

Assessment Methods

Understanding the NCC

The National Construction Code (NCC) is Australia's performance-based building and plumbing code. It sets the minimum technical requirements for the construction of new buildings (and new building work in existing buildings). This document gives an overview of the Assessment Methods contained within the NCC. Assessment Methods are used when determining if a Performance Solution or Deemed-to-Satisfy (DTS) Solution complies with the relevant Performance Requirements.

Compliance with the NCC's mandatory Performance Requirements is achieved by developing a Performance Solution, a DTS Solution, or a combination of the two. A Performance Solution uses any method other than the DTS Provisions to comply with the Performance Requirements. DTS Solutions use the NCC's DTS Provisions to comply with the Performance Requirements.



What are the NCC Assessment Methods?

All NCC Volumes:
Parts A2.2 and A2.3

The following Assessment Methods are listed in the NCC and each, or any combination, can be used:



Evidence of suitability



Comparison with the DTS Provisions



Verification Methods



Expert Judgement

Watch our video

The ABCB YouTube clip, "[NCC: A performance-based code](#)" provides more information on compliance with the NCC



Evidence of suitability

All NCC Volumes: Parts A2.2, A2.3 and A5.0 to A5.3

Evidence of suitability, also known as "documentary evidence", can generally be used to support that a material, product, form of construction or design satisfies a Performance Requirement or a DTS Provision. The form of evidence that may be used consists of one, or a combination, of the following:

- A report from an Accredited Testing Laboratory
- A Certificate of Conformity or a Certificate of Accreditation
- A certificate from a professional engineer or appropriately qualified person
- A current certificate issued by a product certification body that has been accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ)
- Any other form of documentary evidence that adequately demonstrates suitability such as a Product Technical Statement.

Did you know?

Evidence of suitability is a little different for NCC Volume Three because there is a mandatory certification scheme to consider — WaterMark.



A WaterMark Licence is a licence issued by a WaterMark Conformity Assessment Body that must be used as evidence of suitability for certain plumbing and drainage products.



This Assessment Method involves a comparative analysis demonstrating that a Performance Solution is better than, or at least equivalent to, the relevant DTS Provision(s). To carry out this comparison, the applicable DTS Provision(s) and Performance Solution both need to be subject to the same level of analysis using the same methodology. This provides the building designer and appropriate authority with a defined benchmark or level for the DTS Provision and the Performance Solution.

Following this method determines whether the Performance Solution provides the same level of health, safety, amenity or sustainability as using the DTS Provisions. In some cases, technical analysis would be carried out using calculation methods such as computer modelling to prove compliance. If it is found that the Performance Solution is equal to or better than the relevant DTS Provision(s), then the Performance Solution proposal satisfies the NCC Performance Requirements.

What is an appropriate authority?

This means the relevant authority with the statutory responsibility for enforcing building and plumbing regulations.

State and territory building and plumbing regulations control who is deemed to be an appropriate authority. These people are generally building surveyors or plumbing inspectors.



Verification Methods are tests or calculations prescribing another way to comply with the NCC Performance Requirements. They may take a number of forms including a test, inspection, calculation, or a combination of these. A Verification Method provides a methodology under which a Performance Solution can be assessed. It generally includes a quantifiable benchmark or predetermined acceptable criteria that the solution must achieve.

The NCC contains several Verification Methods addressing some of the Performance Requirements. Verification Methods not included in the NCC may also be used, as long as they are deemed suitable by the appropriate authority. The following are different forms of Verification Methods:

A test

A test verifies that a product or system achieves a certain performance level. An example would be an on-site field test to determine the actual thermal performance of a window installed in a building.

An inspection

An inspection is typically a visual examination to ensure that a component is constructed or installed in a manner that satisfies the Performance Requirement. The inspection may need to be undertaken by an appropriately qualified person.

A calculation

Engineering calculations, including computer modelling or hand calculations, may be used to verify that a design will achieve the expectation of the relevant Performance Requirements.

Other Method

This allows any other suitable method to prove that a design, construction or individual component meets a Performance Requirement. There are many options available for use as a Verification Method. However, there must be agreement with the appropriate authority that the Verification Method is acceptable.

Other Verification Methods

Other Verification Methods, by definition, allow almost any methodology or procedure to be used to verify a Performance Solution, subject to that method being suitable and used in the appropriate way.

NCC Verification Method examples

- BV1 in NCC Volume One for structural reliability.
- DV1 in NCC Volume One for wire barriers.
- V2.2.1 in NCC Volume Two for weatherproofing.
- BV2.2 in NCC Volume Three for heated water storage temperature.

Inspection example:

An on-site inspection conducted by an engineer to ensure timber framing has been installed appropriately.

Calculation example:

The calculation methodology adopted in the Verification Method CV1 in Volume One, related to fire separation of buildings.

Did you know?

It is possible to use overseas codes or standards (such as ISO Standards) as other Verification Methods. However, they must also be assessed and approved by the appropriate authority as being acceptable for use.



Expert Judgement

All NCC Volumes: Parts A2.2 and A2.3

Where physical criteria is unable to be tested or modelled by calculation, the opinion of an expert may be accepted. This is referred to as the use of Expert Judgement. In other words, the judgement of a person who has the qualifications and experience necessary to determine whether a Performance Solution or DTS Solution complies with the Performance Requirements. In some instances, Expert Judgement can be used in combination with other Assessment Methods

Who is an expert?

An expert is someone who can make a judgement relating to NCC compliance. This means they need to be skilled and experienced in the area on which they are providing judgement. They could be a suitably qualified engineer or topic matter expert.

Different types of experts may need to be registered with state and territory accreditation bodies or registrars. Note that what is legally defined as an expert will differ for individual states and territories.

Ultimately, it is the role of the appropriate authority to determine whether a particular person providing an Expert Judgement is considered an expert. Each situation is different, so the capacity of the expert to provide credible evidence in regards to the issue being considered must be individually assessed.

Note that typically under state and territory laws, the appropriate authority independently assesses the proposal and therefore cannot provide an Expert Judgement for a matter they are considering for approval.



Documenting outcomes

The key to the use of Assessment Methods is appropriate documentation. Documentation should show that the solution complies with the relevant DTS Provisions and/or Performance Requirements, and reflect the Assessment Method(s) used. Documentation should be collated in such a way that it clearly demonstrates to the appropriate authority:

- the applicable Performance Requirement(s) and/or DTS Provision(s);
- the Assessment Methods used;
- for Performance Solutions, details of the performance-based design brief (PBDB), analysis and evaluation undertaken;
- confirmation that the applicable Performance Requirement(s) and/or DTS Provision(s) have been met; and
- for Performance Solutions, details of conditions or limitations, if any exist.

Remember it is the responsibility of the appropriate authority to determine how much and what level of detail is required when accepting Assessment Methods.

Examples

Expert Judgement documentation might consist of a simple email explanation or a fully developed technical report.

Verification Method documentation may also include information about the software used or specifications of test processes undertaken.