



INFORMATION SHEET

BUILDING SERVICES

Ref: BCA 18-03
Current at March 2018

BCA Volume One – out of cycle amendment

The Australian Building Codes Board (ABCB) recently released a preview of the amendment to BCA 2016 Volume One, which will take effect from 12 March 2018.

The issuing of an amendment outside of the scheduled 3-year cycle is the result of a request by State and Territory Building Ministers, and is primarily related to fire safety in high rise buildings and in particular in relation to cladding on those buildings.

The amendment includes the adoption of a new façade assembly testing standard (AS 5113), changes to assist in interpretation of the NCC fire safety provisions for external walls of buildings greater than 3 storeys, adoption of the new sprinkler standard (AS 2118.1 which includes the provision for sprinkler protection to certain covered balconies) and the inclusion of revised NCC 'evidence of suitability provisions – A2.2'.

In conjunction with the amendment the ABCB have released an evidence of suitability/product assurance handbook that HIA has been heavily involved in its development. The ABCB have also issued an updated Advisory Note on fire performance on external walls and included additional commentary on the relevant clauses that have been amended in the Guide to BCA Volume One.

The changes only effect BCA Volume One. The current 2016 versions of BCA Volumes Two and Three are still in effect and there has been no changes to those Volumes.

This information sheet has been developed to provide an overview of the changes and to provide some general information on the BCA Volume One fire safety provisions broadly.

Overview of the changes

The changes are primarily focused on cladding and non-combustibility requirements for buildings of Type A and B Construction (Class 2-9 buildings generally greater than 3 storeys).

To fully understand the changes to the fire safety provisions, it is important to firstly understand the BCA fire safety requirements for external walls generally.

Below is a brief description of the BCA fire safety/combustibility requirements:

- The BCA classifies buildings according to their use – there are 10 different classifications.
- BCA Volume One contains the requirements for multi-residential, commercial and institutional buildings. These buildings fall into Class 2-9 buildings.
- Houses, including row houses and townhouses are Class 1 buildings and the requirements are in BCA Volume Two. The amendments do not effect Class 1 buildings.
- C1.1 of Volume One and in turn Table C1.1, sets out the minimum type of fire-resisting construction required by the BCA Deemed-to-Satisfy (DTS) Provisions for Class 2–9 buildings.
- The required 'type of construction' of a building depends on the Class of building and the building's height as indicated by the 'rise in storeys.' i.e. a 5 storey Class 2 (apartment) is required to be Type A construction, whereas a 2 storey Class 5 (office building) need only be Type C construction.

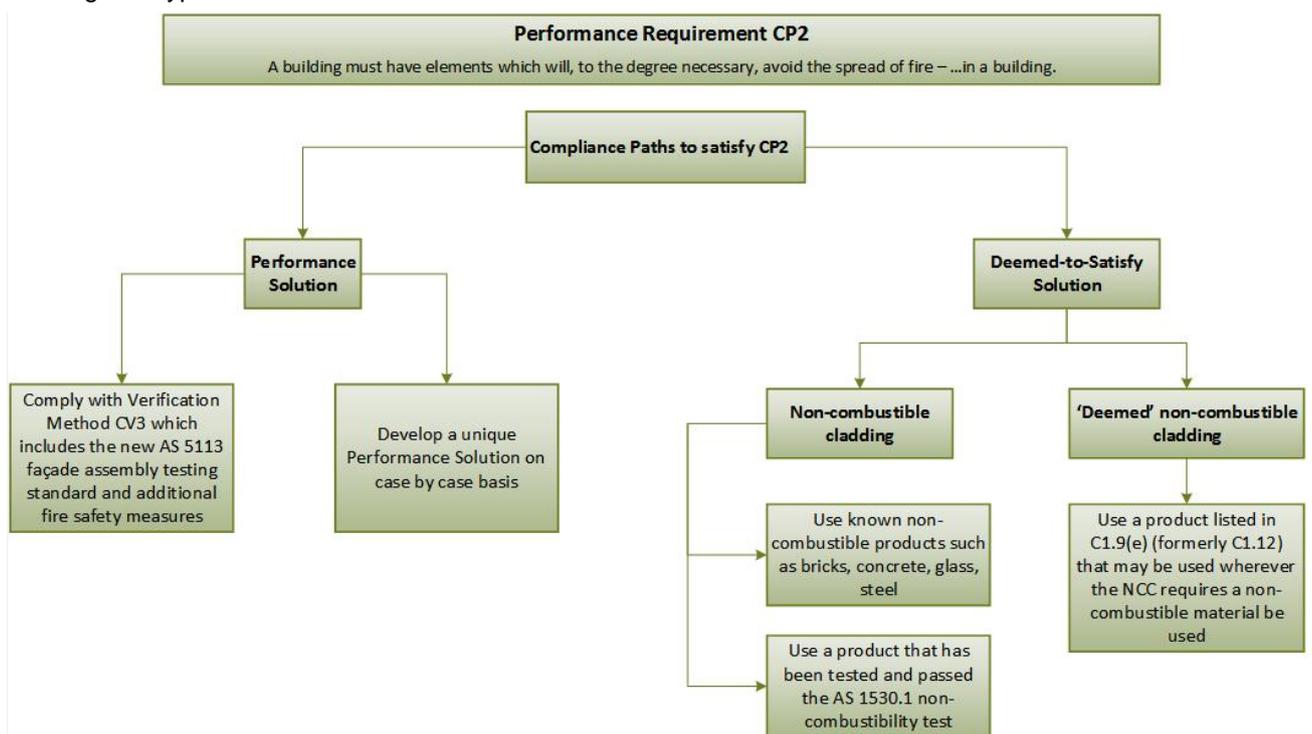
Table C1.1 Type of Construction required

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

- Type A construction is the most fire-resistant, Type C construction is the least fire-resistant, and Type B construction falls between these two.

- Under the DTS Provisions, buildings required to be of Type A and B Construction are required to be of non-combustible construction. This includes the external walls of those buildings including the cladding/façade covering.
- Type C construction is excluded from the non-combustible construction requirements.
- A building element that complies with the DTS Provisions of Section C, automatically complies with the corresponding BCA Performance Requirements i.e. if the building has non-combustibility external walls it would comply with the DTS Provisions.
- There are a number of known non-combustible products, such as bricks, concrete, glass, structural steel and some metals, where these materials are used for example for the external walls of buildings they would comply with the DTS Provisions.
- For products other than those known non-combustible products, they can be determined to be classified as non-combustible by testing of the product to AS 1530.1.
- The NCC also lists some products that are 'deemed' to be non-combustible, including fibre cement sheeting, plasterboard and pre-finished metal sheeting and these products can be used where a non-combustible material is required.
- Where a building design wishes to incorporate a cladding for example that may contain combustible elements this could be done via the development of a Performance Solution directly to the BCA Performance Requirement(s).
- The most relevant Performance Requirement for the fire performance of cladding on high rise buildings in CP2(a) –
'The building must have elements which will, to the degree necessary, avoid the spread of fire—
 - to exits: and*
 - to sole-occupancy units and public corridors; and*
 - between buildings: and*
 - in a building.'*
- One way of demonstrating compliance with this Performance Requirement as part of the BCA amendment would be through the use of the newly introduced Verification Method CV3, which includes the adoption of the new façade assembly standard AS 5113.
- As part of using this CV3 it also requires additional fire safety measures be incorporated such as sprinkler protection for the building.
- The BCA also allows for other type of Performance Solutions to be used other than just use of CV3.
- The above information focusses on the BCA combustibility requirements but there is also other fire safety requirements applicable to external walls including certain external walls being required to have specific Fire Resistance Levels, internal linings and finishes meet fire hazard property requirements and other such requirements.

Below is a simple flow chart of the BCA combustibility requirements for external walls and cladding for buildings of Type A and B construction based on the amendment to take effect from 12 March 2018.



So what has changed as part of the amendment?

The amendment includes the following:

- 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. sprinkler protection) to mitigate the hazard presented by a combustible façade.
- 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.
- 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.
- Increased stringency for the sprinkler protection of covered balconies of residential high rise buildings through referencing an updated sprinkler standard, AS 2118.1-2017.

In conjunction with the amendment the ABCB have released an evidence of suitability/product assurance handbook that HIA has been heavily involved in its development.

The ABCB have also issued an updated Advisory Note on fire performance on external walls and included additional commentary on the relevant clauses that have been amended in the Guide to BCA Volume One.

So what buildings do the new provisions apply to?

Predominantly the changes effect buildings of Type A and B Construction i.e. multi-residential buildings greater than 2 storeys and commercial buildings greater than 3 storeys.

Where it is proposed to use a cladding on these buildings or a decorative façade covering or feature panel and the material contains combustible elements the changes will impact these designs.

How about the timber framing concessions for Class 2 and 3 buildings do these pathways still exist?

Yes.

As outlined above whilst Class 2 buildings (apartments) greater than 2 storeys are required by C1.1 to be of Type A or B construction i.e. non-combustible construction. The BCA does contain some exceptions to this which allow some low rise Class 2 and 3 buildings to be either Type C construction or be of timber framing providing certain conditions are met. The exceptions include:

- Clause C1.5 allows two storey Class 2 or 3 buildings in which each sole occupancy unit has direct access to an open space or at least two exits to be built as Type C construction.
- Specification C1.1 Clause 3.10 and Clause 4.3 have concessions that allow Class 2 and 3 buildings up to 4 storeys to be constructed with timber framing.
- Recently introduced timber mid-rise provisions that allow sprinkler protected timber framing and massive timber to be constructed for buildings of Class 2, 3 or 5 up to an effective height of 25 m.

The amendment has not altered these current compliance paths.

If my product has been tested and passed AS 1530.1 - does the changes effect this?

No.

This product can continue being used under a Deemed-to-Satisfy Solution.

Does this mean I now need to test all products for non-combustibility?

No.

Many products such as bricks, concrete, glass, structural steel and some metals are known to be non-combustible and have a proven history of performance and shouldn't require any further verification. By their very nature and manufacture they demonstrate suitability.

Do non-combustible products now need to be tested to AS 5113?

No.

The AS 5113 test only applies to cladding materials and assemblies that contain combustible elements.

Products can still use the non-combustibility test - AS 1530.1 and where they pass this test, they can be used as part of a Deemed-to-Satisfy Solution.

Are there requirements in addition to passing AS 5113 as part of the new Verification Method?

Yes, CV3 also requires additional fire safety measures in addition to using a product that passes AS 5113.

This may include horizontal spandrels (Type B buildings), sprinkler protection for Type A buildings regardless of height and enhanced sprinkler protection for buildings with an effective height greater than 25 m. CV3 also requires cavity barriers where the wall assembly contains cavities and other components.

Is AS 5113 (CV3) compliance the only means of meeting the BCA as part of Performance Solution?

No.

The new Verification Method is only one means of compliance with the BCA Performance Requirements. Other paths such as use of another testing standard or report from an expert such as a fire engineer are also available pathways, subject to acceptance by the building approval authority.

Does the BCA still permit the use of a combustible attachment over a non-combustible external wall (subject to certain additional conditions)?

No, the amendment has removed this clause (previously Specification C1.1 clause 2.4(a)).

Feature panels, decorative façade coverings etc. that use materials with combustible elements would need to be undertaken as part of Performance Solution. This may be through the use of the new Verification Method or another type of Performance Solution.

How about sun blinds, awnings, signs, etc. are these all now required to be of non-combustible materials?

No.

The BCA continues to allow these elements to be combustible but it places some restrictions on size and location.

A new clause C1.14 has been included and lists common ancillary elements that are fixed to, installed or within an external wall, but are not required to be non-combustible, power points, light fittings, flashings, etc.

Apart from cladding changes what else changed?

The amendment also includes a revision of the NCC's A2.2 evidence of suitability provisions, clarification on provisions relating to FRL's of external building elements and provisions that control the fire hazard properties of building elements. The amendment also references the updated sprinkler standard, AS 2118.1-2017

What's changed with the A2.2 evidence of suitability provisions?

While much of the attention on the amendment has been on the changes to the external wall fire safety provisions equally important is the revision of the NCC's evidence of suitability provisions.

The revision, which HIA was heavily involved in is a key part of the broader issues with building product conformity and the compliant use of building products.

The revision includes:

- clarifying the application and language of A2.2
- strengthened wording of the current options
- linking the evidence to indicating how it has been demonstrated that it complies with relevant BCA provisions and scope of use and any limitations/conditions that apply
- inclusion of 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; and
- introducing and encouraging use of Product Technical Statements (PTS's).

For NCC 2019 the corresponding changes will be included in BCA Volume Two.

Will my product need to be retested/certified?

No.

Approval authorities may however request information on the appropriateness of the form evidence particularly for higher risk products, or in some instances question the adequacy of the supporting evidence of the material, product, form of construction or design.

Will this mean manufacturers and suppliers will need to update current building product information/test reports/certificates?

Yes and No.

Many manufacturers and suppliers already produce comprehensive building product evidentiary material on the compliance of their products to the BCA.

However, in some instances the building certifier/surveyor or a subsequent authority may request further evidence of the products suitability for a particular application. The ability to request this already exists under the current provisions but with the inclusion of the new requirement to consider the 'appropriateness' of the

evidence being presented to support the use of the material, product, design or form of construction this type of request may occur more often.

It is recommended that manufacturers and suppliers of building products review the changes to the evidence of suitability provisions and assess their current product technical information against the revised provisions.

Product Technical Statements – what are these?

The introduction of Product Technical Statements (PTSs) as an example of another form of documentary evidence under A2.2 in the BCA amendment is intended to promote the provision of consistent and comprehensive technical information in a format that is easy to read and understand. A PTS differs from advertising brochures and other marketing material, including product warranties, as it focuses on technical detail.

A PTS summarises key details about a building component. It is a statement from the manufacturer or supplier who declares compliance with the NCC. HIA encourages people supplying and manufacturing products to produce PTS's for their products to assist those using their products.

What is the Evidence of Suitability/Product Assurance Handbook?

An ABCB Evidence of Suitability Handbook has been developed as a companion document to the NCC evidence of suitability provisions in A2.2.

This Handbook has been developed to provide practitioners, product manufacturers and suppliers with further detail in understanding how to interpret and apply the NCC provisions to ensure that materials, products, forms of construction and designs being used are fit for their intended purpose in accordance with the requirements of the NCC.

Of most importance is that the Handbook includes an evidence of suitability framework and a decision flow chart to assist in the correct use of the evidence of suitability provisions of the NCC. This framework provides guidance on selecting appropriate forms of evidence using a risk-based approach.

The framework looks at the likelihood of a building component failing and what the consequences might be if it did fail. The combination of these two factors will give an indication of the level of risk. In turn, this will indicate what level of rigour is likely to be required to demonstrate compliance with the NCC. The higher level of rigour generally means that the assessment of the product be undertaken by an independent third party.

A copy of the ABCB handbook can be found by clicking [here](#)

HIA has additionally produced a number of information sheets on demonstrating suitability of products and materials and these can be found by clicking [here](#)

Will the new amendment be subject to a transition period before it takes effect and will they apply retrospectively?

No and no.

It is intended that the amendment will take effect from 12 March 2018. However, the general principle is that the version of the BCA that was in effect when the building approval was obtained applies. For this amendment it is slightly unique in that many of the changes are about providing greater clarity to current provisions so the amendment could be used for current projects.

However, if a material or product has been approved based on an existing clause in the BCA and building approval is in place the previous version of the BCA should apply.

If you have any questions regarding which version of the BCA applies to your project, you should talk to your building certifier/surveyor or state building approval authority.

How do I access the amendment?

The amendment can be accessed electronically through the ABCB website: www.abcb.gov.au

What happens if I already have the 2016 version of the BCA?

You have a couple of options:

1. Download the consolidated electronic version from the ABCB website which contains all of the changes.
2. Download or print the 'summary of changes' document which explains what has changed to specific clauses by clicking [here](#)

Will HIA be printing and selling copies of the new version?

No.

However, if you purchase a copy of the 2016 BCA Volume One prior to the 2019 version of the BCA HIA will provide a printed copy of the summary of changes document.

Further information

The ABCB has released further information on the changes and have also issued an updated Advisory Note on fire performance on external walls and included additional commentary on the relevant clauses that have been amended in the Guide to BCA Volume One.

These can be accessed electronically through the ABCB website: www.abcb.gov.au

For further information on the changes HIA members can contact HIA's Building Services staff on 1300 650 620 or email hia_technical@hia.com.au