with at least one water supply (Grade 3 water supply).
- (b) A *required* sprinkler system in a building greater than 25 m in *effective height* must be provided with dual water supply (Grade 1 water supply) except that a secondary water supply storage capacity of 25,000 litres may be used if—
 - (i) the storage tank is located at the topmost *storey* of the building; and
 - (ii) the building occupancy is classified as no more hazardous than Ordinary Hazard 2 (OH2) under AS 2118.1; and
 - (iii) an operational *fire brigade* service is available to attend a building fire.

Delete NSW C1.10(a) and insert NSW C1.10(a) as follows:

NSW C1.10 Fire hazard properties

- (a) The *fire hazard properties* of the following internal linings, materials and assemblies in a Class 2 to 9 building must comply with **Specification C1.10**:

Delete SA C1.1(a), (a)(iv) and the relevant instruction, and insert SA C1.1(a), (a)(iv) and the relevant instruction as follows:

SA C1.1 Type of construction required

After C1.1(a)(iii) add SA C1.1(a)(iv), and after C1.1(b) add SA C1.1(c) and (d) as follows:

- (a) The minimum Type of *fire-resisting construction* of a building must be determined in accordance with **Table C1.1**, except as allowed for—
 - (iv) Class 2 buildings located within 3 m of a *brush fence* and Class 10b *brush fences* located within 3 m of a Class 2 building in **C1.1(c)** and **(d)**.

Add the following new Clause in History of Adoption after Clause 14.0:

14.1 Amendment No. 1

- (a) Amendment 1 to the 2016 edition of NCC Volume One was adopted by the Commonwealth, States and Territories as set out in **Table 14.1**.

Table 14.1 History of adoption of NCC 2016 Volume One Amendment 1

Administration	Adoption Date
Australian Government	12 March 2018
Australian Capital Territory	12 March 2018
New South Wales	12 March 2018
Northern Territory	12 March 2018
Queensland	12 March 2018
South Australia	12 March 2018
Tasmania	12 March 2018
Victoria	12 March 2018
Western Australia	12 March 2018

- (b) The purpose of NCC Volume One Amendment 1 is to—
- (i) introduce a new Verification Method, **CV3**, for limiting fire spread via external wall assemblies; and
 - (ii) include reference to the revised edition of AS 2118.1; and
 - (iii) clarify provisions relating the use of external wall claddings and attachments; and
 - (iv) revise the evidence of suitability provisions.

Delete the List of Amendments for NCC 2016 Volume One and insert the List of Amendments for NCC 2016 Volume One Amendment 1 as follows:

LIST OF AMENDMENTS – NCC 2016 – VOLUME ONE AMENDMENT 1

This list has been prepared by the Australian Building Codes Board to assist National Construction Code (NCC) users in identifying changes incorporated in Amendment 1 to the 2016 edition of Volume One. The notes provide a description of major changes made from the previous edition of Volume One.

While the Australian Building Codes Board has attempted to include all major changes made from the previous edition of Volume One, the Board does not give any warranty nor accept any liability in relation to the contents of this list of amendments.

List of Amendments

Reference	Changes and Commentary
A1.1	A new defined term, 'Accredited Testing Laboratory', has been inserted to replace 'Registered Testing Authority.' Consequently, where 'Registered Testing Authority' is used throughout the NCC, it is replaced with 'Accredited Testing Laboratory'.
A1.1	A new defined term, 'Ancillary Element', has been inserted.
A1.1	A new defined term, 'Appropriately qualified person', has been inserted.
A1.1	A new defined term, 'Certification body', has been inserted.
A1.1	A new defined term, 'Product Technical Statement', has been inserted.
A1.1	The defined term, 'Registered Testing Authority', has been replaced with 'Accredited Testing Laboratory.'
A2.1	The title has been amended, sub-clause (a) has been amended and a new sub-clause (b) has been inserted to clarify how suitability is achieved and documented.
A2.2	The provision has been amended to clarify the various forms of documentary evidence used to demonstrate suitability. A new sub-clause (b) has been inserted requiring that the form of evidence used must be appropriate.
Specification A1.3 Table 1	The 2017 edition of AS 2118 Part 1 'Automatic fire sprinkler systems — General systems' incorporating Amdt 1 has been referenced. The 1999 edition has been retained in part for a 12 month transitional period.
CV3	A new Verification Method has been inserted to verify compliance with Performance Requirement CP2 with regard to fire spread via the external wall. CV3 is a means for verifying by large-scale test that an external wall assembly does not contribute to spread of fire in a Type A or Type B building.
C1.1	The provision has been amended to improve readability and clarify the application of Specification C1.1.

Reference	Changes and Commentary
C1.9	A new provision has been included to combine a series of requirements and concessions for non-combustible building elements.
C1.10	The provision has been amended to clarify that the requirements apply to internal building elements.
C1.12	The provision has been deleted on account of its content being re-located to C1.9.
C1.14	A new provision has been included to clarify what ancillary elements may be applied to an external wall that is required to be non-combustible.
Specification C1.1 Clause 2.4	The clause has been amended to clarify that the method of attaching an item to a building element must not compromise the required FRL for that element.
Specification E1.5	Consequential amendments have been included on account of referencing the 2017 edition of AS 2118.1.
NSW C1.10(a)	The variation has been amended to maintain consistency with the national provisions.
SA C1.1(a)	The variation has been amended to maintain consistency with the national provisions.