



**National
Construction
Code**

Handbook



Evidence of suitability



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Preface

The Inter-Governmental Agreement (IGA) that governs the Australian Building Codes Board (ABCB) places a strong emphasis on reducing reliance on regulation, including consideration of non-regulatory alternatives such as non-mandatory handbooks and protocols.

This Handbook is one of a series produced by the ABCB developed in response to comments and concerns expressed by government industry and the community that relate to the built environment. The topics of Handbooks expand on areas of existing regulation or relate to topics which have, for a variety of reasons, been deemed inappropriate for regulation. They provide non-mandatory advice and guidance.

This Handbook has been developed as a companion document to the evidence of suitability provisions in A5.1, A5.2 and A5.3 of each volume of the National Construction Code (NCC). It addresses the issues in generic terms, and is not a document that sets out specific requirements contained in the NCC, but rather aims to explain their intent. It is expected that this Handbook will be used to guide solutions relevant to specific situations in accordance with the generic principles and criteria contained herein.

This 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.

Determining the appropriate form of documentary evidence to be used, and obtaining that evidence, is only part of achieving compliance with the NCC. Having appropriate documentary evidence for a specific component is of no relevance if a different, non-conforming component is procured and installed. All parties that have a role in the product supply chain should ensure that their obligations or duties to check and assure that the right products are used, and are used correctly, are met.

This Handbook was first published in 2018 and revised in 2019 and 2020. In 2019, Editorial changes were made to align Volume One content with NCC 2019 and new content was added to cover Volumes Two and Three. In 2020, editorial corrections were included.

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REMINDER

This Handbook is not mandatory or regulatory in nature and compliance with it will not necessarily discharge a user's legal obligations. The Handbook should only be read and used subject to, and in conjunction with, the general disclaimer at page i.

The Handbook also needs to be read in conjunction with the relevant legislation of the appropriate State or Territory. It is written in generic terms and it is not intended that the content of the Handbook counteract or conflict with the legislative requirements, any references in legal documents, any handbooks issued by the Administration or any directives by the appropriate authority.

1 Introduction

The NCC is a performance-based code containing all *Performance Requirements* for the construction of buildings. A building, *plumbing or drainage* solution will comply with the NCC if it satisfies the *Performance Requirements*, which are the mandatory requirements of the NCC. Various forms of documentary evidence, known as evidence of suitability, may be used to demonstrate that a building, *plumbing or drainage* solution complies with the requirements of the NCC.

1.1 Scope

This Handbook has been developed to assist NCC users in understanding and applying the evidence of suitability provisions of the NCC. It will be of interest to all parties who are involved in selecting or assessing elements of buildings, *plumbing* systems or *drainage* systems that must comply with the NCC.

1.2 Objective of the Handbook

This Handbook explains the various forms of documentary evidence that can be used to support a claim that a material, product, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision*.

The Handbook introduces and promotes the use of a risk assessment framework to assist in making a decision about the most appropriate form of documentary evidence to use in a particular circumstance. A flow chart is provided to demonstrate how the types of documentary evidence can apply in different situations.

1.3 Using this document

General information about complying with the NCC, and responsibilities for building and plumbing regulation are provided in Appendix A of this document.

Acronyms and symbols used in this document are provided in Appendix B.

Italicised terms are defined terms used in this document. These terms align with a defined term in the NCC. Refer to Schedule 3 of the NCC for these definitions.

Different styles are used in this document. Examples of these styles are provided below:

Alert

Example

NCC Extract

Reminder

2 Documentary evidence to support NCC compliance

2.1 Documentation of design and construction

Part A5 of each Volume of the NCC contains the documentation of design and construction provisions. This Part contains options that can be used as evidence to support that the use of materials, products, forms of construction or designs meet the requirements of the NCC. Materials, products, forms of construction and designs are collectively referred to as “components” in this Handbook.

Alert:

The use of the general evidence of suitability options contained in A5.1, A5.2 and A5.3 is subject to specific requirements for:

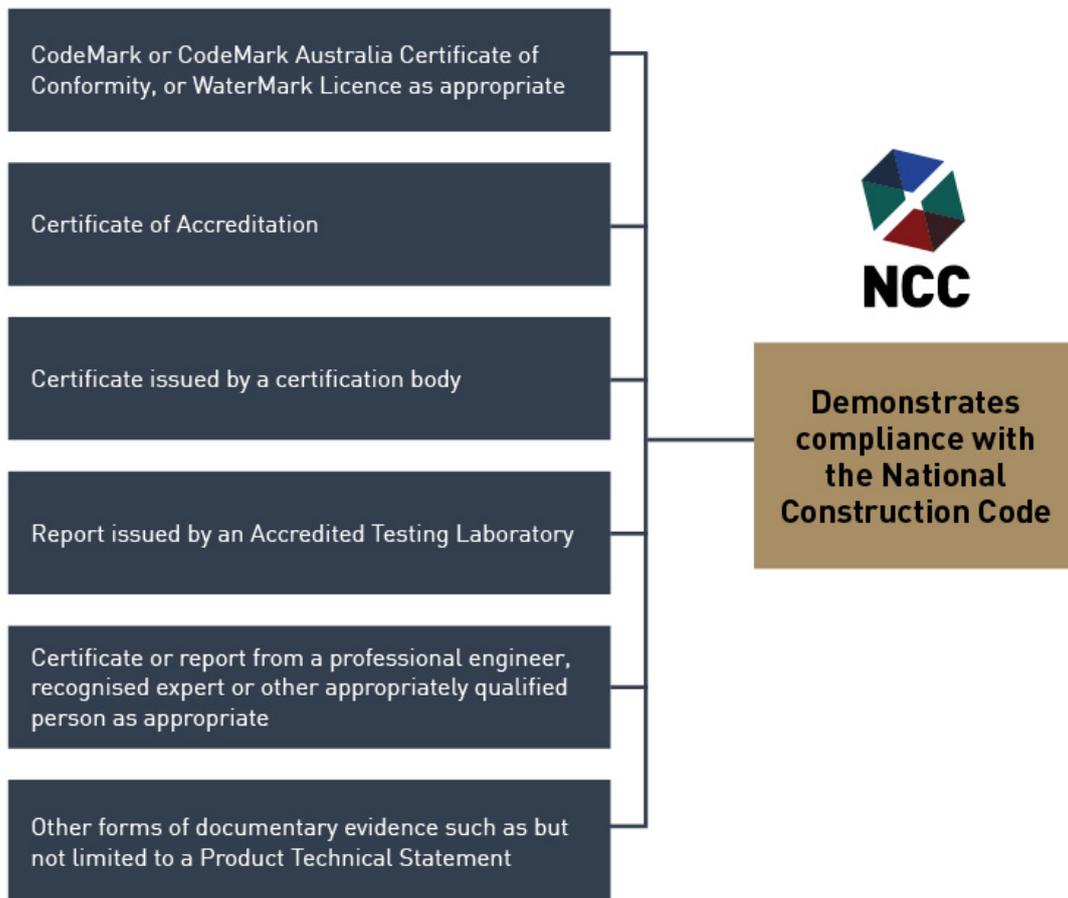
- certain *plumbing and drainage products* – in A5.3(1) to (4); and
- determination of fire resistance of building elements – in A5.4; and
- determination of *fire hazard properties* – in A5.5; and
- a ceiling having a resistance to the incipient spread of fire – in A5.6.

2.2 Evidence of suitability framework

The most appropriate form of evidence of suitability to be used will vary depending on the specific circumstance. The forms of evidence have been arranged in a framework to reflect a hierarchy of rigour, with the options listed higher providing stronger forms of evidence.

The evidence of suitability framework is shown in Figure 2.1.

Figure 2.1 NCC evidence of suitability framework



New or innovative components, as well as components where the consequences of failure have been assessed as high, typically require assessment using more rigorous options to prove compliance. Certification schemes, such as CodeMark, CodeMark Australia and WaterMark, provide users with a source of recognition for components that comply with the NCC. Such schemes aim to achieve conformity in certification practices and establish market confidence.

Components that require less extensive forms of assessment to prove NCC compliance may include elements of buildings that present little risk, have been used in Australia for many years and have a strong history of successful performance in the built environment, i.e. they have a low probability of failure. They may also include components where the consequences of failure, should it occur, have been assessed as low.

The options are not mutually exclusive. The selected option may include elements of other options or more than one option may be required as evidence of compliance with the NCC. The suitability of the selected option/s will be subject to acceptance by the *appropriate authority*.

Alert:

Other forms of documentary evidence, such as but not limited to a *Product Technical Statement*, could be based on test results from an in-house or independent body such as a testing laboratory.

2.3 Introduction to the evidence of suitability options – Volumes One and Two

2.3.1 CodeMark or CodeMark Australia Certificate of Conformity

A5.2 Evidence of suitability – Volumes One and Two

1. Subject to A5.4, A5.5 and A5.6, evidence to support that the use of the 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:
 - (a) A current CodeMark Australia or CodeMark *Certificate of Conformity*.

Alert:

On 1 August 2017, transition from the previous CodeMark scheme to the new CodeMark Australia scheme commenced. A *Certificate of Conformity* issued under the previous CodeMark scheme can still be used as supporting evidence while the certificate remains valid.

A *Certificate of Conformity*, issued under the CodeMark or CodeMark Australia scheme by an accredited certification body, provides independent confirmation that a building product or system complies with the NCC. Information contained in or

referenced on the *Certificate of Conformity* should provide clear guidance about how to specify and install the building product or system to ensure it complies with the *Performance Requirement* or *Deemed-to-Satisfy Provision* for which compliance is claimed. The *Certificate of Conformity* must outline any conditions or limitations on the use of the building product or system.

CodeMark and CodeMark Australia are voluntary third-party building product and system certification schemes owned by the Commonwealth of Australia, acting on behalf of the Commonwealth and all States and Territories. The schemes were designed to streamline and fast-track the building approval and inspection processes by avoiding repeated assessment of products and systems that have proven NCC compliance. The schemes also support the use of new or innovative building products and systems in specified circumstances by providing a nationally accepted process for demonstrating compliance with the requirements of the NCC.

Only certification bodies accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ) can issue *Certificates of Conformity*. They are responsible for evaluating applications for *Certificates of Conformity* in accordance with the scheme rules and within their scope of accreditation.

A *Certificate of Conformity* may be the best route for a manufacturer or supplier to take where a product or system is highly innovative or novel and, as a consequence, does not comply with the *Deemed-to-Satisfy Provisions*, or where there are significant consequences if the product or system was to fail.

2.3.2 Certificate of Accreditation

A5.2 Evidence of suitability – Volumes One and Two

1. Subject to A5.4, A5.5 and A5.6, evidence to support...
 - (b) A current Certificate of Accreditation.

A *Certificate of Accreditation* is issued by a State or Territory accreditation authority under the applicable State or Territory building legislation. A State or Territory accreditation authority will assess a building component for compliance with the NCC.

The definition of a *Certificate of Accreditation* requires the certificate to state that the properties and performance of a building component fulfil specific requirements of the NCC. The certificate will also contain any conditions and limitations on the use of the building component and any other relevant information that is required to ensure compliance.

A *Certificate of Accreditation* issued by a State or Territory accreditation authority may be used as evidence of suitability in another jurisdiction for the purpose of demonstrating compliance with the NCC, if the *appropriate authority* deems it appropriate to do so. The *appropriate authority* would need to be confident that the criteria used in the appraisal which the certificate is based upon is appropriate for the particular State or Territory in which the building component is to be used.

Example: Certificate of Accreditation in Victoria

The Victorian Building Authority (VBA) operates an accreditation system and a *Certificate of Accreditation* issued under the accreditation system is evidence that a product meets the requirements of the Victorian Building Regulations and the NCC. Once a product is accredited, legislation in Victoria requires that building control authorities accept the product, design, component or system if the use complies with the accreditation.

The VBA accreditation system only applies to a product, design, component or system that is used as part of a *Performance Solution*. The VBA maintains a register on its website of current certificates. Further information on the building product accreditation system can be found on the VBA website (vba.vic.gov.au).

2.3.3 Certificate issued by a certification body

A5.2 Evidence of suitability – Volumes One and Two

1. Subject to A5.4, A5.5 and A5.6, evidence to support...
 - (c) A current certificate, other than a certificate described in (a) and (b), 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 BCA.

A certificate issued by a *certification body* provides independent confirmation that a building component complies with the NCC.

JAS-ANZ can accredit *certification bodies*, commonly referred to as Conformity Assessment Bodies (CABs), under an industry-operated building product certification scheme. The certificate issued by a CAB under an industry-operated scheme is required by A5.2(1)(b) to state that the properties and performance of a building component fulfil specific requirements of the NCC. Key details such as the issue date of the certificate, how long it is valid for, a signature of the issuing body and other relevant information should be included on the certificate.

Industry-operated schemes that utilise a *certification body* are voluntary, and can work well for families of products. Manufacturers who participate in such a scheme are responsible for ensuring their products comply with the requirements of the scheme.

Attributes of an effective scheme are:

- Publicly available rules that outline the framework of the scheme and the activities/functions of the scheme for the CAB to operate under.
- A regular schedule of independent audits of compliance.
- A governance framework that has a continuing role of ensuring the scheme's ongoing integrity.

2.3.4 Report issued by an Accredited Testing Laboratory

A5.2 Evidence of suitability – Volumes One and Two

1. Subject to A5.4, A5.5 and A5.6, evidence to support...
 - (d) A report issued by an Accredited Testing Laboratory that—
 - (i) demonstrates that a material, product or form of construction fulfils specific requirements of the BCA; and
 - (ii) 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 it fulfils specific requirements of the BCA.

A report is issued by an *Accredited Testing Laboratory* to show that a building component has been subjected to particular tests, and sets out the results of those tests including any other relevant information that demonstrates its suitability for use

in the building. An *Accredited Testing Laboratory* can also issue test certificates to certify that a particular product or system satisfies specified requirements.

An *Accredited Testing Laboratory* is a testing laboratory accredited by the National Association of Testing Authorities (NATA), a laboratory accredited by an organisation that has a mutual recognition agreement with NATA, or an organisation recognised as being an *Accredited Testing Laboratory* under legislation at the time the test was undertaken.

NATA is a not-for-profit organisation recognised by the Commonwealth Government as the national authority for accreditation of laboratories performing tests, measurements, calibration and related services to standards of good laboratory practice. NATA, and those organisations with a mutual recognition agreement with NATA, accredit these laboratories to undertake relevant tests to specified standards.

The report issued by the *Accredited Testing Laboratory* should list how the building component complies with the relevant requirements of the NCC and set out the tests it has been submitted to, the results of those tests and any other relevant information that has been relied upon to demonstrate suitability.

NATA maintains a register on its website of current accredited testing facilities and laboratories.

NATA and organisations that have a mutual recognition agreement with NATA

NATA is part of the International Laboratory Accreditation Co-operation Mutual Recognition Arrangement (ILAC MRA). Other accreditation bodies that are signatories to the ILAC MRA are responsible for maintaining a list of testing laboratories that they have accredited.

The ILAC MRA Signatory Search provides the contact details for all the accreditation bodies that are signatories to the ILAC MRA. Using the ILAC MRA Signatory Search can assist the *appropriate authority* in determining if a particular testing laboratory has a mutual recognition agreement with NATA.

2.3.5 A certificate or report from a professional engineer or other appropriately qualified person

A5.2 Evidence of suitability – Volumes One and Two

1. Subject to A5.4, A5.5 and A5.6, evidence to support...
 - (e) A certificate or report from a *professional engineer* or other *appropriately qualified person* that—
 - (i) certifies that a material, product, form of construction or design fulfils specific requirements of the BCA; and
 - (ii) 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 it fulfils specific requirements of the BCA.

A *professional engineer* or *appropriately qualified person* may issue a certificate or report verifying the suitability of a building component, form or construction or design so long as the certificate or report:

- provides the basis on which verification of suitability has been made in a form that can be subjected to scrutiny; and
- references any standards, specifications, software or other publications or documents relied upon in verifying suitability.

A *professional engineer* is a person who is registered in that discipline if applicable legislation requires it. It is also required that the *professional engineer* has experience and competence relevant to the building component that is the subject of the report.

An *appropriately qualified person* is a person who through experience, qualification or both is able to verify the suitability of a building component for a given application. The person does not necessarily need to be licenced or registered by the State or Territory authority unless applicable legislation requires it.

A *professional engineer* or *appropriately qualified person* is a person recognised by an *appropriate authority* to provide documentary evidence. When assessing the suitability of a certificate or report under this evidence option, an *appropriate authority* will need to verify that the report author has experience and competence commensurate with the subject of the report.

Alert:

In some States or Territories, applicable legislation may contain additional requirements to those found in the NCC for *professional engineers* or *appropriately qualified persons* who provide evidence of suitability

Example: determining suitability of a professional engineer

An engineer has provided an *appropriate authority* with their professional resume. The resume shows that the engineer is experienced in the design and construction of sewerage infrastructure, with no experience in the design and installation of building fire services. Based upon the degree of experience, the *approval authority* may not consider the engineer to have the appropriate and relevant experience to certify the design and installation of fire services in a building.

2.3.6 Another form of documentary evidence

A5.2 Evidence of suitability – Volumes One and Two

1. Subject to A5.4, A5.5 and A5.6, evidence to support...
 - (f) Another form of documentary evidence, such as but not limited to a *Product Technical Statement*, that—
 - (i) demonstrates that a material, product, form of construction or design fulfils specific requirements of the NCC; and
 - (ii) 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.

This evidence option is another form of technical documentation, other than a document already covered by A5.2(1)(a) to (e), which demonstrates compliance with the NCC.

This evidence option is included on the basis that the other options are not an exhaustive list and there may be other forms of documentary evidence that are

appropriate for some circumstances. This may include, but is not limited to, information provided by a product manufacturer.

Evidence submitted under this option should:

- suitably describe the subject of the document;
- set out any conditions that the statement of verification relies upon;
- describe limitations to the statement of verification where applicable;
- contain or refer to construction or installation standards where necessary; and
- reference any standards, test reports, specifications, or other publications relied upon for verifying suitability.

In many instances, documentary evidence submitted under this option may need to be supported by other documentation such as an appraisal or opinion from a recognised industry body or qualified professional. The *appropriate authority* should consider if this form of evidence is suitable for determining compliance with the NCC.

As previously mentioned, this form of documentary evidence may be more appropriate for building components that have historically demonstrated successful performance in the built environment and where the consequences of failure have been assessed as low.

A *Product Technical Statement* is one type of other documentary evidence that is specifically mentioned in A5.2(1)(f). Further information on *Product Technical Statements* is provided in section 3.

Example: other documentary evidence:

An *appropriate authority* receives an application for a building which contains a *required* stair that is not *required* to be within a *fire-resisting shaft*. This stair is to be constructed from timber as permitted by NCC Volume One provision D2.3. Plans indicate that the timber species is blackbutt, that the timber will not be glued, and that each member will have a finished thickness of at least 44 mm. D2.3(c)(ii) requires that the timber must have an average density not less than 800 kg/m³ at a moisture content of 12%. To verify that blackbutt meets this requirement, the *appropriate authority* is provided with a datasheet that quotes research which found that blackbutt typically achieves an average density of 930 kg/m³. The *appropriate*

authority accepts the datasheet as evidence that the timber elements of the stair meet the minimum density requirement of D2.3(c)(ii).

Alert:

Documentary evidence of suitability must be current for the project it is applied to.

Documentary evidence of suitability ceases to be current if it is:

- expired; or
- attesting compliance with a superseded NCC requirement that does not apply to the project it is submitted for; or
- withdrawn.

2.4 Introduction to the evidence of suitability options – Volume Three

For Volume Three, various evidence of suitability options apply depending on whether the evidence applies to:

- a *product*, in which case A5.3(1), (2), (3) and/or (4) apply (see 2.4.1); or
- a design or system, in which case A5.3(5) or (6) apply (see 2.4.2).

Alert:

This Handbook concerns the national provisions. State or Territory variations may apply, and are found in Schedule 1 of each Volume of the NCC.

2.4.1 Evidence of suitability – Products

A5.3 Evidence of suitability—Volume Three

1. Any *product* that is intended for use in contact with *drinking water* must comply with the relevant requirements of AS/NZS 4020 in the form of either—
 - (a) a test report provided by a *certification body* or *Accredited Testing Laboratory*, in accordance with AS/NZS 4020;

- (b) a *WaterMark Licence* issued in accordance with (2), if it includes compliance with AS/NZS 4020
2. A *product* of a type listed on the *WaterMark Schedule of Products* is deemed to be fit for its intended purpose if it has a *WaterMark Licence* issued in accordance with the WaterMark Scheme Rules.
 3. A *product* of a type listed on the *WaterMark Schedule of Excluded Products* requires evidence of suitability in the form of—
 - (a) a current certificate issued by a *certification body* stating that the properties and performance of a product can meet the requirements of the PCA; or
 - (b) a report issued by an Accredited Testing Laboratory that—
 - (i) demonstrates that the product complies with the relevant requirements of the PCA; and
 - (ii) sets out the tests the product has been submitted to and the results of those tests and any other relevant information that has been relied upon to demonstrate suitability for use in a *plumbing or drainage* installation.
 4. Any *product* that is not covered by (2) or (3) must be subjected to a risk assessment in accordance with the WaterMark Scheme Rules.

A *product* intended for use in contact with *drinking water* must comply with AS/NZS 4020 (A5.3(1)). Evidence of suitability to demonstrate this compliance is to be either:

- a test report issued by a *certification body* or *Accredited Testing Laboratory* (A5.3(1)(a)) – see 2.4.1.1; or
- a *WaterMark Licence* that attests compliance with AS/NZS 4020 (A5.3(1)(b)) – see 2.4.1.2.

Alert:

Note that test reports based on the 2005 edition of AS/NZS 4020 will continue to be accepted until 1 May 2024. Test reports prepared after the NCC reference date for the 2018 edition of AS/NZS 4020 must be based on the 2018 edition

Under A5.3(2), a *WaterMark Licence* is the only form of evidence of suitability permitted for a *product* of a type included in the *WaterMark Schedule of Products* – see 2.4.1.2.

For *product* types listed on the *WaterMark Schedule of Excluded Products*, evidence of suitability is to be either:

- a current certificate attesting compliance with the PCA issued by a *certification body* (A5.3(3)(a)) – see 2.4.1.3; or
- a report issued by an *Accredited Testing Laboratory* (A5.3(3)(b)) – see 2.4.1.4.

Should a new *product* of a type not listed in the *WaterMark Schedule of Products* or *WaterMark Schedule of Excluded Products* be developed, a risk assessment must be undertaken to determine which schedule the *product* type belongs in.

Alert:

The *WaterMark Schedule of Products* and the *WaterMark Schedule of Excluded Products*, along with the *Manual for the WaterMark Certification Scheme* can be viewed on the ABCB website (abcb.gov.au).

Not all *products* of a type in the *WaterMark Schedule of Products* have been issued a *WaterMark Licence*. This may be due to the *product* not satisfying the criteria of the *WaterMark Certification Scheme*.

2.4.1.1 Test report issued by a certification body or Accredited Testing Laboratory

A test report issued by a *certification body* or *Accredited Testing Laboratory* provides independent evidence by way of testing under AS/NZS 4020 that a *plumbing* or *drainage product* complies with the relevant provisions of that standard. The issuer of the test report need not be a WaterMark Conformity Assessment Body (WMCAB).

2.4.1.2 WaterMark Licence

Where a *product* must comply with AS/NZS 4020 under the relevant *product* standard or *WaterMark Specification*, that product's *WaterMark Licence* is suitable evidence to indicate compliance with AS/NZS 4020. A *WaterMark Licence* is required for all *product* types listed on the *WaterMark Schedule of Products*, and must be issued by a WMCAB.

2.4.1.3 A current certificate issued by a certification body

A current certificate issued by a *certification body* is one type of evidence of suitability that can be used for *product* types listed on the *WaterMark Schedule of Excluded Products*. The certificate is to state that the properties and performance of the *product* meet those required by the Plumbing Code of Australia (PCA).

2.4.1.4 A report issued by an Accredited Testing Laboratory

An *Accredited Testing Laboratory* may issue a report as evidence of suitability for a *product* of a type listed on the *WaterMark Schedule of Excluded Products*. The report must demonstrate that the *product* complies with the relevant requirements of the PCA, set out the tests that the *product* has undergone, provide the results of those tests, and include other relevant information relied upon to demonstrate the *product's* suitability.

Reminder:

An *Accredited Testing Laboratory* is a testing laboratory accredited by NATA, a laboratory accredited by an organisation that has a mutual recognition agreement with NATA, or an organisation recognised as being an *Accredited Testing Laboratory* under legislation at the time the test was undertaken.

NATA is a not-for-profit organisation recognised by the Commonwealth Government as the national authority for accreditation of laboratories performing tests, measurements, calibration and related services to standards of good laboratory practice. NATA, and those organisations with a mutual recognition agreement with NATA, accredit these laboratories to undertake relevant tests to specified standards. NATA maintains a register on its website of current accredited testing facilities and laboratories.

NATA and organisations that have a mutual recognition agreement with NATA:

NATA is part of the ILAC MRA. Other accreditation bodies that are signatories to the ILAC MRA are responsible for maintaining a list of testing laboratories that they have accredited.

The ILAC MRA Signatory Search provides the contact details for all the accreditation bodies that are signatories to the ILAC MRA. Using the ILAC MRA

Signatory Search can assist an *appropriate authority* in determining if a particular testing laboratory has a mutual recognition agreement with NATA.

2.4.2 Evidence of suitability – Designs and systems

A5.3 Evidence of suitability—Volume Three

5. Evidence to support that a design or system meets the relevant PCA *Performance Requirements* must be in the form of any one or any combination of the following:
 - (a) The design or system complies with a *Deemed-to-Satisfy Provision*.
 - (b) The design or system is a Performance Solution from a professional engineer or a recognised expert that—
 - (i) certifies that the design or system complies with the relevant requirements of the PCA; and
 - (ii) 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
6. Any other form of documentary evidence that—
 - (a) demonstrates that a design or system complies with the relevant requirements of the PCA; 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.

For *plumbing* designs or systems, compliance with the relevant *Deemed-to-Satisfy Provisions* of the PCA may be all that is necessary to demonstrate that the design or system is fit to achieve the requirements of the NCC. However, other documentary evidence may also be necessary, and can take the form of one or a combination of the following:

- For a *Performance Solution*, documentation by a *professional engineer* or *recognised expert* that certifies the relevant requirements have been met – see 2.4.2.1.
- Any other form of documentary evidence that indicates compliance with the relevant requirements – see 2.4.2.2.

Each form of documentary evidence is to set out the basis on which it is given and detail information, such as specifications or other publications that have been relied upon.

2.4.2.1 Certification from a professional engineer or recognised expert

A *professional engineer* or *recognised expert* may issue a certificate or report verifying the suitability of a design or system so long as the certificate or report:

- provides the basis on which verification of suitability has been made in a form that can be subjected to scrutiny; and
- references any standards, specifications, software or other publications or documents relied upon in verifying suitability.

A *professional engineer* is a person who is registered in that discipline if applicable legislation requires it. It is also required that the *professional engineer* has experience and competence relevant to subject of the report.

A *recognised expert* is a person who, through experience and qualification in the area of *plumbing or drainage*, is recognised by the authority having jurisdiction. Generally, a *recognised expert* is a hydraulic consultant or engineer with appropriate experience and competence.

Alert

In some States or Territories, applicable legislation may contain additional requirements to those found in the NCC for *professional engineers* or *recognised experts* who provide evidence of suitability.

Example: determining suitability of a hydraulic consultant

A hydraulic consultant has provided an *appropriate authority* with their professional resume. The resume shows that the consultant is experienced in the design and construction of sewerage infrastructure, with no experience in the design and installation of *heated water* services. Based upon the degree of experience, the

approval authority may not consider the consultant to have the appropriate and relevant experience to design a *Performance Solution* for a *heated water* service.

2.4.2.2 Another form of documentary evidence

This evidence option is another form of technical documentation, other than a document already covered by A5.3(5), which demonstrates compliance with the PCA.

This evidence option is included on the basis that the other option is not the only option and there may be other forms of documentary evidence that are appropriate for some circumstances. This may include, but is not limited to, information provided by a product manufacturer.

Evidence submitted under this option is to:

- suitably describe the subject of the document;
- set out any conditions that the statement of verification relies upon;
- describe limitations to the statement of verification where applicable;
- contain or refer to construction or installation standards where necessary; and
- reference any standards, test reports, specifications, or other publications relied upon for verifying suitability.

In many instances documentary evidence submitted under this option may need to be supported by other documentation such as an appraisal or opinion from a recognised industry body or qualified professional. The *appropriate authority* should consider if this form of evidence is suitable for determining compliance with the PCA.

Alert:

Documentary evidence of suitability must be current for the project it is applied to. Documentary evidence of suitability ceases to be current if it is:

- expired; or
- attesting compliance with a superseded NCC requirement that does not apply to the project it is submitted for; or
- withdrawn.

3 Product Technical Statements

The inclusion of *Product Technical Statements* as an example of another form of documentary evidence under A5.2(1)(f) is intended to promote the provision of consistent and comprehensive technical information in a format that is easy to read and understand. A *Product Technical Statement* differs from advertising brochures and other marketing material, including product warranties, as it focuses on technical detail.

A *Product Technical Statement* summarises key details about a building component. It is a statement from the manufacturer or supplier who declares compliance with the NCC. Using a *Product Technical Statement* will assist practitioners involved in the building process to select, specify and accept a building component.

A *Product Technical Statement* should include the following:

- **Statement of NCC compliance:** a clear statement demonstrating that the building component complies with specific requirements of the NCC.
- **Basis of statement:** an outline of the basis on which the statement of compliance is made, including the extent to which other documents are relied upon.
- **Description of application:** a statement of the application and intended use of the building component.
- **Limitations:** all limitations and conditions of use insofar as they relate to compliance with the NCC.

A *Product Technical Statement* should be accompanied by technical information and cross-reference any other documents that provide evidence to support:

- compliance claims, such as test reports or technical opinions/appraisals
- the use of the building component, such as installation or maintenance manuals.

A *Product Technical Statement* and any supporting documents should be uniquely identifiable by date or version number.

A suggested layout of a *Product Technical Statement* is shown in Figure 3.1.

Figure 3.1 Product Technical Statement suggested layout

<p>PRODUCT TECHNICAL STATEMENT</p> <p>for</p> <p>NAME OF MATERIAL, PRODUCT OR FORM OF CONSTRUCTION</p>
<p>PRODUCT DESCRIPTION:</p> <p>A brief description of the material, product or form of construction.</p>
<p>APPLICATION AND INTENDED USE:</p> <p>A statement of how and where the material, product or form of construction can be used within a building.</p>
<p>COMPLIANCE WITH THE NATIONAL CONSTRUCTION CODE:</p> <p>A statement of the Performance Requirements and/or Deemed-to-Satisfy Provisions (including the NCC edition) which the Product Technical statements asserts compliance with.</p> <p>A summary of how the use of the material, product or form of construction complies with the Performance Requirements and/or Deemed-to-Satisfy Provisions listed above.</p> <p>Details of evidence to support the compliance claims, such as test reports, technical opinions or other supporting information.</p>
<p>LIMITATIONS OF USE:</p> <p>Details of any limitations on the use of the material, product or form of construction relevant to its compliance claims, which may include the following:</p> <ul style="list-style-type: none"> • Building classification • Building height or size • Type of construction • Environmental limitations, such as permissible wind regions • Maximum structural loads
<p>CONDITION OF USE:</p> <p>Details of any conditions on the use of the material, product or form of construction relevant to its compliance claims.</p> <p>Details of any conditions on the use of the Product Technical Statement, such as expiry provisions.</p>
<p>INSTRUCTIONS FOR DESIGN, CONSTRUCTION OR INSTALLATION:</p> <p>Details of any instructions for design, construction or installation of the material, product or form of construction.</p>
<p>MAINTENANCE INSTRUCTIONS:</p> <p>Where applicable, instructions for maintenance</p>
<p>SUPPORT:</p> <p>Full contact details, including website links, for the manufacturer, supplier and technical support service.</p>

4 Choosing the best documentary evidence option

4.1 Understanding the NCC

Every building is composed of thousands of products. Even supposedly simple buildings can be highly complex. This highlights the importance of understanding how and where a particular component will be used in a building.

It is important to be familiar with the NCC to help identify the requirements that are relevant to a particular component. It is also important to understand whether it forms part of a *Performance Solution*, a *Deemed-to-Satisfy Solution*, or a combination of the two.

4.2 Demonstrating compliance

4.2.1 Selecting an appropriate form of evidence

A5.1(1) requires that the form of evidence selected must be appropriate to the use of the component to which it relates. The process described in this Handbook provides guidance on selecting appropriate forms of evidence using a risk-based approach.

4.2.2 Decision flow chart

In order to systematically work through the process of demonstrating compliance against the NCC there are a number of matters that need to be considered. The flow chart in Figure 4.1 outlines key matters for consideration and shows pathways for determining the appropriate documentary evidence options for demonstrating compliance with the NCC.

4.2.3 Determining compliance with the NCC

The first and most important step is to identify whether the particular component needs to comply with the NCC. In order to determine this, you need to go through the

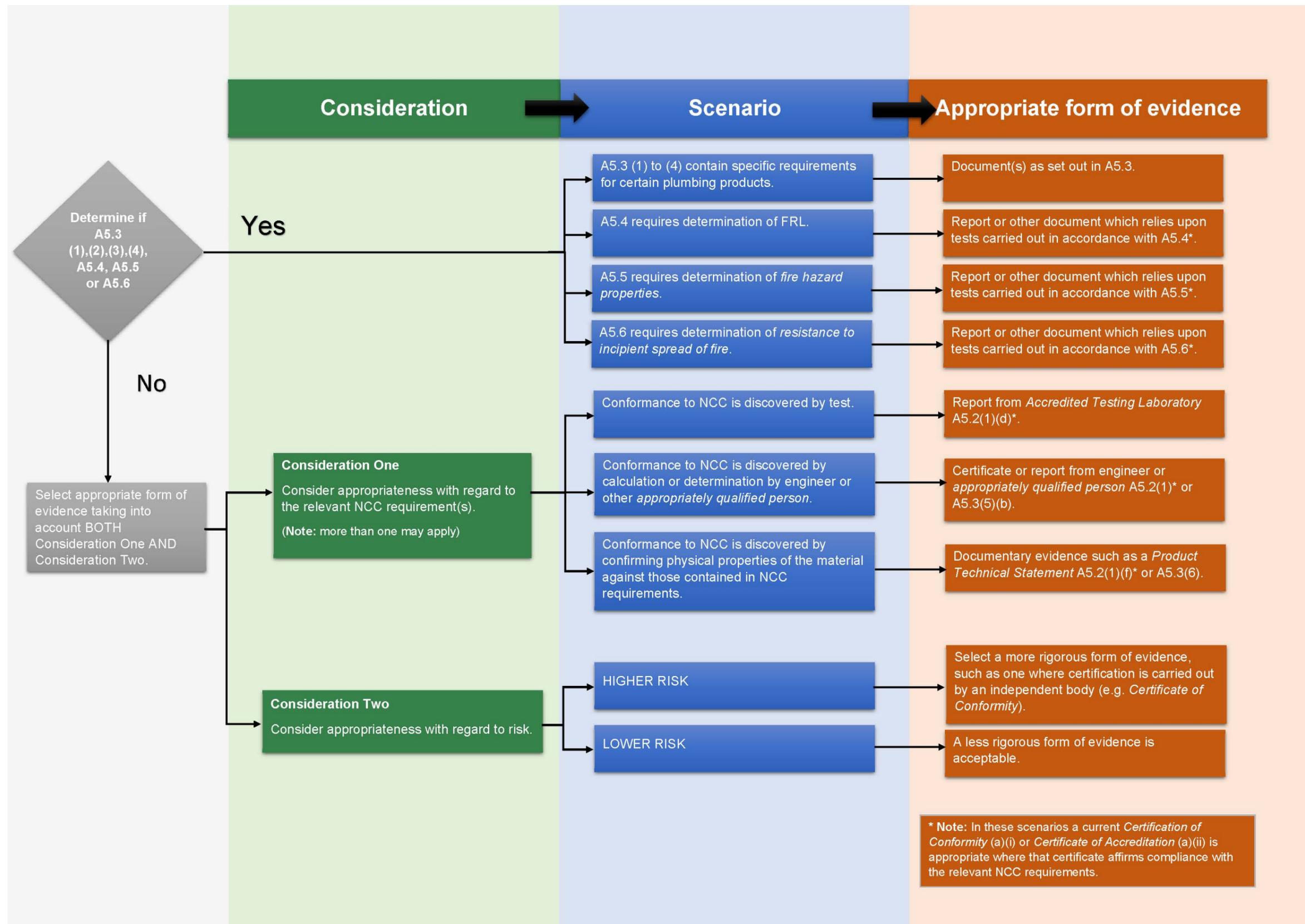
NCC and work out which *Performance Requirements* and *associated Deemed-to-Satisfy Provisions* apply to the component.

Alert:

Components that are not required to comply with the NCC may still be subject to other relevant legislation. Designers and manufacturers need to be aware of other legislation that may be in force and be applicable such as Australian Consumer legislation and Workplace Health and Safety legislation.

Examples of components that would not be covered by the NCC include kitchen cupboards, door hinges and architraves.

Figure 4.1 Decision flow chart



4.3 Risk assessment

The steps described in the flow chart at Figure 4.1 include, for some pathways, consideration of the risk associated with the component. The following risk assessment framework describes how risk assessment could be undertaken.

The framework looks at the likelihood of a component failing (Table 4.1), and what the consequences might be if it did fail (Table 4.2). For this purpose, failure is defined as failure to meet the relevant requirements of the NCC. 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.

Where the outcome of the risk assessment is towards high, a more rigorous form of documentary evidence would be warranted, such as via a certification scheme. Conversely, where the outcome of the risk assessment is lower, documentation such as a *Product Technical Statement* may suffice.

Table 4.1 Likelihood of failure

Likelihood of failure	Description
Rare	Only in very exceptional circumstances
Unlikely	Would not be expected to happen in durability lifetime of product
Possible	May happen at end of durability lifetime of product
Likely	Might happen in durability lifetime of product

Table 4.2 Consequence of failure

Consequence of failure	Description
Insignificant	No risk of harm to building users Failure does not impact on any other components (e.g. insulation fails to meet specified <i>R-Value</i>)
Minor	Might cause harm to building users Failure is visible, quickly apparent and isolated (e.g. minor element falls on account of faulty masonry anchor)
Significant	Causes injury or illness (e.g. injury from broken glass) Causes gradual/hidden failure of another component (e.g. failed under-slab membrane causes moisture ingress and results in damage)

Consequence of failure	Description
Major	<p>Potential loss of life (e.g. fire-isolated <i>exit</i> does not achieve <i>required</i> fire resistance level (FRL) and is compromised prematurely)</p> <p>Causes catastrophic failure of another component (e.g. movement of concrete slab causing structural collapse)</p>

The likelihood (rare to likely) and the consequence (insignificant to major) assessment for a component is then used in applying the risk assessment framework shown in Figure 4.2.

Figure 4.2 Risk assessment framework

Likelihood	Consequence			
	Insignificant	Minor	Significant	Major
Rare	Low	Low	Medium	High
Unlikely	Low	Low	Medium	High
Possible	Low	Medium	High	High
Likely	Medium	Medium	High	High

Alert:

Assessing risk requires informed judgement to be exercised – this sample framework is only a guide which may assist in the decision-making process.

4.4 Achieving compliance with the NCC

Determining the appropriate form of documentary evidence to be used, and obtaining that evidence, is only part of achieving a building that complies with the NCC. Having appropriate documentary evidence for a specific component is of no relevance if a different, non-conforming component is procured and installed. All parties that have a role in the product supply chain should ensure that their obligations or duties to check and assure that the right products are used, and are used correctly, are met.

Further information on non-conforming building products (NCBP) can be found from the NCBP website (abcb.gov.au/NCBP/Non-conforming-building-products).

APPENDICES



Appendix A Compliance with the NCC

A.1 Responsibilities for regulation of building and plumbing in Australia

Under the Australian Constitution, State and Territory governments are responsible for regulation of building, plumbing and development / planning in their respective State or Territory.

The NCC is an initiative of the Council of Australian Governments (COAG) and is produced and maintained by the ABCB on behalf of the Australian Government and each State and Territory government. The NCC provides a uniform set of technical provisions for the design and construction of buildings and other structures, and plumbing and drainage systems throughout Australia. It allows for variations in climate and geological or geographic conditions.

The NCC is given legal effect by building and plumbing regulatory legislation in each State and Territory. This legislation consists of an Act of Parliament and subordinate legislation (e.g. Building Regulations) which empowers the regulation of certain aspects of buildings and structures, and contains the administrative provisions necessary to give effect to the legislation.

Each State's and Territory's legislation adopts the NCC subject to the variation or deletion of some of its provisions, or the addition of extra provisions. These variations, deletions and additions are generally signposted within the relevant section of the NCC, and located within appendices to the NCC. Notwithstanding this, any provision of the NCC may be overridden by, or subject to, State or Territory legislation. The NCC must therefore be read in conjunction with that legislation.

A.2 Demonstrating compliance with the NCC

Compliance with the NCC is achieved by complying with the Governing Requirements of the NCC and relevant *Performance Requirements*.

The Governing Requirements are a set of governing rules outlining how the NCC must be used and the process that must be followed.

The *Performance Requirements* prescribe the minimum necessary requirements for buildings, building elements, and *plumbing* and *drainage* systems. They must be met to demonstrate compliance with the NCC.

Three options are available to demonstrate compliance with the *Performance Requirements*:

- a *Performance Solution*,
- a *Deemed-to-Satisfy Solution*, or
- a combination of a *Performance Solution* and a *Deemed-to-Satisfy Solution*.

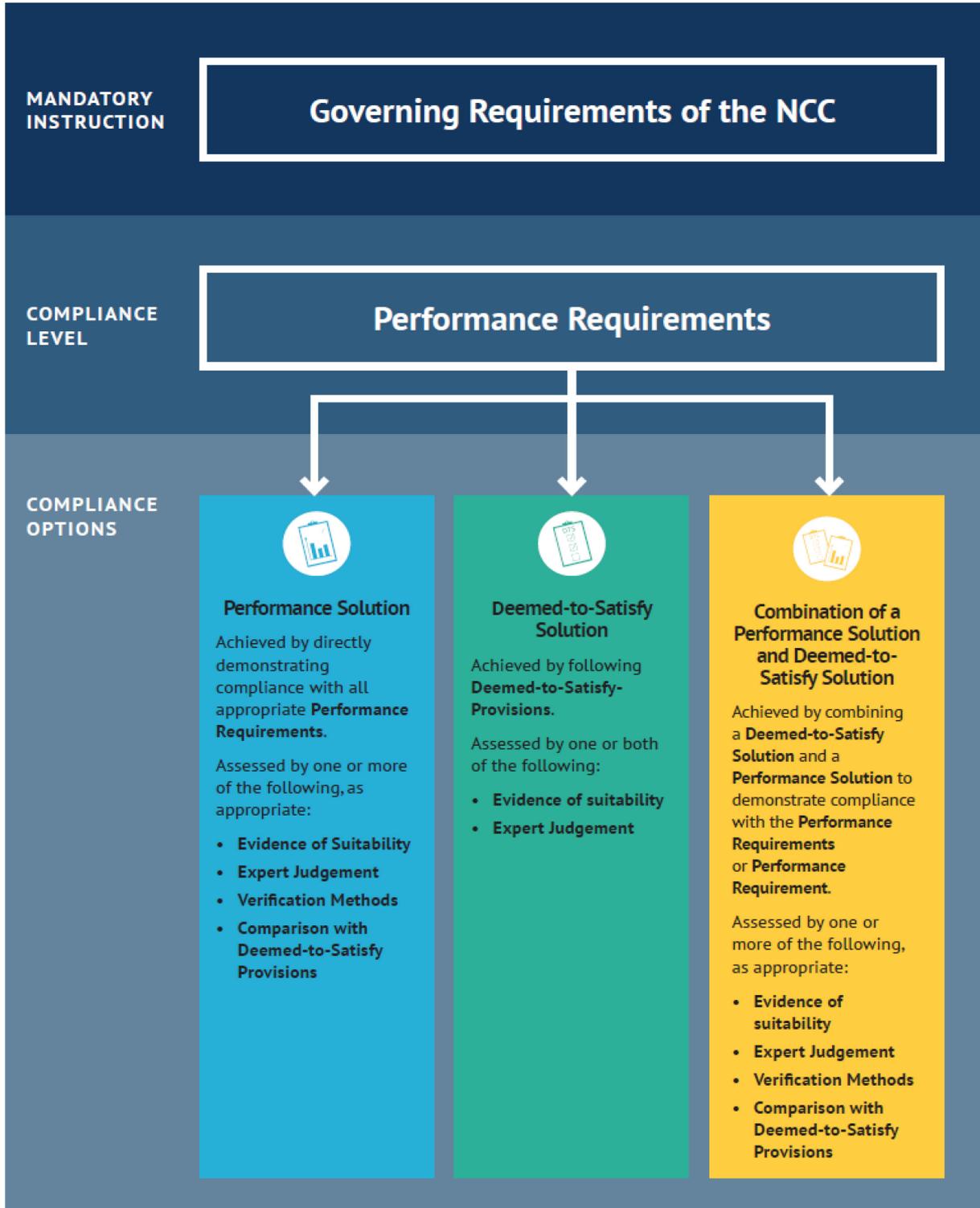
All compliance options must be assessed using one or a combination of the following *Assessment Methods*, as appropriate:

- Evidence of suitability
- *Expert Judgement*
- *Verification Methods*
- Comparison with *Deemed-to-Satisfy Provisions*.

A figure showing hierarchy of the NCC and its compliance options is provided in Figure A.1. It should be read in conjunction with the NCC.

To access the NCC or for further general information regarding demonstrating compliance with the NCC visit the ABCB website (abcb.gov.au).

Figure A.1 Demonstrating compliance with the NCC



Appendix B Acronyms

Table B.1 contains acronyms used in this document.

Table B.1 Acronyms and symbols

Acronym	Meaning
ABCB	Australian Building Codes Board
AS	Australian Standard
BCA	Building Code of Australia
CAB	Conformity Assessment Body
COAG	Council of Australian Governments
DTS	Deemed-to-Satisfy
FRL	Fire-resistance level
IGA	Inter-Governmental Agreement
ILAC MRA	International Laboratory Accreditation Co-operation Mutual Recognition Agreement
JAS-ANZ	Joint Accreditation System of Australia and New Zealand
NATA	National Association of Testing Authorities
NCBP	Non-conforming building products
NCC	National Construction Code
NZS	New Zealand Standard
PCA	Plumbing Code of Australia
VBA	Victorian Building Authority
WMCAB	WaterMark Conformity Assessment Body