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### BRANZ seminars – *Internal Moisture*

High moisture levels in our residential buildings are a significant problem in New Zealand, particularly as buildings have become more airtight and occupants are less likely to leave windows open. This seminar aims to give practical design and construction advice that is based on research for New Zealand conditions to ensure that internal moisture does not continue to be a significant problem.

#### Seminar dates and locations:

1 August	Albany	Harbour Function Centre
2 August	Whangarei	Forum North
6 August	Greymouth	The Ashley Hotel
7 August	Christchurch	Addington Events Centre
8 August	Wellington	Amora Hotel
9 August	Upper Hutt	Silverstream Retreat
13 August	Hamilton	Claudelands Conference & Exhibition Centre
14 August	Tauranga	The Sebel Trinity Wharf
15 August	Rotorua	Rydges Hotel
16 August	Napier	War Memorial Conference Centre
20 August	Nelson	The Rutherford Hotel
21 August	Blenheim	Chateau Marlborough

Online registration and more content detail are available on the [BRANZ website](http://www.branz.co.nz).

### Stud substitutions

In NZS 3604:2011 *Timber-framed buildings* Table 8.2 (Studs in loadbearing walls for all wind zones – SG8), Note 2 states that 140 x 45 mm framing may be substituted for 90 x 90 mm framing. This means that 140 x 45 mm can be used instead of 90 x 90 mm, but 90 x 90 mm **cannot** be used instead of 140 x 45 mm.

### Timber decking

It is becoming more common for wider decking boards to be specified. However, the use of wider boards can create some issues in terms of decking performance:

- Wider boards have more movement than traditional 90 mm wide decking, therefore larger gaps between the boards will be required to accommodate the swelling that will occur when the boards get wet – around 6 mm is required instead of the more common 2 or 3 mm. The larger gaps will also increase the amount of airflow up through the decking when the boards are dry.
- As board width increases, so does the risk of cupping.
- Smooth wide boards are likely to be more slippery when wet.

### Glazing films

There are glazing films being marketed that appear to be more attractive options than double glazing to improve the thermal performance of windows. However, be aware that some of the comparisons being made in the suppliers' literature or advertisements can be misleading.

Examples that have been brought to our notice:

- Quoting American performance figures – American performance is quoted in imperial, not metric units, which inflates the apparent performance.
- Using the minimum Australian requirements to provide the comparison – Australian minimum double-glazing performance is often less than that required in New Zealand. Australian double glazing consists of 3 mm inner and outer glass panes with a 6 mm gap, while New Zealand double glazing consists of 4 mm inner and outer glass panes with a 12 mm gap to meet the minimum R0.26 m<sup>2</sup>K/W requirement of the schedule method.

While some films applied to single glazing may be able to increase the R-value of the window by up to 40%, they can significantly reduce the light transmission and may not be particularly durable.



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There are no films that are adhered to the glass available on the market that can raise the R-value of single glazing in aluminium windows to the R-value ( $R0.26 \text{ m}^2\text{K/W}$ ) of double glazing.

Films that are applied directly to the glass are different from the films that can be used as secondary glazing, which has at least a 12 mm airspace between the existing glass and the film. Using a film as secondary glazing can improve the thermal performance of single glazing by 100%. However, it is not normally a permanent solution.

#### **Roof/ceiling space ventilation units and gas central-heating units**

AS/NZS 5261:2003 *Gas installation – Guidelines for gas appliance commissioning* does not permit the installation of home ventilation units into a roof or ceiling space that has a gas central-heating unit installed within it because it may interfere with the safe operation of the gas appliance. Conversely, if the home ventilation unit is already in place, the gas unit will need to be located elsewhere or the ventilation unit removed.

#### **Concrete finish to exposed foundations**

NZS 3604:2011 *Timber-framed buildings* requires that the surface finish of foundation walls exposed to the weather complies with NZS 3109:1997 *Concrete construction*, which, in turn, references NZS 3114:1987 *Specification for concrete surface finishes*, which gives the finish options that can be used, such as F3.

What this means is that designers should specify the finish required in the contract documents. If this is not done, builders should identify in their quote or tender the level of finish they have allowed for.

#### **Profiled metal roof overhang to external gutter**

A specific dimension for the overhang of profiled metal roofing to an external gutter is not given in E2/AS1. The New Zealand Metal Roofing Manufacturers *Code of Practice* requires a 50 mm overhang (section 7.1.4) into external gutters for roof slopes between 10 and 35°. A 40mm overhang is required for steeper pitches and 70 mm where the roof pitch is less than 10°.

#### **Roof underlay termination at gutters**

Where too much roof underlay is left at the gutter line of metal roofs, the underlay will be affected by wind causing it to flap and eventually tear or disintegrate. The Metal Roofing Manufacturers *Code of Practice* specifies a 20 mm underlay overhang to the back edge of the gutter to prevent moisture being wicked into the underlay (section 4.38).

When using proprietary product, follow the manufacturer's requirements for fixing, laps and overhangs to gutters.

For designs to E2/AS1, roof underlay must be laid horizontally for roof pitches below 10°.

#### **Decks close to ground**

When constructing decks close to the ground, NZS 3604:2011 *Timber-framed buildings* does not allow H5 piles to be cut or drilled (for example, for fixings) within 150 mm of the finished ground level.

#### **New BRANZ publications**

Just released are:

- *Building Basics: Internal Moisture*
- *Good Practice Guide: Texture-coated Claddings* (Second Edition).

#### **The Ministry of Business, Innovation and Employment's (MBIE) new publication**

MBIE has just released *Dealing with timber in leaky buildings* – a guide for builders and building professionals who are involved in the repair of leaky buildings. The guide provides practical advice on dealing with decayed timber that is identified after the building's cladding has been removed. Call 0800 242 243 to order a hard copy or download the PDF from [www.dbh.govt.nz/UserFiles/File/Publications/Weathertightness/guide-timber-in-leaky-buildings.pdf](http://www.dbh.govt.nz/UserFiles/File/Publications/Weathertightness/guide-timber-in-leaky-buildings.pdf).



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