

## Mind the gap

Special care is needed when specifying the insulation material thickness for skillion roofs and low pitched roofs with a roofspace, in order to ensure the design R-value is achieved and that the insulation is kept dry. To do this, it is important to maintain an air gap between the top of the insulation and the underside of the roofing underlay, particularly around the edge of the roof within a roofspace.

A 25 mm gap is required to allow air to move between the underlay and the insulation, to remove any moisture from the roof cavity and to prevent any moisture on the roof underlay being wicked (through contacting surfaces) into the insulation.

The sizing of the rafter depth must take account of the span of the member and the final installed thickness of the insulation (all insulation is compressed into packs and may take some time to expand to full thickness after it is installed) and for any sag in the roof underlay. Once installed, insulation may expand to be thicker than the stated nominal thickness.

## Vertical shiplap cladding

For designs to E2/AS1, the Acceptable Solution allows board and batten to be direct fixed for building faces with a risk score of 12 or less, while vertical shiplap cladding is limited to a risk score of 6 or less. This assessment in E2/AS1 recognises the fact that the weathertightness risk with vertical shiplap is high and that it is greater than that for board and batten.

Where vertical shiplap is proposed for a building with a risk score over 6 it is:

- difficult to install with a drained and vented cavity because of the need to provide horizontal support to the cladding
- more prone to water entry as wind is able to drive water into the vertical lapped joint (this risk is likely to increase over time due to timber movement).

Use of vertical shiplap in a higher risk situation must be consented as an Alternative Solution where the designer must satisfy the BCA that the performance requirements of Clause E2 are likely to be met for that higher risk situation. Where the designer insists on the use of vertical shiplap the BCA may ask for an independent review of the details, by an expert they accept, which the designer will have to commission. Note that BRANZ does not offer a detail design or peer review service.

Clause 9.4.5 of E2/AS1 requires vertical shiplap and board and batten to be in continuous lengths over a storey height but does not give a detail for the junction at each storey height.

BRANZ recommends that a continuous horizontal flashed joint be used at each floor level with both shiplap and board and batten vertical cladding. A scarfed joint that can be used with end joints in horizontal boards under E2/AS1 is not recommended for end joints in any vertical boarding.

## Standards and compliance document references

While it is common for Standards New Zealand to update published standards, the referencing of the revised document in Compliance Documents by the DBH does not follow automatically. There is usually some time before the latest version of a standard is cited in a Compliance Document and designers need to take this into account when using and referencing standards for building code compliance.

It is the specific citing in the Compliance Document that defines the status of the standard. There are also some situations where a standard is modified by one or more clauses in a Compliance Document – two examples are the modification of NZS 4223 Part 3:1999 by F2/AS1 paragraph 1.2.1 and the replacement tables within NZS 4218:2004 by H1/AS1 Third edition.

Where a revised standard demands higher levels of performance, BRANZ recommends that designers meet those higher levels in advance of the standard being cited.

## Old ALF 3.1

ALF 3.1 is only suitable for showing H1 compliance using the BPI (after applying the modifications on the BRANZ H1 support page). Although the calculation method and modelling method compliance evaluations appear on the printout they are not relevant to the H1 third edition because the data used in the calculation of the results was based on the previous version of NZS 4218, making them out of date.

## New Lintels and beams calculation tool software

This easy to use calculation tool is up and running on [www.branz.co.nz](http://www.branz.co.nz) (click on toolbox icon). The tool is designed to allow the calculation of a range of beam options in timber, steel, glu-lam and LVL for buildings within the scope of NZS 3604. It allows lintels and beams to be sized for a range of spans outside the tables within NZS 3604, as well as the range of lintel or beam material options. Up until the end of March 2009 calculations will be half price. The engineering basis of the calculations can also be printed and used to support the use of the beam calculator for consent purposes.

## Is a consent required for weathertightness remediation?

On 15 March 2008 the Building Amendment Act 2008 came into force which revised the requirements for consent for Weathertight repairs (Building Act 2004, Schedule 1(a)).

A building consent is required for:

- the complete or substantial replacement of a specified system
- the complete or substantial replacement of any component or assembly contributing to the building's structural behaviour or fire-safety properties
- the repair or replacement (other than maintenance) of any component or assembly that has failed to satisfy the Building Code for durability (for example, through a failure to comply with external moisture requirements).

As a result, in all cases of weathertightness failure and repairs such as the replacement of leaking cladding or rotted framing with the same or similar materials (a former 'like for like' exemption), will require a building consent and the Land Information Memorandum (LIM) will be noted by the council as an alert to the weathertightness history of the property.

## BRANZ Seminars 2009

### Water Efficiency

Registrations are open for this March seminar aimed at architects and designers.

There are a range of demands on New Zealand's water resources such as urban water supply competing with rural irrigation, the desire to have an untouched natural environment and the expectation that water be available whenever we want it. Restrictions on water use are likely to be tighter in the future. This means water is becoming a precious resource that we must consider when we design and construct our buildings.

The seminar will cover

- coming changes in legislation
- how we use water in our homes
- recent appliance developments
- building consent requirements
- options for using rain water
- using greywater and blackwater effectively.

Venues and dates are:

March 2009	
16	Dunedin
17	Christchurch
18	Auckland
19	Hamilton
20	Wellington

Visit our website for more details and to register online – [www.branz.co.nz](http://www.branz.co.nz) (click on seminars)