Proposal for Change

National Construction Code

Subject/topic: **Evidence of Suitability**

Volume/standard	Provision
NCC Volume One	A5G1, A5G2, A5G3
NCC Volume Two	A5G1, A5G2, A5G3
NCC Volume Three	A5G1, A5G2, A5G3
ABCB standard	N/A

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The proposal

What is the proposal?

The proposal is to modify NCC 2025 – A5G1, A5G2 and A5G3 Documentation of Design and Construction provisions to align with the recommendations in Element 1 of the National Building Product Assurance Framework (the Framework) as one of the outcomes of the Building Confidence Report[1].

[1] Building Confidence Report Outputs | ABCB

Specifically, Element 1 recommended the NCC Evidence of Suitability provisions be reviewed to:

(a) set a minimum and standardised format for compliance information regardless of the compliance pathway chosen, and

(b) increase the rigour of the evidence required to demonstrate compliance, and

(c) instruct which pathway is appropriate in which circumstance.

The draft proposed changes to A5G1, A5G2 and A5G3 are as follows:

A5G1 Suitability

(1) A building and plumbing or drainage installation must be constructed using materials, products, plumbing products, forms of construction and designs fit for their intended purpose to achieve the relevant requirements of the NCC.

(2) For the purposes of (1), a material, product, plumbing product, form of construction or design is fit for purpose if it is—

(a) supported by evidence of suitability in accordance with—

(i) A5G2; and
(ii) A5G3 or A5G4 as appropriate; and
(b) constructed or installed in an appropriate manner.

Explanatory Information *[new item to be added to existing list of explanatory information]*

A5G1 (1) does not apply where no relevant requirements of the NCC exist, however materials, products, plumbing products, forms of construction and designs must still be fit for their intended purpose as required by relevant jurisdictional legislation.

A5G2 Evidence of suitability - Form — Volumes One, Two and Three

(1) The form of evidence used must be proportionate to the risk associated with ~~appropriate, to~~ the use of the material, product, *plumbing product*, form of construction or design to which it relates.

~~(2) Any copy of documentary evidence submitted must be a complete copy of the original certificate, report or document.~~

(2) The form of evidence submitted must include copies of original certificates, reports or documents, sufficient to demonstrate that the material, product, plumbing product, form of construction or design is fit for its intended purpose to achieve the relevant requirements of the NCC.

(3) For Volume One and Two materials, products, forms of construction or design, the evidence must be presented in the form of a *Product Technical Statement, Certificate of Conformity* or other document that includes the information listed below (or links to the information):

(a) Support and contact details; and

(b) Product/Design description; and

(c) Statement of application and intended use; and

(d) National Construction Code conformity declaration: and

(e) Limitations of use; and

(f) Conditions of use; and

(g) Instructions for design, construction or installation; and

(h) Maintenance instructions (where applicable); and

(i) Version control.

Explanatory Information *[new item to be added to existing list of explanatory information]*

A5G2 (1) Evidence generated from independent sources may be regarded as more acceptable than evidence generated from non-independent sources for types of evidence of equivalent rigour. Design practitioners and specifiers will need to be able to demonstrate that the decisions made in their work are supported by evidence that is proportionate to the risk for the specific design duty of the item designed or specified. The development of the evidence of suitability is to be guided by what will be fit for purpose related to the intended use of the material, product, or plumbing product.

A5G3 Evidence of suitability – Type —Volumes One and Two

(1) Subject to A5G5, A5G6, A5G7, A5G8 and A5G9 and as part of the requirements of A5G2, the type of evidence to support that the use of a material, product, form of construction or design is fit for its intended purpose to achieve ~~meets~~ a *Nominated Applicable Performance Requirement* ~~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*.

(b) A current *Certificate of Accreditation*.

(c) A current *Appraisal Report* issued by an *Appraisal Body*.

(d) A current certificate, other than a certificate described in (a), (b) and (c) ~~and (b),~~ issued by a *Certification Body*, stating that the properties and performance of a material, product, form of construction or design is fit for its intended purpose to fulfil specific requirements of the NCC.

(e) A report that is within the *Scope of Accreditation* of an *Accredited Testing Laboratory*, that-

(i) demonstrates that a material, product, form of construction fulfils specific requirements of the NCC; and

(ii) sets out the *Type 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 is fit for its intended purpose to fulfil specific requirements of the NCC.

(f) A certificate or report from a *professional engineer* or other *appropriately qualified person* that –

(i) certifies that a material, product or form of construction fulfils generic and specific requirements of the NCC; and

(ii) sets out the basis on which it is given and the extent to which tests relevant standards, specifications, rules, codes of practice or other publications have been relied upon to demonstrate it fulfils generic and specific requirements of the NCC.

(g) A *Type Test* report or certificate from an *Accredited Testing Laboratory*, accompanied by a current certificate or report from, or certified by, an *Accredited Inspection Body*, demonstrating regular product and production monitoring and sampling.

(h) A current *Certificate of Conformity* where such is consistent with AS ISO/IEC 17020 or AS ISO/IEC 17065 requirements, demonstrating regular product and production monitoring and sampling.

(i) Another form of documentary evidence, such as but not limited to a *Product Technical Statement*, that -

(i) demonstrates that a material, product or form of construction is fit for its intended purpose to fulfil specific requirements of the NCC; and

(ii) sets out the basis on which it is given and the extent to which tests, relevant standards, specifications, rules, codes of practice or other publications and any other relevant information that has been relied upon to demonstrate it is fit for its intended purpose to fulfill specific requirements of the NCC.

(2) 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:

(a) A certificate from a professional engineer or other appropriately qualified person that—

(i) certifies that the calculation method complies with a relevant ABCB protocol; and

(ii) 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; and

(iii) sets out the core assumptions, parameters and boundary conditions being used for the specific building application.

(b) Another form of documentary evidence that correctly describes how the calculation method complies with a relevant ABCB protocol.

DEFINITIONS

Accredited Inspection Body means—

(a) a conformity assessment body or *Certification Body* accredited by the Joint Accreditation System of Australia and New Zealand (JASANZ) or other ILAC/APAC/IAF Mutual Recognition Agreement signatory and having a Scope of Accreditation consistent with AS ISO/IEC 17021-1, and AS ISO/IEC 17020 or AS ISO/IEC 17065 requirements, and all surveillance and auditing functions that relate to the specific Performance Requirements, Deemed to Satisfy Provisions or standards that a customer is requiring; or

(b) a conformity assessment body or *Certification Body* recognised as being an Accredited Inspection Body under legislation at the time the surveillance and auditing was undertaken.

NOTE: An Accredited Inspection Body may produce other kinds of inspection reports for which they have not been accredited. Reports that fall outside an inspection body's Scope of Accreditation are not recognised as a form of evidence of suitability under the NCC.

Accredited Testing Laboratory means—

(a) a conformity assessment body accredited by the National Association of Testing Authorities (NATA) or other ILAC Mutual Recognition Agreement signatory, and having a Scope of Accreditation consistent with AS ISO/IEC 17025 and AS ISO/IEC 17021-1 requirements and all tests that relate to the specific Performance Requirements, Deemed to Satisfy Provisions or standards that a customer is requiring; or

(b) a conformity assessment body recognised as being an Accredited Testing Laboratory under legislation at the time the test was undertaken.

NOTE: An Accredited Testing Laboratory may produce other kinds of test reports for which they have not been accredited. Reports that fall outside a laboratory's Scope of Accreditation are not recognised as a form of evidence of suitability under the NCC.

Appraisal Report means a report issued by an Appraisal Body consisting of independent, consistent, verified information, in accordance with the requirements of A5G2(c).

Appraisal Body means an entity (e.g. BRANZ, ATEN, Sustainable Buildings Research Centre) that has been accredited by the Joint Accreditation System of Australia and New Zealand (JASANZ) or other International Accreditation Forum (IAF) MLA signatory to the most current version of *AS/NZS ISO/IEC 17065*, with the appropriate expertise and testing facilities to conduct the selection, review and attestation functions of conformity assessment for non-standard or new and innovative products that do not have recognised product standards by which they can be evaluated. Appraisal is performed by technical experts from first principles to determine the product requirements and product performance criteria consistent with the products declared use and the outcome of such, is contained in an *Appraisal Report*. The Appraisal Body must inform applicants of all the NCC Performance Requirements and Deemed to Satisfy provisions that a product's intended use might be applicable, given there may be more than the applicant anticipated, and what might be involved in evaluating the product with respect to these NCC provisions.

Appropriately qualified person means a person recognised by the appropriate authority with the responsibility to determine the particular matter, as having qualifications and/or experience in the relevant discipline in question (e.g. NatHERS assessor, fire expert).

Certification Body means a person or organisation operating in the field of material, product, system, form of construction or design certification that has been accredited by the Joint Accreditation System of Australia and New Zealand (JASANZ) to the most current version of AS/NZS ISO/IEC 17065. Any report or certificate issued by the person or organisation shall be a Type 2 or above (defined in AS/NZS ISO/IEC 17067) as appropriate. ~~and is accredited for a purpose, other than as part of the CodeMark Australia Certification Scheme or WaterMark Certification Scheme~~,

Certificate of Accreditation means a certificate issued by a State or Territory accreditation authority (e.g. Northern Territory Building Advisory Committee, Victorian Building Regulations Advisory Committee) stating that the properties and performance of a product, material or method of construction or design used only within its jurisdiction, is fit for its intended purpose to achieve the relevant requirements of the NCC.

Certificate of Conformity means a certificate issued under an accredited scheme (such as Codemark, Certification Body, etc) for products and systems certification stating that the properties and performance of a building material or method of construction or design fulfil specific requirements of the NCC, such that:

(a) the evidence used is proportionate to the risk associated with the use of the material, product, plumbing product, form of construction or design to which it relates; and

(b) where an applicant has narrowed or circumscribed the scope of the certificate, it must still be sufficient to demonstrate that the material, product, plumbing product, form of construction or design is fit for its intended purpose to achieve the relevant requirements of the NCC; and

(c) the Certificate clearly notes any instance where the applicant has narrowed or circumscribed the scope of the certificate to the extent that:

(i) the product is not able to achieve a Performance Requirement or a Deemed to Satisfy Provision, and/or

(ii) it gives the impression that the product achieves a Performance Requirement or a Deemed to Satisfy Provision, when it does not; and

(d) any issued Certificates are detailed and clear as to what the certified product or system can and cannot do; and

(e) any issued Certificates detail the frequency of monitoring, auditing and quality assurance activities conducted, including the date of the last such audit, consistent with AS ISO/IEC 17020 or AS ISO/IEC 17065 requirements.

CodeMark means the CodeMark Certification Scheme, a voluntary third-party building product certification scheme, administered by the Australian Building Codes Board.

Nominated Applicable Performance Requirement means the quantified performance level or attribute relevant to meeting the Performance Requirement. For example: H1P1 is the performance requirement that relates to structural reliability and resistance, however a Nominated Applicable Performance Requirement could be the specific wind load a building is subject to.

Product Technical Statement (PTS) summarises key details about a building component and declares compliance with specific requirements of the NCC. It is usually provided by the manufacturer or supplier and is consistent with the requirements of the latest version of ISO/IEC 17050-1 - Conformity assessment — Supplier's declaration of conformity — Part 1: General requirements. 0The results, data, methods, assumptions, limitations and statements of a PTS must be completely and accurately reported without bias. They must be publicly available, transparent and presented in detail only sufficient to demonstrate that the material, product, plumbing product, form of construction or design is fit for its intended purpose to achieve the *Nominated Applicable Performance Requirement* or Deemed to Satisfy Provision of the NCC. Publicly available, means that the data either forms part of the PTS document, or is linked to an online source that can be publicly accessed at no cost. The PTS must include the following:

(a) Support and contact details: Australian contact details, including the Australian Business Number (ABN) or the New Zealand Business Number (NZBN) or other globally unique identification number based on ISO/IEC 6523 location identification standards such as Global Location Number (GLN), of the supplier.

(b) Product or Design Description: product name, type, description and identifying details, including part/model/variant/batch/SKU number, or other globally unique identification number based on ISO/IEC 15459-6 accredited product identification standards such a Global Trade Item Number (GTIN).

(c) Statement of application and intended use: a statement of how and where the material, product, form of construction, or design is fit for its intended purpose to achieve the *Nominated Applicable Performance Requirement* or Deemed to Satisfy Provision of the NCC. The statement should reference the specific Performance Requirements and Deemed to Satisfy provisions and standards to which the product or design conforms:

(i) NCC edition; and

(ii) classification of building or structure as prescribed by the NCC for which the product is applicable; and

(iii) type of construction for which is applicable as prescribed within Part C2 and Part C3 of Volume 1 of the NCC (where applicable); and

(iv) NCC clause number; or

(v) where not covered specifically by the NCC, the standard number, title, and edition, and any other relevant details.

(d) National Construction Code conformity declaration: a declaration from the supplier confirming that the product or design meets the relevant requirements of the NCC or standards that are noted in (c). The declaration does not need to include or reference intellectual property and confidential information, only that evidence which is sufficient to substantiate the conformity claim and:

(i) be unambiguous and indicate full compliance with the stated requirements; and

(ii) reference, where evidence of proportionality of risk is required, a documented process undertaken to determine which evidence in A5G3 is suitable to demonstrate conformity; and

(iii) include proof of that evidence (test reports, inspection records, etc); and

(iv) include any other documents and the extent to which they are relied upon in making the declaration; and

(v) include any other information as required by A5G3, A5G4, A5G5, A5G6, A5G7, A5G8 and A5G9.

(e) Limitations of use: Specific limitations and conditions of use insofar as they relate to compliance with the NCC. Include expected *Service Life* determined by testing to applicable durability standards, where such standards exist for the material or product. Reference to additional documentation may be included if required.

(f) Conditions of use: Details of any conditions on the use of the building component relevant to its compliance claims. Detail of any conditions on the use of the PTS, such as expiry provisions.

(g) Specific instructions for design, construction or installation: Instructions for installation and/or maintenance to preserve the proper functioning of the product or material, and maintain its expected *Service Life*. Reference to additional documentation may be included if required.

(h) Maintenance Instructions: Instructions for installation and/or maintenance to preserve the proper functioning of the product or material, and maintain its expected *Service Life*. Reference to additional documentation may be included if required.

(i) Version control: Unique PTS identification number/code, date of issue and version number.

Professional engineer means a person who is—

(a) if legislation is applicable — a registered professional engineer in the relevant discipline who has appropriate experience and competence in the relevant field; or

(b) if legislation is not applicable—

(i) registered in the relevant discipline on the National Engineering Register (NER) of the Institution of Engineers Australia (which trades as 'Engineers Australia'); or

(ii) eligible to become registered on the Institution of Engineers Australia's NER and has appropriate experience and competence in the relevant field.

Scope of Accreditation means the official and detailed statement of activities for which a laboratory or inspection body is accredited, including an official list of tests and/or calibrations that the laboratory or inspection body is accredited to perform.

Service Life means the period of time after installation in which the product meets or exceeds the Performance Requirement or a Deemed to Satisfy Provision for which it is fit, without unexpected costs or maintenance and repair actions (ISO 15686 Buildings and constructed assets – Service life planning, and CSA S478 Guideline on durability in buildings).

Type Test means a test and evaluation that determines whether a process, product, or service complies with the requirements of a code, specification, technical standard, or regulation. It is an initial or point-in-time conformity measure, distinct from ongoing surveillance product testing that is part of a product certification scheme.

Watermark means the WaterMark Certification Scheme, a mandatory scheme for plumbing and drainage products of a certain type, administered by the Australian Building Codes Board.

Recommendations requiring further consideration

The Building Products Coalition identified a number of issues during the consultation and recommends the following for further consideration by the ABCB.

1. That the concept of *risk proportionality* is introduced in NCC 2025	Although the Building Products Coalition devoted considerable time and effort to the task of determining a risk hierarchy for the Evidence of Suitability pathways (NBPAF - Element 1: Strengthened NCC evidence of suitability requirements), it was unable to do so and settled on the wording "*proportionate to the risk associated with the use*", since this was the least onerous option for suppliers, specifiers and building surveyors, yet paves the way for the introduction of a hierarchy in future versions of the NCC.
2. That a new evidence pathway (or modification of existing ones) is developed to cater for new or innovative products where standards and prescribed test methods do not yet exist.	There is no clearly defined evidence pathway in the NCC for new or innovative products. Manufacturers and suppliers are currently relying on engineers to sign off on test reports from universities and other non-accredited labs. However, there is no way for a specifier or building surveyor to know with any certainty that the engineer signing the test reports has the necessary knowledge and experience to do so, let alone determine if the laboratory the tests are coming from conform to ISO 17025. Also, with insurance premiums rising, the pool of expert engineers willing to accept the significant and long-term risk of signing-off on test reports is rapidly shrinking.
3. That the requirement of an "*equivalent or more severe test*" is better defined in the NCC.	There are many instances of manufacturers and suppliers relying on very old or international test data for which an engineer has given an opinion that the test data is an "*equivalent or more severe test*" to that of a currently referenced NCC standard. However, there is no way for a specifier or building surveyor to know with any certainty that the engineer making such a determination has the necessary knowledge and experience to do so. Also, with insurance premiums rising, the pool of expert engineers willing to accept the significant and long-term risk of signing-off on test reports is rapidly shrinking. Therefore, it is recommended that: (a) the Table Notes, which form part of Table 1 Schedule of Referenced Documents be expanded and made more prescriptive, so as to list exactly which earlier or international versions of currently referenced NCC test standards are in fact an "*equivalent or more severe test*" to remove any subjectivity in the matter, or (b) in the sections that require "*an equivalent or more severe test*" (e.g. S1C1 (b), S1C2 (b), and S10C4 (1)) that such is determined by an Appraisal Body or a Certification Body.
4. That a national body be established and tasked with surveillance, research and	In addition to setting the information requirements through the evidence of suitability provisions, we must also address how they are to

information sharing that improves oversight and coordination of the building product assurance system.	be administered. The National Building Products Assurance Framework found that the complexity of the current building product assurance system makes it very difficult for building practitioners to navigate with confidence. The system also has few systematic checks in place for monitoring whether the regulation is delivering the intended outcome. When problems, arise, it is slow to respond as the learnings from the combustible cladding problem demonstrate. To date manufacturers and suppliers of building products have sat largely outside building compliance and enforcement. Responsibility for ensuring the appropriate evidence of suitability accompanies building products cannot rest solely with the users of the products – specifiers, builders and building surveyors. There must be a national mechanism for surveillance, research and information sharing. A national body should be specifically tasked to: 1. Convene a forum of technical experts from the construction industry, manufacturers, suppliers and conformance bodies to provide advice and recommendations on the effectiveness of the building product assurance system, helping to identify weaknesses and opportunities for improvement. 2. Monitor building products for potential compliance problems. This should be informed by targeted surveillance, audits and data provided by the state and territory regulators. 3. Identify measures that address identified concerns and improvements to the system and recommend a nationally consistent response where appropriate. 4. Provide technical advice on solutions to identified problems and definitive NCC interpretations, including advice on appropriate compliance pathways for specific building product types for specific uses. 5. Monitor trends and international best practice.

The current problem

What problem is the proposal designed to solve?

The proposal will address uncertainty and NCC non-compliance through the evidence of suitability requirements for building designs, products, materials and forms of construction.

Although revised in NCC2019, the material requirements of these provisions have changed little since the first edition of the Building Code of Australia in 1988. They have not evolved to keep pace with significant changes in both the demand and supply drivers in the market.

The Building Confidence Report (BCR) commissioned by Building Ministers and published in April 2018, made 24 recommendations to address systemic failings in the Australian construction industry. Recommendation 21 of the

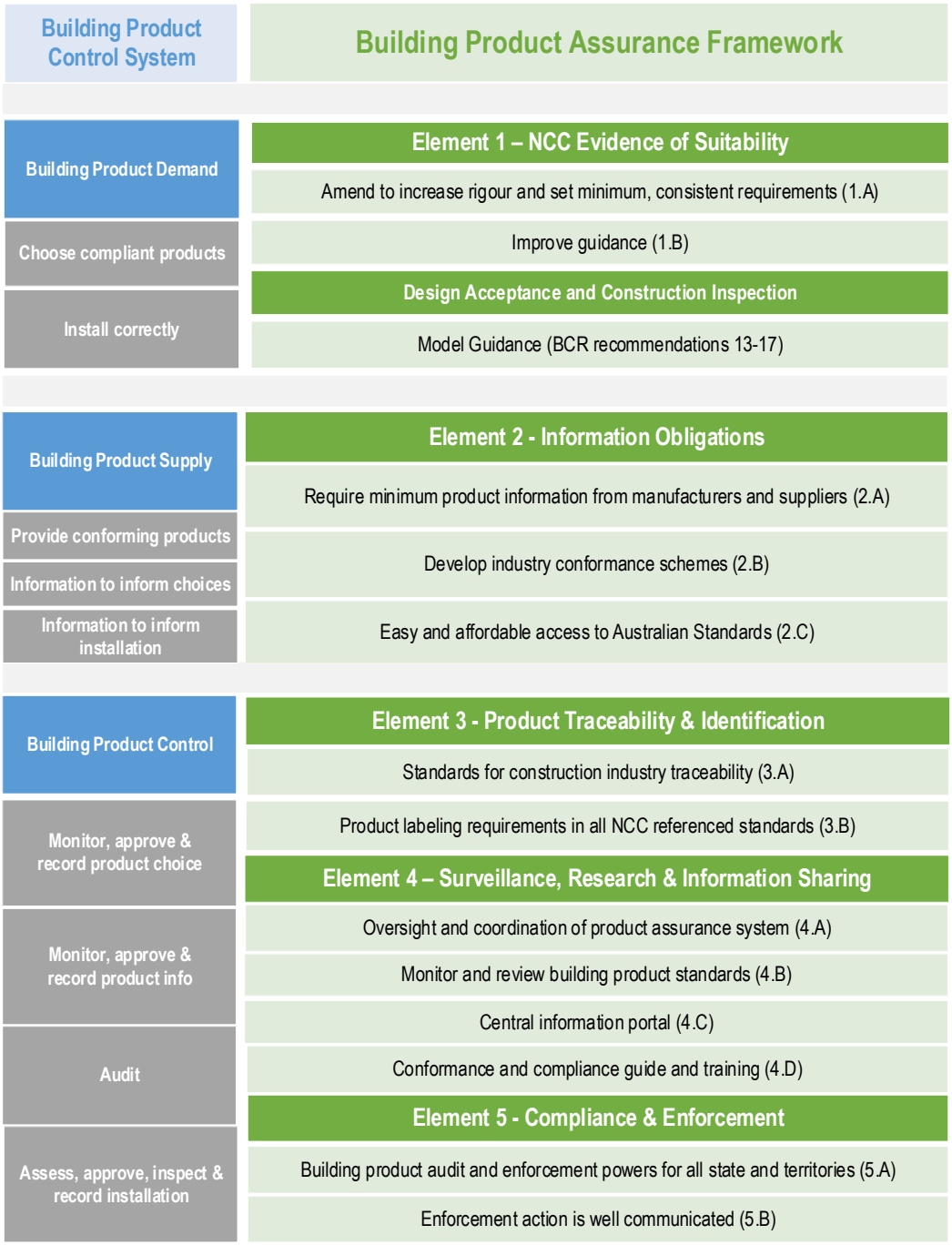
report singled out the building product control system (building product demand, supply and control) as a key weakness of the nation's building regulatory regime.

In response to Recommendation 21, through extensive consultation and with the assistance of governments and industry, the ABCB produced the National Building Products Assurance Framework (NBPAF).

National Building Product Assurance Framework

The NBPAF targets the current failings identified by the BCR in the building product control system (Building products demand, supply and control) and identified proposed actions under five elements (Figure 2 in NBPAF).

Figure 2: National Building Product Assurance Framework



The five deliverables under the elements are:

1. Amended NCC evidence of suitability provisions set minimum and consistent information requirements and provide directions as to the appropriate evidence pathway given the building product and its application. While the elements are to be were intended to be progressed separately, all five elements must be delivered in full to address the problems indicated in the BCR.
2. Regulation requires that manufacturers and suppliers of building products provide minimum and standardised building product information.
3. Building product traceability and labelling standards are set by government to provide the framework for nationally consistent building product traceability and identification.
4. A national mechanism for surveillance, research and information sharing that improves oversight and coordination of the building product assurance system.
5. State and territory enforcement legislation applies to building product supply.

This PFC seeks to advance the first deliverable under Element 1 – strengthened NCC evidence of suitability requirements.

Implementation of Element 1 of the NBPAF will improve the regulatory compliance of building products used in the building and construction sector; increasing public confidence and safety.

The NBPAF identified a number of problems with the current evidence of suitability provisions and sought to provide a solution. Specifically, the provisions:

- apply equally to all products used in construction and (outside of the specific provisions for FRL);
- fail to differentiate levels of rigour for documentary evidence relative to different levels of risk;
- do not separate design and product despite their validation process being very different; and
- do not articulate what would provide the appropriate rigour for evidence or evidence threshold requirements.[2]

The effect is to make it difficult for building practitioners to know when the evidence provided is appropriate for any given product type and its application. There is also a lack of certainty with different types of evidence being accepted in the same context.

The Commonwealth, States and Territories currently have a limited role in the regulation and enforcement of building products. Manufacturers and suppliers of building products are therefore largely outside the legislative controls for buildings. They are generally not compelled to provide the information necessary to verify that their products conform and are used in a compliant manner. Similarly, they largely sit outside of controls for consumer products and historically, the level of auditing and surveillance of building product compliance, undertaken by regulators, has been insufficient.

The NCC evidence of suitability provisions should be amended to be more specific as to the minimum evidence necessary to demonstrate suitability based on the particular nature of the building product and its application or design. To ensure the appropriate administration of the provisions there must also be a national body which is tasked to improve oversight and coordination of the building product assurance system (Element 4 of the NBPAF).

[2] National Building Product Assurance Framework – A response to the Building Confidence Report: Discussion Paper 2021

The NBPAF was discussed at the November 2021 Building Ministers Meeting and Ministers agreed that Senior Officials along with the ABCB would undertake further work on this issue and report back to Ministers in 2022 for consideration, but this has not occurred.

These changes are a priority and should not be allowed to languish any longer.

Table 1 below provides the rationale for the changes proposed for the NCC 2025 Evidence of Suitability provisions:

Table 1

Clause Number	NCC 2022 Clause Wording	Proposed NCC 2025 Changes/Additions	Rationale for Changes/Additions
A5G1 Suitability		Explanatory Information [new item to be added to existing list of explanatory information] A5G1 (1) does not apply where no relevant requirements of the NCC exist, however materials, products, plumbing products, forms of construction and designs must still be fit for their intended purpose as required by relevant jurisdictional legislation.	This note is added to the existing Explanatory Information to clear up a common misconception in the industry that the Evidence of Suitability provisions apply to all building materials, by stating specifically that the evidence of suitability requirements in the Code do not apply to all building products. However, there may still be a requirement under relevant state and territory legislation to prove a product is fit-for-purpose.
A5G2 Evidence of suitability - Volumes One, Two and Three	A5G2 Evidence of suitability — Volumes One, Two and Three	A5G2 Evidence of suitability - Form — Volumes One, Two and Three	The title of A5G2 has been changed to clarify the intent and meaning of the section, as well as reduce confusion with the title of A5G3.
	(1) The form of evidence used must be appropriate to the use of the material, product, plumbing product, form of construction or design to which it relates.	(1) The form of evidence used must be proportionate to the risk associated with ~~appropriate, to~~ the use of the material, product, *plumbing product*, form of construction or design to which it relates.	This additional wording is intended to impose a level of rigour in relation to the choice of evidence selected by a proponent, commensurate to the risk the product poses. NOTE: Substitution of the word 'proportionate' for the current word 'appropriate' is to ensure that the intent of the clause is clearer and overcome ambiguity about the meaning of 'appropriate' by introducing the alternative 'proportionate' that has a clear legal definition.
	(2) Any copy of documentary evidence submitted must be a complete copy of the original certificate, report or document.	(2) The form of evidence submitted must include copies of original certificates, reports or documents, sufficient to demonstrate that the material, product, plumbing product, form of construction is fit for its intended purpose to achieve the relevant requirements of the NCC.	This clause has been changed to correct a catch-all situation where proponents have been obliged to submit all documentation, even that which isn't germane to the determination of whether something is fit for its intended purpose and which might include highly sensitive intellectual property.
		(3) For Volume One and Two materials, products, forms of construction or design the evidence must be presented in the form of a *Product Technical Statement, Certificate of Conformity* or other document that includes the information	This is a new clause, A5G2(3) intended to impose a standardised format (Product Technical Statement) for all Evidence of Suitability claims by a proponent, making it easier for designers, specifiers and building surveyors to make determinations of fit-for-purpose usage across a

Clause Number	NCC 2022 Clause Wording	Proposed NCC 2025 Changes/Additions	Rationale for Changes/Additions
		listed below (or links to the information): (a) Support and contact details; and (b) Product/Design description; and (c) Statement of application and intended use; and (d) National Construction Code conformity declaration: and (e) Limitations of use; and (f) Conditions of use; and (g) Instructions for design, construction or installation; and (h) Maintenance instructions (where applicable); and (i) Version control.	wide and varied range of materials, products, forms of construction or designs. This new requirement is in line with the QLD Chain of Responsibility legislation and proposed similar legislation being considered in New South Wales and Victoria. It is anticipated that industry Associations and primary manufacturers will play a key role in providing advice, guidance and/or training to constituents/customers in their sector. Also, by creating draft PTS templates applicable to products that are common across their sector (e.g. corrugated steel roofing, timber trusses, windows, etc), much of the cost of conformity changes for small to medium suppliers will be alleviated. NOTE: The inclusion of a '*Certificate of Conformity or other document'* is to ensure that suppliers do not have to get currently valid conformity documents reformatted to the new Product Technical Statement format if they already contain the required data, thereby eliminating potential unnecessary costs. See **Attachment 1** and **Attachment 2** for examples of currently available PTS documents.
		Explanatory Information [new item to be added to existing list of explanatory information] A5G2 (1) Evidence generated from independent sources may be regarded as more acceptable than evidence generated from non-independent sources for types of evidence of equivalent rigour. Design practitioners and specifiers will need to be able to demonstrate that the decisions made in their work are supported by evidence that is proportionate to the risk for the specific design duty of the item designed or specified. The development of the evidence of suitability is to be guided by what will be fit for purpose related to the intended use of the material, product, or plumbing product.	This note is added to the existing Explanatory Information to improve the understanding of what types of evidence are likely to be considered more rigorous and how risk proportionality is to be considered by both suppliers and specifiers.

Clause Number	NCC 2022 Clause Wording	Proposed NCC 2025 Changes/Additions	Rationale for Changes/Additions
A5G3 Evidence of suitability - Volumes One and Two	A5G3 Evidence of suitability—Volumes One and Two	A5G3 Evidence of suitability – Type —Volumes One and Two	The title of A5G3 has been changed to clarify the intent and meaning of the section, as well as reduce confusion with the title of A5G2.
	(1) Subject to A5G5, A5G6, A5G7, and A5G,, 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:	(1) Subject to A5G5, A5G6, A5G7, A5G8 and A5G9 and as part of the requirements of A5G2, the type of evidence to support that the use of a material, product, form of construction or design is fit for its intended purpose to achieve ~~meets~~ a *Nominated Applicable Performance Requirement* ~~Performance Requirement~~ or a Deemed to Satisfy Provision may be ~~in the form of~~ any one, or any combination of the following:	New text has been introduced to: • Clearly tie the requirements of this clause back to those of A5G2 so that people do not read these sections as independent (or stand-alone), but as mutually inclusive. • Reinforce the concept of a product being '*fit for its intended purpose*' which is stated in A5G1. • Ensure that specific aspects of a Performance Requirement are called up through a "*Nominated Applicable Performance Requirement*" instead of a general catch-all reference.
		(c) A current *Appraisal Report* issued by an *Appraisal Body*.	Introduces a new high-level pathway for compliance without diminishing or replacing the existing ones. This paves the way for Appraisal Bodies such as the Australian Technical Evaluation Network (ATEN) to develop. The separation of Appraisal from Certification within the evidence of suitability provisions is a key factor, as Appraisal is a technical matter (requiring technical expertise) while Certification is a regulatory matter. NOTE: This new pathway will only be available for non-standard or new and innovative products that do not have recognised product standards by which they can be evaluated.
	(d) A report issued by an Accreditation of an Accredited Testing Laboratory, that- (i) demonstrates that a material, product or form of construction fulfils specific requirements of the	(e) A report that is within the *Scope of Accreditation* of an Accredited Testing Laboratory, that- (i) demonstrates that a material, product or form of construction fulfils specific requirements of the NCC; and	This closes a loophole where labs are able to issue test reports that do not fall within their Scope of Accreditation for evidence of suitability purposes. By clearly labelling it as '*Type Testing*' it clarifies the form of testing that labs do under (e) to determine that a material, product or form of construction fulfils specific requirements of the NCC.

Clause Number	NCC 2022 Clause Wording	Proposed NCC 2025 Changes/Additions	Rationale for Changes/Additions
	NCC; 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 NCC.	(ii) sets out the *Type 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 is fit for its intended purpose to fulfil~~s~~ specific requirements of the NCC.	
	(e) A certificate or report from a professional engineer or other appropriately qualified person that – (i) certifies that a material, product or form of construction 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 it fulfils specific requirements of the NCC.	(f) A certificate or report from a *professional engineer* or other *appropriately qualified person* that – (i) certifies that a material, product or form of construction fulfils generic and specific requirements of the NCC; and (ii) sets out the basis on which it is given and the extent to which tests, relevant standards, specifications, rules, codes of practice or other publications have been relied upon to demonstrate it fulfils generic and specific requirements of the NCC.	New words in (f) (i) ensure that an engineer or other appropriately qualified person considers the overarching, generic requirements of the NCC and not just those specific to the product's intended use. New words in (f) (ii) close a loophole where an engineer or other appropriately qualified person is not required to include or refer to any test reports that might be available.
		(g) A *Type Test* report or certificate from an *Accredited Testing Laboratory*, accompanied by a current certificate or report from, or certified by, an *Accredited Inspection Body*, demonstrating regular product and production monitoring and sampling.	This new clause is added to allow manufacturers an easier, more cost-effective, yet still rigorous means to demonstrate currency of product conformity through surveillance and auditing, without the need to retest products (unless product changes are made, or standards change). It is NOT an additional conformity measure on top of any of A5G3 (1) (a) to (g). It is most likely to suit products where: a) Type Testing is very expensive and/or difficult to

Clause Number	NCC 2022 Clause Wording	Proposed NCC 2025 Changes/Additions	Rationale for Changes/Additions
			undertake on a regular basis (e.g. fire testing of facades, wind testing of complete roof structures, etc), or b) where testing was done in the past, and there have been no standard, code, or regulatory changes regarding the particular product since. It is anticipated that this clause will also help to discourage the practice of 'golden sampling', the casual acceptance of variations in product performance over time, and instances of poor quality assurance.
		(h) A current *Certificate of Conformity* where such is consistent with AS ISO/IEC 17020 or AS ISO/IEC 17065 requirements, demonstrating regular product and production monitoring and sampling.	This new clause is added to make allowance for the fact that some Certificates of Conformity already include surveillance testing to AS ISO/IEC 17020 or AS ISO/IEC 17065, thereby eliminating the need for holders of such documentation to undergo additional inspection requirements.
	(f) Another form of documentary evidence, such as but not limited to a Product Technical Statement, that - (i) demonstrates that a material, product or form of construction 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 and any other relevant information that has been relied upon to demonstrate it fulfils specific requirements of the NCC.	(i) Another form of documentary evidence, such as but not limited to a Product Technical Statement, that - (i) demonstrates that a material, product or form of construction is fit for its intended purpose to fulfil specific requirements of the NCC; and (ii) sets out the basis on which it is given and the extent to which tests, relevant standards, specifications, rules, codes of practice or other publications and any other relevant information that has been relied upon to demonstrate it is fit for its intended purpose to fulfil specific requirements of the NCC.	New words in (i) (i) ensure that the evidence considers the overarching, generic requirements of the NCC and not just those specific to the product's intended use. New words in (i) (ii) close a loophole where other documentary evidence is not required to include or refer to any test reports that might be available.

What evidence exists to show there is a problem?

In developing their recommendations, the BCR authors "heard there is a high incidence of building products in the market that are not compliant with the standards set out in the NCC, resulting in inferior and sometimes dangerous products being used in the construction of buildings". They were also informed of "products being used in a non-compliant manner which can result in unacceptable risks to safety".

An inquiry by the Senate Economics References Committee (Non-conforming building products: the need for a coherent and robust regulatory regime, 2018) supported the compliance concerns identified in the BCR.

The findings were also echoed independently in the Kenley Report (Reforms to achieve performing building products: guidance for managing compliance and conformance, June 2019) commissioned by the States and territories.

Shortcomings in the NCC Evidence of Suitability requirements limit the ability of State and territory regulators to audit and surveil the compliance of building products. In addition to not providing clear and unambiguous pathways for suppliers, buyers seeking compliance, it allows unscrupulous or erroneous use of the current provisions to gain an advantage by deliberately substituting or providing substandard products. This not only leads to non-conforming outcomes (creating downstream costs and safety concerns that are ultimately borne by building owners and taxpayers), but results in a non-level playing field which commercially disadvantages complying businesses.

The objective

How will the proposal solve the problem?

The proposed changes to NCC 2025 A5G1, A5G2 and A5G3 Evidence of Suitability provisions have been developed to overcome the problems identified above. They set minimum and consistent information requirements and provide direction as to the appropriate evidence pathway relevant to the building product, its application and associated risk. This will give building practitioners and regulators the confidence that information about a product's appropriate selection and use, is sufficiently detailed and rigorous. It will provide greater certainty to manufacturers and suppliers as to what constitutes appropriate evidence to accompany their products.

What alternatives to the proposal (regulatory and non-regulatory) have been considered and why are they not recommended?

The main alternative to this proposal that has been considered is the non-regulatory option of greater reliance on industry third party certification schemes compliant with AS/NZS ISO/IEC 17065:2013 Conformity assessment - Requirements for bodies certifying products, processes and services.

The building industry has consistently called on Federal, State and territory governments to endorse these schemes, however no jurisdiction has ever indicated any appetite for such a move. As a result, these schemes are used only by manufacturers and suppliers who choose to do the right thing and are no barrier to those wishing to avoid compliance scrutiny. Also, while a number of these schemes operate in Australia and internationally, their scope does not cover all product categories, with gaps including some high risk components and systems (e.g. fasteners, waterproofing). Inconsistency in the information provided by third party schemes makes it difficult for those relying on the information (designers, builders and building surveyors) to confidently ascertain compliance of a product or system for a given application. Therefore, this alternative is not recommended.

Another non-regulatory alternative is the development of a non-mandatory handbook and improved education and training. These enablers accompanied the last major upgrade of the evidence of suitability provisions in NCC 2019 and whilst helpful, have failed to resolve the fundamental problems of the evidence of suitability provisions not being relevant to differing levels of risk and the ease with which unscrupulous players can game the system. Therefore, while improved education and training will form part of any regulatory change, it is not recommended as a stand-alone solution to the issues identified in this PFC.

An alternative to this proposal is 'no change'. However, the findings of numerous high level regulatory reviews over the last decade[3] document that the status quo is unacceptable and therefore not recommended.

The impacts

Who will be affected by the proposal?

The proposal will affect building product manufacturers and suppliers, testing laboratories and authorities, designers, specifiers, builders, trade contractors, building surveyors and regulators who engage with the NCC evidence of suitability provisions.

There is, however, potential for significant productivity gains to be made in the delivery of new construction as designers, builders and building surveyors can proceed with the selection and use of building products with more confidence. Manufacturers and suppliers can bring their products to market more confident they are accompanied by the appropriate compliance information.

Both industry and building owners will share in the benefit of fewer product failures and building defects, requiring costly rectification.

There is also a benefit in leveling the field for those industry participants who provided robust product compliance information.

3

- Senate Economics References Committee, Non-conforming building products: the need for a coherent and robust regulatory regime, 2018
- Shergold & Wier, Building Confidence Report: Improving the effectiveness of compliance and enforcement systems for the building and construction industry across Australia, 2018
- Dame Judith Hackitt, Building a Safer Future: Independent Review of Building Regulations and Fire Safety: Final Report, 2018

In what way and to what extent will they be affected by the proposal?

Certification bodies

They may need to review previously issued certificates and confirm that all the evidence of suitability used in these certificates is correct in terms of performance and is from the appropriate body. If not, they may need to take corrective action to ensure products/materials are certified to meet the performance requirements of the NCC. Or they may need to request correct test evidence for reference in the certificates to ensure products/materials are certified to meet the new performance requirements of the NCC.

Engineers and appropriately qualified persons

Engineers and appropriately qualified persons may not have experience or competence relevant to the building component that is the subject of their reports. This means that they would need to reconsider issuing reports that attribute performance to materials, products and forms of construction.

Designers and building practitioners

More reliable, consistent and clear compliance information will provide specifiers and installers of products greater certainty in a product's appropriate selection and use and improve productivity. It will reduce the need to independently verify the suitability of products and reduce inconsistent compliance determinations by building surveyors. It will help ensure that a product is appropriately installed and reduce the need for rework arising from an unsuitable product. In administering the more robust evidence of suitability it will be necessary to ensure that responsibility for ensuring it is complete and accurate rest with those providing the evidence, the manufacturers and suppliers.

Building surveyors

The proposed changes should reduce the uncertainty that they have in the validity of certificates and other evidence, especially given practitioners in Victoria and NSW are unable to choose not to accept them even if they believe they are erroneous. While it could diffuse some of their jurisdictional power, when coupled with establishing training or CPD programs for them as well as requiring proper qualifications or registration, it will lead to greater overall compliance. The main concern, as with others, will be existing sign-offs.

Suppliers and manufacturers

They are likely to need to review the evidence they have on their products and materials and confirm that the evidence is appropriate to A5G2 and A5G3. Manufacturers and suppliers who have incorrectly used an inappropriate compliance pathway for any of their products may be impacted with requirements to retest, accredit or certify their products or systems. It will level the playing field for those manufacturers and suppliers who have been providing sufficiently robust compliance information with their products.

Building product associations and upstream suppliers

Associations and primary manufacturers can play a key role in providing advice, guidance and/or training to constituents/customers in their sector. Also, by creating draft PTS templates applicable to products that are produced by downstream suppliers and common across their sector (e.g. corrugated steel roofing, timber trusses, windows, etc), much of the cost of conformity changes for small to medium suppliers will be alleviated.

Building occupants/owners

Going forward, the intent of this PFC is an improvement in overall building compliance which will reduce or possibly eliminate the instances where building occupants/owners need to fund rectification works when non-conformances are identified after acquisition. It will also facilitate building maintenance by providing occupants and owners with improved information about how to comply when doing so.

General impacts

General impacts of the PFC include:

- improved NCC compliance
- Australian buildings being constructed with appropriate products that are fit for purpose
- improved confidence in the building regulatory framework
- required level of rigour of evidence of suitability commensurate with level of risk
- clarifying the regulatory environment and creating a level, competitive and more compliant playing field
- greater productivity
- improved digitisation of the building industry.

What transitional measures are recommended?

Some manufacturers and suppliers may have to retest their products under a different compliance pathway and most will need to reformat their existing compliance documentation. In order to ensure that there is adequate time for the transition and that there are not supply chain implications it will be important to allow a minimum two-year and preferably a three-year transition period. This should provide enough time for adjusting product-related technical documentation, and dealing with existing products, which cannot provide the appropriate evidence for compliance.

The transition period could be achieved by, a) making the proposed changes mandatory in NCC 2025 and allowing a 2 to 3-year transition period, or b) making the changes an aspirational target in NCC 2025 and mandatory in NCC 2028 with no follow-on transition period. Option a) would be preferred as it sends a clear signal to the industry that change is required and signals a definitive timeframe for compliance.

During consultation, the issue was raised about the impact on existing buildings or materials/products that have their compliance based on documentation that does not meet the proposed changes of this proposal for change. For example, how would an occupant's insurance be affected if it is discovered that their building's compliance is, in part, predicated on insufficient or incorrect testing evidence? An amnesty or adoption period is one avenue, or not making these changes retrospective is another. This will be no different to past increased stringency in the Code.

Consultation

Who has been consulted and what are their views?

In developing the model guidance in response to the BCR, the ABCB undertook extensive consultation, to explore what was needed to provide more certainty in compliance pathways for building products, reducing the cost of compliance and the likelihood of defects. Detailed submissions were received from 47 stakeholders. In the

responses there was broad support for the need for greater controls on the supply of building products, clearer rules on their appropriate use in building projects and stronger enforcement. In drawing from the recommendations in the resulting National Building Product Assurance Framework this Proposal for Change is built on the feedback provided in those submissions. The submitted responses are available on the ABCB website.

In developing this Proposal for Change the following organisations and individuals provided valuable input, guidance and critique at all stages including drafts and the final version:

Organisation	Contact
AIBS	Jeremy Turner
Ai Group	Lindsay Le Compte
Building Products Industry Council	Rodger Hills
CSIRO	Tracey Gramlick
CSR	William Thompson
GS1	Bonnie Ryan
Master Builders Australia	Max Rafferty
Master Builders Queensland	Dyan Johnson
Metecno	Homeira Aryanpad
NASH	Mike Kelly
NATA	John Mitchell
UL	Matt Wright

This Proposal for Change is supported by the following organisations with the understanding that the ABCB will undertake further consultation through a consultative working group.

- **Australasian Certification Authority for Reinforcing and Structural Steels**
- **Australian Industry Group**
- **Australian Roof Tile Association**
- **Australian Steel Institute**
- **BlueScope**
- **Brickworks**
- **Building Designers Association of Australia**
- **Building Products Industry Council**
- **Bureau of Steel Manufacturers**
- **Commonwealth Scientific and Industrial Research Organisation**
- **Concrete Masonry Association of Australia**
- **CSR Building Products**
- **Fire Protection Association Australia**
- **Engineers Australia**

- **Engineered Wood Products Association of Australasia**
- **G James Windows and Doors**
- **GS1 Australia**
- **Housing Industry Association**
- **Insulation Council of Australia & New Zealand**
- **JASANZ**
- **Master Builders Australia**
- **Master Electricians Australia**
- **Metecno**
- **National Association of Steel-framed Housing**
- **National Association of Testing Authorities**
- **prefabAUS**
- **Property Council of Australia**
- **Think Brick**
- **UL Solutions**
- **Vinyl Council of Australia**

The **Australian Institute of Building Surveyors** has provided input to the development of this Proposal for Change but a formal response is not yet available.

This Proposal for Change is not supported by the following organisations that were provided with a final exposure draft:

- **No organisation presented with the draft is opposed.**

Attachment 1

NATIONAL CONSTRUCTION CODE OF AUSTRALIA (NCC) COMPLIANCE STATEMENT
LYSAGHT ROOFING AND WALLING PRODUCT RANGE

Issuing entity:	BlueScope Steel Limited	Ref #: LYS-NCC- R&W	Version: V2.0	Issue date: 26/11/2019
Application	Roofing for class 2 to 9 Buildings (Non-Residential) and for class 1 and 10 Buildings (Residential)			
Scope of Use	All products noted below may be used as roof cladding and/or walling when designed using the individual technical data available for each product at www.lysaght.com for lysaght products or www.permalite.com.au for PERMALITE® products			

	ROOFING - WALLING	ROOFING	WALLING - CEILING - SOFFIT	ROOFING - WALLING
	LYSAGHT CUSTOM ORB® LYSAGHT CUSTOM ORB ACCENT® 21 LYSAGHT CUSTOM ORB ACCENT® 35 LYSAGHT TRIMDEK® LYSAGHT SPANDEK® LYSAGHT KLIP-LOK 700 HI-STRENGTH® LYSAGHT KLIP-LOK CLASSIC® 700 LYSAGHT KLIP-LOK® 406	LYSAGHT FLATDEK® LYSAGHT FLATDEK® II LYSAGHT FLATDEK® 310	LYSAGHT PANELRIB® LYSAGHT MINI ORB® LYSAGHT MULTICLAD® LYSAGHT TRIMWALL® LYSAGHT WALLCLAD® LYSAGHT WEATHERLINE® LYSAGHT EASYCLAD® 2P300	PERMALITE LT7® PERMALITE V-Rib® PERMALITE ALSPAN® PERMALITE WAVELINE®
Product Attributes – Base Metal Thickness Range	Roofing: 0.42mm - 0.48mm		Walling: 0.35mm - 0.42mm	0.7mm-1.2mm
Product Attributes – Min Yield Strength	550 MPa		550 MPa	220-225 MPa
Base Material Brand Name	Zincalume®	Colorbond®	Colorbond® MATT	Colorbond®	Colorbond®	Colorbond®	permalite
	ZINCALUME® steel	COLORBOND® steel	COLORBOND® steel Matt	COLORBOND® Metallic steel	COLORBOND® Ultra steel	COLORBOND® Stainless steel	PERMALITE® pre-painted aluminium
Typical Environments	For Low to High corrosive environments; >200m from breaking surf > 100m from calm marine	For Low to High corrosive environments; >200m from breaking surf > 100m from calm marine	For Low to High corrosive environments; >200m from breaking surf > 100m from calm marine	For Low to High corrosive environments; >200m from breaking surf > 100m from calm marine	For Very High to High corrosive environments; >100m from breaking surf >0m from calm marine	For Very High corrosive environments; > 0m from breaking surf	For Very High corrosive environments; < 0m from breaking surf
Material Specification – Coating	AM125 125 g/m² minimum metallic coating mass, (aluminium/zinc/magnesium alloy) with Activate® technology to AS 1397-2011	AM100 100 g/m² minimum metallic coating mass, (aluminium/zinc/magnesium alloy) with Activate® technology to AS 1397-2011	AM100 100 g/m² minimum metallic coating mass, (aluminium/zinc/magnesium alloy) with Activate® technology to AS 1397-2011	AM100 100 g/m² minimum metallic coating mass, (aluminium/zinc/magnesium alloy) with Activate® technology to AS 1397-2011	AM150 150 g/m² minimum metallic coating mass, (aluminium/zinc/magnesium alloy) with Activate® technology to AS 1397-2011	Grade 430 S5 N/A	5251 / 5052 marine grade aluminium alloy
Material Specification – Paint	N/A	Paint Coating to AS 2728-2013 includes Thermatech® solar reflectance technology*	Paint Coating to AS 2728-2013 includes Thermatech® solar reflectance technology*	Paint Coating to AS 2728-2013 Type 3	Paint Coating to AS 2728-2013 includes Thermatech® solar reflectance technology*	Paint Coating to AS 2728-2013 Type 6	Paint Coating to AS 2728-2013
Material Specification – Solar Absorptance Value		Range from 0.32 to 0.96	Range from 0.35 to 0.79	Range from 0.34 to 0.93	Range from 0.32 to 0.73	Range from 0.32 to 0.73	0.26 for unpainted weathered aluminium
Warranty** – Roofing	Up to 36 years**	Up to 36 years**	Up to 36 years**	Up to 30 years**	Up to 36 years**	Up to 36 years**	up to 40 years***
Warranty** – Walling	Up to 18 years** (Non - residential)	Up to 20 years** (Non - residential) Up to 15 years** (Residential)	Up to 20 years** (Non - residential) Up to 15 years** (Residential)	Up to 20 years** (Non - residential) Up to 10 years** (Residential)	Up to 20 years** (Non - residential) Up to 15 years** (Residential)	Up to 20 years** (Non - residential) Up to 15 years** (Residential)	Up to 30 years***

Combustibility	LYSAGHT® products manufactured from COLORBOND® steel, ZINCALUME® steel or galvanised steel materials all have an ignitability index, Spread of Flame index and Heat Evolved Index of 0 (zero) and as such may be used wherever a non-combustible material is required as per the National Construction Code clauses C1.9.(a).(i) and 3.7.1.1.(a). PERMALITE® products manufactured from pre-painted aluminium materials have a Spread-of-Flame index of 0 (zero) and as such are considered non-combustible materials in accordance with the National Construction Code clauses C1.9.(a).(i) and 3.7.1.1.(a).
Compliance with the deemed-to-satisfy provision of the NCC	NCC Volume 1 - For class 2 to 9 Buildings (Non-Residential) - Section B1.4 Structural Resistance (j) (iv) Metal roofing: AS 1562.1-2018 (except in cyclonic areas)
	Section F1.0 Deemed-to-Satisfy Provisions - F1.5 Roof coverings Metal Sheet roofing complying with AS 1562.1-2018
	NCC Volume 2 - For class 1 and 10 Buildings (Housing Provisions) - 3.5.1 Roof cladding Published Capacity tables in reference manuals noted below are suitable to determine structural adequacy and serviceability of nominated products for individual projects referencing the following Australian Standards and NCC requirements: NCC, Volume One, Section B - Structure, Part B1 -Structural provisions (Deemed-to-Satisfy Provisions), Clause B1.1 Resistance to actions, and Clause B1.2 Determination of individual actions NCC, Volume One, Section B - Structure, Specification B1.2 - Design of Buildings in Cyclonic Areas
Acceptable Construction Manuals	AS 1562.1-2018 Design and Installation of sheet and wall cladding - Metal
	LYSAGHT® Roofing & Walling Installation Manual for Design and Installation professionals LYSAGHT® Cyclonic Area Design Manual for Design and Installation professionals LYSAGHT® Architectural Detailing and Flashing Manual for Architects and Detailing professionals LYSAGHT TOPSPAN® Design & Installation Guide LYSAGHT TOPSPAN® Quick Selection Guide and Quick Selection Guide Addendums 1, 2, 3 LYSAGHT® Maintenance Manual for Roofing Walling and Rainwater Goods LYSAGHT CUSTOM ORB® Design & Installation Guide LYSAGHT TRIMDEK® Design & Installation Guide LYSAGHT CUSTOM ORB ACCENT® 21 Design & Installation Guide LYSAGHT CUSTOM ORB ACCENT® 35 Design & Installation Guide LYSAGHT SPANDEK® Design & Installation Guide LYSAGHT KLIP-LOK 700 HI-STRENGTH® Design & Installation Guide LYSAGHT KLIP-LOK CLASSIC® 700 Design & Installation Guide LYSAGHT KLIP-LOK® 406 Design & Installation Guide LYSAGHT FLATDEK® Design & Installation Guide LYSAGHT FLATDEK® 310 Design & Installation Guide LYSAGHT FLATDEK® II Design & Installation Guide LYSAGHT® Product Advisory Bulletins Guides and Technical materials available at www.lysaght.com BlueScope Technical Bulletin 1A Steel roofing products - selection guide available at http://steelproducts.bluescopesteel.com.au PERMALITE® Aluminium Roofing Solutions PERMALITE® Aluminium Residential Solutions available at www.permalite.com.au
Australian Standards Compliance	Lysaght published Limit State Capacities for Strength and Serviceability have been determined from testing at NATA® accredited facilities in compliance with the following standards; AS 1562.1-2018 Design and installation of sheet roof and wall cladding. Part 1: Metal AS 4040.0-1992 (Reconfirmed 2016) Methods of testing sheet roof and wall cladding. Method 0: Introduction, list of methods and general requirements AS 4040.1-1992 (Reconfirmed 2016) Methods of testing sheet roof and wall cladding. Method 1: Resistance to concentrated loads AS 4040.2-1992 (Reconfirmed 2016) Methods of testing sheet roof and wall cladding. Method 2: Resistance to wind pressures for non-cyclonic regions AS 4040.3-2018 Methods of testing sheet roof and wall cladding. Method 3: Resistance to wind pressures for cyclonic regions
	Limit state capacities contained within the Acceptable Construction & Design Manuals are suitable to determine structural and serviceability in accordance with; AS/NZS 1170.0:2002 Structural design actions, Part 0: General principles AS/NZS 1170.1:2002 (Reconfirmed 2016) Structural design actions, Part 1: Permanent, imposed and other actions AS/NZS 1170.2:2011 (Reconfirmed 2016) Structural design actions, Part 2: Wind actions AS/NZS 1170.3:2011 (Reconfirmed 2016) Structural design actions, Part 3: Snow and ice actions
	AS 1562.1-2018 Design and Installation of sheet and wall cladding Part 1: Metal Section 2.1.3 Steel Requires metallic coated products to comply with; AS 1397-2011 Continuous hot-dip metallic coated steel sheet and strip - Coatings of zinc and zinc alloyed with aluminium and magnesium and Pre-painted products to comply with; AS/NZS 2728:2013 Prefinished/prepainted sheet metal products for interior/exterior building applications - Performance requirements AS 1397-2011 Defines the coating types and classes and steel grades for hot-dip metallic coated steel. Product made to other standards may not meet the ductility or strength requirements assumed by design standards or the minimum coating class requirements critical to building durability. LYSAGHT® product coating compliance is nominated at "Coating" above. AS/NZS 2728 specifies requirements for the physical properties and long-term durability of pre-finished/pre-painted sheet metal products. LYSAGHT® pre-painted compliance is nominated at "Paint" above for Performance requirement 1.3.1 Metal products Hot dipped metallic coated steel (types Z, ZM, AZ, AM) complying with AS 1397, stainless steel, aluminium or aluminium alloy in the form of sheet, coil or strip. PERMALITE® Aluminium feed coil complies to AS/NZS 1734:1997 Aluminium and Aluminium alloys - Flat sheet, coil sheet and plate. PERMALITE® pre-painted aluminium complies with AS/NZS 2728 Pre-finished /pre-painted sheet metal products for interior/ exterior applications

Attachment 2

Bradford

Product Technical Statement

Bradford Gold® & Gold® Hi-Performance

Refer to product table below for applicable product codes covered by this document Issue G

Product Type & Application

Bradford Gold® and Gold Hi-Performance (HP) are non-combustible Glasswool thermal insulation products. They are for use in external walls and ceilings to reduce heat transfer through the building envelope.

Compliance with the NCC

For use in Australia, when correctly specified and installed, this product provides the following compliance:

NCC 2019

- **Thermal** - Complies with NCC 2019 Volume 1 Amend. 1 Section J1.2(a), NCC 2019 Volume 2 Amend. 1 Section 3.12.1.1(a), and all state-prescribed variations. This product meets the requirements of the NCC through compliance with AS/NZS 4859.1.
- **Non-Combustibility** - Meets the non-combustible requirements of NCC 2019 Voume.1 Amend. 1 C1.9(a) when tested or assessed in accordance with AS 1530.1.
- **Fire Hazard Properties** - Meets the requirements of the NCC 2019 Volume 1 Amend. 1, Specification C1.10 Clause 7 for insulation materials. When assessed to AS/NZS 1530.3 this product does not exceed the 'Spread of Flame' or 'Smoke Developed' indices of Specification C1.10 Clause 7.

NCC 2022

- **Thermal** - Complies with NCC 2022 Volume 1 J4D3(1) and ABCB Housing Provisions Standard 2022 13.2.2(1). This product meets the requirements of the NCC through compliance with AS/NZS 4859.1.
- **Non-Combustibility** - Meets the non-combustible requirements of NCC 2022 Voume.1 C2D10(1) when tested or assessed in accordance with AS 1530.1.
- **Fire Hazard Properties** - Meets the requirements of the NCC 2022 Volume 1, S7C7 for insulation materials. When assessed to AS/NZS 1530.3 this product does not exceed the 'Spread of Flame' or 'Smoke Developed' indices of Table S7C7.

Conditions of Storage, Use & Maintenance

- Store in the original packaging in a cool, dry area, away from foodstuffs. Ensure packages are adequately labelled, protected from physical damage, and sealed when not in use. Avoid packaging being stored under UV light (direct sunlight) for long periods.

Refer to the product SUIS/MSDS at Bradfordinsulation.com.au for more information.

Specific Design or Installation Instructions

- Isolate power before installation.
- **Caution:** Electrical cables and equipment partially or completely surrounded with bulk thermal insulation may overheat and fail. In new build construction with electrical wiring in accordance with AS/NZS 3000: 2018 or later, wiring may be partially or completely surrounded for up to 400mm. If more than 400mm is surrounded, or for wiring pre AS/NZS 3000:2018, seek advice from a licenced electrician. Refer to legislation and referenced standards for full details or seek advice from an electrician if in doubt.
- **IMPORTANT:** R2.2 (HP), R2.5 (HP), R2.7 (HP) and R4.0 (HP) Wall Batts are high-density products that will not compress during installation and must be installed in a cavity of the correct size, with no obstructions. If installed in a cavity smaller than the product's nominal thickness, there is a risk of deformation or detachment of rigid wall lining materials.
- Suitable for applications that specify non-combustible bulk insulation products - not suitable for exposed internal wall and ceiling lining applications that require a Group Number.
- Insulation should be installed so that it forms a continuous layer and abuts or overlaps adjoining insulation other than at supporting members such as columns, studs, noggings, joists, furring channels and the like where the insulation must butt against the member.
- Compensate for gaps as specified by the NCC 2019 Volume 2 Amend. 1, 3.12.1.2(e) and Table 3.12.1.1h, ABCB Housing Provisions Standard 2022 13.2.3(5) and Table 13.2.3w. It should be installed at nominal thickness, except where it crosses structures, services and fittings.
- Ceiling perimeter batts may be required to achieve compliance depending upon roof and exterior wall design.
- Suitable for applications where the product is protected from direct UV light, water and wind pressure during and after installation.

For general installation guidance refer to the product installation guide at Bradfordinsulation.com.au

Supplementary information - Additional installation guidance for this product can be found in AS3999.

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Product Technical Statement

Bradford Gold® & Gold® Hi-Performance

Limitations of Use

- **IMPORTANT:** Do Not Modify This Product: Compliance with the evidence of suitability data referenced in this document is only achieved by the product or configuration listed in this PTS.
- **IMPORTANT:** R2.2 (HP), R2.5 (HP), R2.7 (HP) and R4.0 (HP) Wall Batts are high-density products that will not compress during installation and must be installed in a cavity of the correct size, with no obstructions. If installed in a cavity smaller than the product's nominal thickness, there is a risk of deformation or detachment of rigid wall lining materials.
- This product is not suitable for use as an exposed internal wall or ceiling lining in applications which require a Group Number in accordance with AS ISO 9705 and AS 5637.1 (NCC 2019 Volume 1 Amend. 1, Specification C1.10 Clause 4, NCC 2022 Volume 1 S7C4).
- Unfaced Glasswool is not a water or vapour barrier and is not suitable for water or vapour control.
- Maximum service temperature is 300°C for Glasswool.
- Check the plasterboard, ceiling tile or ceiling grid manufacturer's weight limitations prior to increasing the recommended R-Values or densities to ensure the structure can support the additional weight of the insulation batts.

Evidence of Suitability

- Testing to AS/NZS 4859.1 across the following reports-
  - CSR Lab Report R-20004A
  - CSR Lab Report R-20005
  - CSR Lab Report R-20006
  - CSR Lab Report R-20007
  - CSR Lab Report R-20014
  - CSR Lab Report R-20015
  - CSR Lab Report R-20016
  - CSR Lab Report R-20017
  - CSR Lab Report R-20018
  - CSR Lab Report R-20019
  - CSR Lab Report R-20020
  - BRANZ Report DI11505-001
  - BRANZ Report DI11505-002
  - BRANZ Report DI12309-001
  - BRANZ Report DI13245-001
- Testing and Professional Assessment to AS 1530.1 across the following reports –
  - CSIRO Assessment FCO-2812.
  - CSIRO Report FNC-9694
  - CSR NATA Lab Report NR-17008
  - CSR NATA Lab Report NR-18006
  - CSR NATA Lab Report NR-18007
  - CSR NATA Lab Report NR-20003
  - CSR NATA Lab Report NR-20004
  - CSR NATA Lab Report NR-22102
  - CSR NATA Lab Report NR-22103
- Professional Assessment, AS/NZS 1530.3 –
  - Warringtonfire Assessment FAS200045

CSR Bradford Locked Bag 1345 North Ryde BC NSW 1670
csrbradford.com.au

For further technical advice
call 1300 850 305 or visit csrbradford.com.au

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Product Technical Statement

Bradford Gold® & Gold® Hi-Performance

Applicable Product Codes – Ceiling Products

R-VALUE (m^2K/W)	THICKNESS (mm)	STANDARD SIZE (mm)	PIECES PER PACK	m^2 PER PACK	COVERAGE PER PACK (m^2)	PACKS PER MULTI	PRODUCT CODE
R2.5	140	1160 x 430	16	8.0	9.0	7	111720
R2.5	140	1160 x 580	16	10.8	12.2	7	111719
R3.0	165	1160 x 430	16	8.0	9.0	6	15226
R3.0	165	1160 x 580	16	10.8	12.2	6	15256
R3.5	185	1160 x 430	16	8.0	9.0	5	15241
R3.5	185	1160 x 580	10	6.7	7.6	8	41895
R4.1	215	1160 x 430	10	5.0	5.6	7	111716
R4.1	215	1160 x 580	10	6.7	7.6	7	111715
#R5.0 (HP)	240	1160 x 430	8	4.0	4.5	5	105417#
R5.0 (HP)	240	1160 x 430	8	4.0	4.5	6	467911
#R5.0 (HP)	240	1160 x 580	8	5.4	6.1	5	105419#
R5.0 (HP)	240	1160 x 580	8	5.4	6.1	6	467912
#R6.0 (HP)	260	1160 x 430	6	3.0	3.4	5	77871#
R6.0 (HP)	260	1160 x 430	6	3.0	3.4	6	467949
#R6.0 (HP)	260	1160 x 580	6	4.0	4.5	5	77849#
R6.0 (HP)	260	1160 x 580	6	4.0	4.5	6	467960
#R7.0 (HP)	290	1160 x 430	4	2.0	2.3	5	122546#
R7.0 (HP)	290	1160 x 430	4	2.0	2.3	6	467961
#R7.0 (HP)	290	1160 x 580	4	2.7	3.0	5	122545#
R7.0 (HP)	290	1160 x 580	4	2.7	3.0	6	467962

Product discontinued December 2022.

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Product Technical Statement

Bradford Gold® & Gold® Hi-Performance

Additional Product Data

Maximum Service Temperature		300°C (suitable where a long term surface operating temperature ≥90°C is required for insulation around heat generating equipment.)
Fire Hazard Properties	When assessed in accordance with AS/NZS 1530 Part 3-1999	• Ignitability: 0 • Spread of flame: 0 • Heat Evolved: 0 • Smoke Developed: 1
Non-Combustibility	When assessed to AS 1530 Part 1	Non - Combustible
Sample Specification – Wall Products	The insulation material shall be Bradford Gold® or Bradford Gold® HI-Performance having a material R-Value; Rm...(specify R-Value) @ XXmm... (specify thickness).	
Sample Specification – Ceiling Products	The insulation material shall be Bradford Gold® or Bradford Gold® HI-Performance Ceiling Batts R ___ m2 K/W (specify type) as manufactured by Bradford Insulation.	

Other Accreditation

FBS-1 Glasswool - The fibre component of these products is listed by Safe Work Australia as Man-made Vitreous Fibre (Glasswool) of low bio persistence as specified under Note Q in the Australian Hazardous Substances Information System and in the Australian Approved Criteria documentation. In accordance with EU ATP 31 (2009) these fibres are not classified as an irritant, or as carcinogenic.
Refer to the product SUIS/MSDS at BradfordInsulation.com.au for more information.

National Asthma Council Sensitive Choice

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