

Essential Safety Measures ESM-10 | Methods of demonstrating compliance with the National Construction Code 2022 (NCC)

Audience

The audience for this Practice Note includes:

- | | |
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| <input checked="" type="checkbox"/> Architects / Designers | <input checked="" type="checkbox"/> Owner Builders |
| <input checked="" type="checkbox"/> Builders | <input checked="" type="checkbox"/> Plumbers |
| <input checked="" type="checkbox"/> Building Surveyors / Inspectors | <input checked="" type="checkbox"/> Real estate management agents |
| <input checked="" type="checkbox"/> Engineers | <input checked="" type="checkbox"/> Trades and Maintenance (inc. Electricians) |
| <input checked="" type="checkbox"/> Homeowners / Residential Tenants | |

Purpose

This Practice Note provides guidance on the options available to achieve compliance with the NCC Part A2.

The content below provides guidance on:

- Compliance Options
- Performance Solution
- Deemed-to-Satisfy Solution, or
- Combination of Solutions

Abbreviations & Definitions

The abbreviations and definitions set out below are for guidance only. They are not intended to vary those set out in the Building Act 1993 or the Building/Plumbing Regulations 2018 or the National Construction Code

- **Act** – Building Act 1993
- **Assessment Methods** - a method that can be used for a Performance Solution or Deemed-to-Satisfy Solution
- **Governing Requirements** - outlined under section 1 of the NCC which provides the rules and instructions for using and complying with the NCC
- **NCC** – National Construction Code 2022
- **Performance Requirements** – the requirements which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.
- **RBS** – Relevant Building Surveyor
- **Regulations** – Building Regulations 2018



Compliance Options

To comply with the NCC, a building, plumbing or drainage design or solution must satisfy the relevant Governing Requirements and the relevant Performance Requirements. The Governing Requirements are rules outlining how the NCC must be used and the process that must be followed. The Performance Requirements must also be adhered to, and these prescribe the minimum necessary requirements for buildings, building elements, and plumbing and drainage systems that must be met to demonstrate compliance with the NCC.

Performance Requirements can be satisfied by using one or a combination of the following pathways:

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

Here is an example of a Performance Requirement from NCC 2022 Volume One



For wet areas (F2P2) - The Performance Requirement states the structure of a building, and the amenity of its occupants must be protected by preventing water from penetrating behind fittings and linings and into concealed spaces of toilets, bathrooms, laundries and the like.

This to safeguard occupants and protect the building by minimizing the risk of water leaking or accumulating within a building (including into other property) and causing musty, damp and unhealthy conditions or damaging building elements by corrosion.

Performance Solution

A Performance Solution must demonstrate compliance with all the relevant Performance Requirements or alternatively, a proposed Performance Solution must demonstrate it is at least equivalent to the NCC Deemed-to-Satisfy (DtS) provisions.

For instance, in the event a construction method, design, product or installation does not completely conform with a DtS clause, a proposed Performance Solution can be proposed, but it must comply with all the relevant Performance Requirements and must be verified using one or a combination of the following Assessment Methods:

- Evidence of suitability
- Verification Method
- Expert Judgement
- Comparison with the Deemed-to-Satisfy Provisions

To ensure a Performance Solution is formulated correctly the following process must be followed:

1. Develop a performance-based design brief with input from the appropriate stakeholders.
2. Carry out analysis.
3. Evaluate results.
4. Prepare a final report outlining steps 1 to 3.



Evidence of suitability

The NCC outlines the types of documentation that may be used to demonstrate compliance for a Performance Solution or Deemed-to-Satisfy Solution. They could be:

- A CodeMark certificate
- A Certificate of Accreditation from the Building Regulations Advisory Committee
- 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)
- A report issued by an Accredited Testing Laboratory
- A certificate or report from a professional (endorsed) engineer or other appropriately qualified person.
- Any other form of documentary evidence that adequately demonstrates suitability such as a Product Technical Statement.



In line with NCC 2022 A2G2(4) and CodeMark certificates, the technical analysis required by A2G2(4)(b) is undertaken by the conformity body who issues the certificate. That analysis often identifies a limitation to the product which is reflected in the CodeMark certificate. In this case new analysis to assess the performance of the product itself is not required, instead, the analysis undertaken by the conformity body has identified that the product is suitable for applications, therefore, the process of checking the proposed design is not additional technical analysis to verify the performance of the product.

The Relevant Building Surveyor (RBS) when receiving confirmation that the application of the product is within the limitations already found by the technical analysis performed by the conformity body therefore would not require a new Performance Solution (and associated Performance-based-design-brief).

Verification Methods

Verification Methods are provided throughout the NCC for certain Performance Requirements. Verification Methods can be a test, inspection, calculation, or other method that determines whether a Performance Solution complies with the relevant Performance Requirements. In other words, they provide a method that generally includes a quantifiable benchmark or predetermined acceptable criteria that the solution must achieve.

Expert Judgement

Expert Judgement means a person who has the qualifications and experience to determine whether a Performance Solution and Deemed-to-Satisfy Solution complies with the Performance Requirements.

When using this method, the RBS must determine whether a particular person providing Expert Judgement is considered an expert. Each situation is different, so the capacity of the expert to provide credible evidence on the solution being considered must be individually assessed. The RBS considering the Building Permit application must be impartial and cannot be the expert as they must independently assess the solution and avoid any potential conflict of interests.



An expert can be an engineer working in the building industry who is a practicing endorsed engineer in accordance with the Professionals Engineers Registration Act 2019.



Deemed to Satisfy Solution

Similarly, a DtS Solution must comply with the relevant Performance Requirements and be verified using one or a combination of the following Assessment Methods:

- Evidence of suitability
- Expert Judgement

The DtS provisions are prescriptive, and each clause provides guidance on “how”, “what” and in “which” location it must be completed. A DtS provision can also include a reference to an acceptable construction manual such as an Australian Standard which may include materials, components, design, and construction methods that, if used, are deemed to meet the Performance Requirements.

Here is an example of a DtS prescriptive provision from NCC Volume Two:

Condensation management for external wall construction (NCC ABCB Housing Provisions clause 10.8.1) –



- Where a pliable building membrane is installed in an external wall, it must comply with AS/NZS 4200.1; and be installed in accordance with AS 4200.2; and be a vapour permeable membrane for *climate zones* 6, 7 and 8; and be located on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of a building.
- The objective of Performance Requirement H4P7 Condensation and water vapour management for class 1 buildings, requires the risks associated with water vapour and condensation be managed to minimise their impact on the health of occupants.

Comparison with the Deemed-to-Satisfy Provisions

A Performance Solution may also comply with the Performance Requirements by demonstrating that the Performance Solution is equivalent to or better than the relevant Deemed-to-Satisfy Provision. This would involve a comparative analysis to ensure that that proposed building provides the same or better level of health, safety, amenity or sustainability as a Deemed-to-Satisfy compliant building.

Using a combination of a Performance Solution and a Deemed-to-Satisfy Solution

When designing a building, both Performance Solutions and DTS Solutions can be used to achieve compliance with the Performance Requirements.

A combination of solutions may be used to satisfy a single Performance Requirement. This may include occasions where a specific Performance Requirement covers several elements within a building. When using a combination of solutions, the relevant Performance Requirements must be identified by reviewing the:

- DTS Provisions of each Section or Part; and Performance Requirements from these Sections or Parts; and
- Performance Requirements from other Sections or Parts relevant to or affected by the proposed solution.

When using a combination of compliance solutions, the appropriate Assessment Methods must be used. That means where a Performance Requirement is met by a Performance Solution; then evidence of suitability, a Verification Method, Expert Judgement and/or Comparison with the DTS Provisions must be used. The Performance Solution process must also be followed for this portion of the design.



If a DTS Solution is used to meet the Performance Requirements; then evidence of suitability and/or Expert Judgement must be used.

Some Performance Requirements are without Deemed-to-Satisfy Solutions. Compliance with these Performance Requirements must be achieved by using a Performance Solution.

Related Documentation

- Building Act 1993
- Building Regulations 2018
- PS-01 Documentation and Assessment – Performance Solutions

List of Amendments

- Changes to references to align with the new NCC 2022 version.
- Update format and content review

Document history

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