



Guideline

December 2019

Welcome to this update on technical and informative advice for the building and construction industry on issues relating to building controls and good construction practices.

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From all of us at BRANZ, we wish you a relaxing, happy and safe break with family and friends. We hope you return refreshed and energised to a prosperous 2020.

Smart vapour retarders

During the recent *Building Envelope* seminar series, we received a number of questions around the use of smart vapour retarders (SVRs), vapour barriers and ventilation of buildings and what our current position is regarding these topics.

A smart vapour retarder should not be confused with a vapour barrier. A vapour barrier can prevent moisture diffusion and limit the drying ability of a wall, whereas an appropriate SVR will not negatively impact the drying ability of a wall.

BRANZ research on vapour control in New Zealand buildings has shown that using an SVR lowers the relative humidity at the wall underlay. This increases the margin of safety in terms of condensation risk and reduces the risk of mould growth. The use of some SVRs can also be beneficial in contributing to the airtightness of the building.

BRANZ recommends that appropriate ventilation of the building is essential, irrespective of whether an SVR is used or not. Data from our indoor air quality research suggests that a significant proportion of new buildings are underventilated, and simply having openable windows is not enough in a large number of these cases. In such situations, mechanical ventilation would be required to provide appropriate ventilation.

The overall approach is to build tight, ventilate right.

Building Code updates

Changes around good ground and steel framing

The Ministry of Business, Innovation and Employment (MBIE) published [updates to the Building Code](#) in late November. These are some of the key changes:

- Regulations around liquefaction-prone ground, already in place in Canterbury, now apply to all New Zealand. Acceptable Solution B1/AS1 cannot be used on ground prone to liquefaction or lateral spreading. B1/AS1 is also amended to include the information on the design of foundations in expansive soils previously in the Simple House Acceptable Solution SH/AS1. SH/AS1 will be revoked. Current Building Code solutions to 'good ground' in B1/AS1 will continue to comply until 28 November 2021. Councils and territorial authorities must complete liquefaction mapping within the 2 years.
- The National Association of Steel Framed Housing (NASH) standard is now an Acceptable Solution. Current Building Code solutions continue to comply for building consent applications lodged until 28 February 2020. Existing methods used after this must be considered as an Alternative Solution proposal.

CodeMark and council inspections

Are inspections necessary with a CodeMark certificate

The November *Guideline* item about BRANZ Appraisals and the CodeMark scheme prompted a reader to ask a question: "If a CodeMark certificate is confirmation of compliance if used within the scope of the certificate, should the construction still be inspected by building consent authority (BCA) inspectors? I am aware of some BCAs who will not inspect some systems that are CodeMarked."

Inspections are typically nominated by the BCA based on what they believe they need to see to conclude that the construction is being carried out in accordance with the building consent. It would be unusual that a BCA would actively choose to not inspect some work just because it involves a CodeMarked system. It is still the BCA's responsibility to ensure that the work has been carried out correctly and in accordance with the building consent.

However, the CodeMarked system may fit within a product category not typically verified through inspection. BCAs may choose to rely on producer statements (PS3s) for items that they cannot ascertain whether or not they are installed correctly.

Reroofing a house

When is building consent required?

With summer the ideal time to replace an old roof cladding, the BRANZ helpline has received a call about whether or not a building consent is necessary for the job.

The first thing to consider is whether the existing roof cladding met its durability requirement under the New Zealand Building Code (usually 15 years). If you have to replace a cladding that failed to satisfy this requirement – the old roof started leaking after 10 or 12 years, for example – you will need building consent.

Replacing the roof cladding will not require a building consent if all these conditions are met:

- The roof cladding being replaced has performed well over its required Building Code durability period.
- A comparable replacement element is used – for example, lightweight metal cladding being replaced with lightweight metal cladding.
- The replacement is in the same position.
- The roof cladding being replaced is not contributing to the building’s structural behaviour or fire-safety properties, and section 42A(2) of the Building Act 2004 is satisfied (this requires that the work complies with the Building Code).

You can find more information in:

- “[Know your stuff – Exempt Building Work, Part 3](#)” in Ministry of Business, Innovation, and Employment (MBIE)’s *Codewords* issue 80
- MBIE’s [Building work that does not require a building consent](#), pages 15–18

Eliminate a source of roof space moisture

Avoiding an old problem

Moisture under the roof of a house can reduce the performance life of some building materials and, in certain circumstances, may even have an impact on the health and wellbeing of the home’s occupants.

Dampness can come from many sources, such as roof leaks, moisture moving up through ceiling gaps from wet areas in the house or incorrectly installed bathroom, kitchen and laundry extraction fans discharging into the roof space. But wall cavities also carry moist air and have been known to even transport moisture from wet subfloors to the roof space. It is essential that the top of a wall cavity system is separated or closed off so that damp air in the wall doesn’t move into the roof space and that extraction fans are correctly ducted to discharge outside the building.

Metal cladding on battens

Separation required

The BRANZ helpline gets calls from time to time about profiled metal wall cladding, including about fixing requirements. Installing metal cladding on H 3.2 treated timber battens is a fairly common type of construction. For long performance life and to meet Building Code durability requirements, however, a separation layer between them is required (because of the incompatibility of materials – the metal cladding and the copper in the timber preservative). A strip of roof or wall underlay can provide this separation.

A new energy rating label for heat pumps

A useful addition for colder regions

New [zoned energy rating labels for heat pumps](#) will start appearing in stores soon, replacing the old energy rating label. As before, the new labels assign up to 10 stars to a unit, but the key difference in the new label is that it now includes how a model will perform at a low outside temperature of 2°C in addition to the existing 7°C assessment. This will be of benefit to people in colder parts of New Zealand.

Securing buildings against uplift

Jack stud/lintel connections

The article "Securing buildings against uplift" in *Build* 175 (December 2019) summarised the requirements in NZS 3604:2011 *Timber-framed buildings* for fixings at various junctions. While Figure 1 in the article was accurate in what it showed, it did not show some connections that are necessary.

Table 8.18 in the standard requires fixings to attach the top plate to the studs and to the lintels at 600 mm centres, but it is also common to have jack studs above lintels. In this case, fixings will be required where the jack stud attaches to the top plate and where it attaches to the top of the lintel. Where jack studs are short, it is usually easier to fix a 25 × 1 mm galvanised steel strap continuously from the top plate to the lintel. These connections are only required where the top plate supports a roof.

New BRANZ bulletins

House Condition Surveys and timber strip flooring

Four new bulletins are available online, two free of charge. The free bulletins, drawing on information from BRANZ House Condition Surveys, are:

- BU642 *Changes in the condition of New Zealand houses over 25 years*
- BU643 *Energy efficiency in New Zealand houses*

The other two bulletins now online are:

- BU644 *Solid timber strip flooring on a concrete slab* (replaces BU506 *Laying solid timber strip flooring on concrete slabs*)
- BU645 *Installing timber strip flooring over timber joists* (replaces BU390 *Laying timber strip flooring over timber joists*)

Recent news

- The standard [**AS/NZS 3012:2019 Electrical installations – Construction and demolition sites**](#) has been updated.
- WorkSafe New Zealand has launched a Word template [**to help businesses develop asbestos management plans**](#).
- A construction company was ordered by the Whangarei District Court to [**pay \\$151,578 to a worker left paralysed**](#) from the chest down after a fall.
- [**The New Zealand Green Building Council has updated its HomeFit scheme for the healthy homes standards**](#). A certificate issued after assessment by a trained assessor under HomeFit v2 can be used to show the home complies with the standards.
- Morgan Wills, 23, from Hamilton, is the [**Registered Master Builders 2019 Apprentice of the Year**](#). The Building and Construction Industry Training Organisation (BCITO) recently reached [**13,000 apprentices in active training**](#), a record high.



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