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Alternative Solutions provide options

It's easy for designers to stick to Acceptable Solutions for compliance when submitting building consent applications, but you don't have to. Alternative Solutions provide scope to do things differently and may be much easier than you think.

FOLLOWING THE ARTICLE *E3/AS1 and wet area flooring in Build 186*, BRANZ has received queries about Alternative Solutions and how to use them for Building Code compliance after the recent changes to E2/AS1 and E3/AS1.

Alternative Solutions allow difference

Acceptable Solutions are a non-mandatory means of New Zealand Building Code compliance. An Alternative Solution is any construction, junction detail or use of any product or system that is outside the scope of the relevant Acceptable Solution in the Building Code. For example, Alternative Solutions to E2/AS1 could be for:

- details not included in Acceptable Solution E2/AS1
- variants of details from E2/AS1
- cladding options not covered in E2/AS1
- buildings outside the scope of the Acceptable Solution, with a score over 20 in the weathertightness risk matrix or in a wind speed/zone requiring specific engineering design (SED).

There may also be specific functional or aesthetic objectives for the design that cannot be achieved using the limited suite of options available within an Acceptable Solution.

Eight typical compliance paths

The designer or architect generating the building consent documentation for the project needs to provide the building consent authority (BCA) with sufficient information supporting the use of the proposed Alternative Solution.

Many of the Acceptable Solutions are relatively limited in scope ... Designers need to embrace the wide variation of options that become available when Alternative Solutions are used.

This will include confirmation that it meets the performance requirements of the Building Code and sufficient detail for the BCA to assess it. The information supporting the Alternative Solution will be based on one or a combination of the following eight typical compliance paths. Only paths 6, 7 and 8 are deemed to comply – the others may be challenged and declined by the BCA.

1. Comparison with a compliance document

In this case, the proposed alternative is based on an Acceptable Solution. If the variations are minor, the compliance criteria of the original Acceptable Solution provide a valid comparison to the proposed Alternative Solution.

Design rationale explaining why the comparison is relevant and is equal or better than the performance of the Acceptable Solution should be included with the building consent application

to illustrate the thinking behind the proposed Alternative Solution.

2. In-service history

The in-service history compliance path can be used when the proposed detail or building system is directly comparable to a system with a proven track record and a documented history of effective performance – such as weathertightness – over a significant period.

This compliance path is particularly useful and can provide a powerful argument for the proposed Alternative Solution, especially when undertaking additions and alterations to an existing building.

It is important that the existing and proposed solutions are comparable – similar utilisation in a similar building and sometimes in a comparable geographic location, for example, if relating to weathertightness.

3. Expert opinion or producer statement

Providing a design, an opinion or a producer statement from a technical specialist in the field of the proposal can also be used to support the validity of an Alternative Solution proposal.

When a specialist consultant is used to support the proposal, they must have the relevant credentials – for example, a structural engineer or a façade engineer – and these must be acceptable to the BCA. The expert opinion must relate specifically to the proposed building. The consenting authority does have the right to challenge their credentials and does not necessarily have to accept them as an expert.

Several companies and individuals now promote themselves as being specialists in various ➤

specific aspects of construction. They are familiar with and can usually provide documentary support for the proposed Alternative Solution in a format that will methodically address the requirements of the BCA. Central to this material is often a memorandum of design or a producer statement.

The use of a product or process outside the scope of the Acceptable Solution can also be supported by a quality assurance document such as a BRANZ Appraisal certificate, CodeMark or comprehensive warranties for the proposal.

4. Comparison with other documents

This compliance method includes using documents relevant to the solution that are acceptable to the BCA. Suitable documentation could reference other relevant New Zealand standards, manufacturers' information, similar product certification, test results, product technical statements, BRANZ Appraisals or technical publications.

It is important that the documentation is explicitly relevant to the proposed use of the system or product in the specific situation and is from a credible source. For example, an imported construction system or a foreign building product supported by the manufacturer's information for use in the country of manufacture may not be applicable or relevant for use in Aotearoa New Zealand.

5. Previously accepted Alternative Solution

An Alternative Solution that has been previously accepted can be promoted if the situation is directly comparable. If an Alternative Solution has been accepted by one BCA, it does not automatically create precedence that the solution will be accepted by another BCA.

When using this compliance path, designers must be able to confirm the Alternative Solution they are basing their proposal on did meet its requirements and performed as expected when previously used.

6. Product certification

The use of construction details, building materials or other systems that are in accordance with a product certification can provide a compliance option for a proposed Alternative Solution.

Relevant technical literature such as CodeMark certificates can support the building consent acceptance of an alternative proposal.

The proposed system must be directly comparable to the one that has been certified.

Product certification such as CodeMark is considered a deemed-to-comply form of compliance and is an unchallengeable form of product assurance. Building consent authorities must accept a product certificate as evidence of compliance with the Building Code if the product proposed is to be used in strict accordance with the use and limitations defined on the certificate.

7. MBIE determination

An Alternative Solution may also be supported by referencing the use of a building product or construction system that has received a positive determination from MBIE.

Generally, MBIE issues determinations relative to building products or construction systems that have been put forward as part of a dispute. However, architects or designers can also submit specific Alternative Solutions to MBIE and pay for them to evaluate and issue a determination as proof of compliance with the requirements of the Building Code.

Using a solution that has received a positive determination is a deemed-to-comply form of compliance and must be accepted as meeting the Building Code requirements by a BCA when evaluating a building consent application.

8. Verification methods

Designers often skip past Verification Methods (for example, E2/VM1) when consulting details of an Acceptable Solution (such as E2/AS1). Verification Methods lay out another method for determining compliance.

Any building product, construction detail or cladding system that has passed the E2/VM1 test method is deemed to comply with the relevant performance requirements of Building Code clause E2 *External moisture*. Verification Methods can be used to test details put forward by architects and designers.

This compliance path can be used for proprietary products and systems developed and successfully tested by manufacturers. The designer must be using these in a directly comparable situation where specific solutions for a particular building have been put forward for testing.

Using a solution that has passed E2/VM1 testing is a deemed-to-comply form of compliance. It must be accepted as meeting the requirements of the Building Code by a BCA assessing the proposed solution for a building consent application.

Designers should use the options

Many of the Acceptable Solutions are relatively limited in scope, and in some cases, they do not cover many of the relatively common building systems used in the construction industry.

Designers need to embrace the wide variation of options that become available when Alternative Solutions are used. This may enable the use of new construction details or different materials to achieve a fresh aesthetic result or provide a total solution when Acceptable Solutions are too limited.

Designers need to understand how to use these alternative compliance paths and how to provide sufficient evidence of compliance when submitting them in building consent applications. They may use any of these compliance paths, individually or in combination, to establish that a proposed design achieves compliance.

If the BCA decides that a proposed alternative is not compliant, the building control officer processing the application must identify the aspects of non-compliance and why it cannot be accepted as an Alternative Solution.

The designer is then left with three main options for gaining building consent approval:

- Provide further evidence – including use of an additional compliance path.
- Seek an MBIE determination to establish the validity of the original application.
- Redesign the proposal to make it compliant with the requirements of the Building Code. ◀

For more See www.building.govt.nz/building-code-compliance.