

**September 2014**

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**Even more questions from the floor of the *You Asked* seminar series**

***Which direct-fixed claddings are permitted by E2/AS1?***

A limited number of claddings that are considered to have a lower weathertightness risk (due to the cladding itself or its jointing details) and proven historical performance are permitted to be direct-fixed to low-risk buildings under E2/AS1. Claddings that can be direct-fixed are:

- bevel-back weatherboard – up to risk score 12
- rusticated weatherboard – up to risk score 6
- fibre-cement weatherboard – up to risk score 6
- vertical profiled corrugate profile metal – up to risk score 20 as the voids behind the cladding and limited framing contact provide for drainage and drying
- vertical profiled trapezoid profile metal – up to risk score 6
- flat sheet fibre-cement or plywood with the sheet joints having either cover battens or a jointer and with all horizontal joints flashed – up to risk score 6
- vertical timber board and batten – up to risk score 12.

However, E2/AS1 requires that all stucco, EIFS, flush-finished fibre-cement and horizontal profiled metals are installed over a cavity.

***How can an air seal be incorporated into traditional casement timber window details?***

Incorporating an air seal into a casement window system should be possible by inserting the seal over a backing rod into the fitting gap between the window frame and the trimmed opening.

***Do you now have to carry out geotechnical investigations for all sites to determine the site subsoil when using NZS 3604 to determine earthquake bracing demand?***

No, as the tables for earthquake bracing default to the worst-case subsoil conditions (soils D and E and zone 3). Where subsoil conditions are identifiable or known, they can be used to moderate the level of earthquake bracing that needs to be provided. For large-scale projects, there may be some advantage in carrying out a geotechnical investigation to gain a cost saving by having to provide less earthquake bracing if the subsoil conditions allow it. What needs to be balanced against this is that, in most instances, the wind loads determine the amount of bracing required (apart from a building with heavy roof and wall construction in low and medium wind zones or a square building).

A designer must still be sure of what ground conditions exist below a site before proceeding with the above-ground design. This will involve proving that the ground is “good ground” by one of the means that are listed in section 3.1.3 of NZS 3604:2011. This is all irrespective of the seismic and wind demands and is concerned with bearing capacity under gravity loads.

***How do you calculate the loaded dimension for bearers?***

Figure 1.3 of NZS 3604:2011 *Timber-framed buildings* gives details for calculating the bearer loaded dimension. Where the bearer is supporting a loadbearing external wall, the calculation of the loaded dimension is described in *Build* 137 [Loaded dimension for bearers](#) (page 32).

***Does a ceiling diaphragm have to be horizontal (flat)?***

No. A ceiling diaphragm can be installed on slopes up to 45°. However, the design and installation parameters depend on the slope and are categorised as:

- diaphragms with a roof slope of up to 15°
- diaphragms with a roof slope of up to 25°
- diaphragms with a roof slope of up to 45°.

***Can you use an intermediate vertical batten within a cavity to restrain the flexible wall underlay rather than tape?***

Yes.

***Do you have to use stainless steel fixings for non-structural cavity battens?***

No. Fixings for cavity battens are considered temporary in that the cladding fixings must go through the batten and into the framing timber – typically, 35 mm penetration into the stud is required.

***Why can the wind zones determined using NZS 3604 be different from those determined using AS/NZS 1170 Structural design actions?***

NZS 3604:2011 has coarser steps, which means that it is sometimes more conservative than AS/NZS 1170.

***What level of H1 compliance is required for existing parts of a building during a renovation or addition?***

Where an existing construction is altered, it is recommended that the construction be brought as close as possible to current standards. However, for H1 compliance, the thermal performance after the alteration is made must be no worse than the original building. Remember that a building consent is required when existing external walls have any form of insulation fitted.

Where parts of the existing building are unchanged, there is no statutory requirement to upgrade that portion of the building.

***What is the effect of moisture on the back of an unpainted absorbent cladding?***

Where the presence of the water is intermittent and the amount small and the cladding is installed over a ventilated cavity, there is probably little effect because of the drying that occurs. Problems that may arise are:

- reduced durability of any coating that might get applied to the weather face of the cladding in the future
- possibility of swelling causing distortion of a timber cladding.

Where there is a significant amount of water regularly wetting the cladding, there is a risk of biocontamination and possible health consequences.

***Do internal walls that support beams resisting uplift need to be tied down at the base of the wall?***

Yes, as the uplift loads need to be transferred to the ground via the wall framing and the slab/floor construction including connections.

**Asbestos testing**

Companies that are members of the New Zealand Association of Consulting Laboratories who can carry out testing for asbestos include:

- Dowdell and Associates, Auckland
- Capital Environmental Services 2005 Ltd, Wellington
- K2 Environmental Ltd, Christchurch and Auckland
- Precise Consulting and Laboratory Ltd, Christchurch.

**Getting alternative methods consented**

There are a number of paths that can be followed when submitting an alternative method for consent:

- 1 Comparison with an Acceptable Solution

- 2 Comparison to other documents
- 3 Comparison with in-service history
- 4 Expert opinion such as a BRANZ Appraisal
- 5 Comparison to a previously accepted Alternative Solution
- 6 Product certification (CodeMark)
- 7 A determination by the Ministry of Business, Innovation and Employment.

In all cases, the application must be accompanied by appropriate supporting evidence relevant to the parts of the consent that are identified as requiring consideration as an alternative method.

### **BRANZ seminar: BEES**

The Building Energy End-use Study (BEES) seminar for architects, designers, facility and property managers will focus on findings and recommendations from the recently completed Building Energy End-use Study of commercial office and retail buildings.

For the first time in New Zealand, a wealth of knowledge about how energy is used in office and retail buildings has been collected.

The BEES seminar will provide learnings to assist with the design and operation of low-energy buildings through understanding:

- the importance of energy modelling
- new-build energy-efficient design opportunities
- the types and nature of building systems and the extent to which passive solutions can be integrated
- components of energy use (lighting, HVAC, refrigeration and so on) and how they vary
- diversity of activities and operation within different premises
- acceptability of the achieved environmental conditions for the building users
- targets for the design and operational energy use of the building.

Connections between the various stakeholders will be introduced with an example of the recent upgrade to the main BRANZ building.

### **Presenters**

- Lynda Amitrano, BRANZ Evaluations and Building Sustainability Manager and project manager of the BEES research.
- Andrew Pollard, BRANZ Building Physicist. Andrew's research has included data collection methodologies to ensure that accurate information is available to understand energy use and to help explore its drivers. Andrew has worked on the Household Energy End-use Project (HEEP) and joined the BEES project midway through the research.
- Lee Bint, BRANZ Sustainable Building Scientist. Lee's doctoral studies focused on understanding water performance in New Zealand commercial office buildings. She is currently investigating alternative water sources in commercial buildings around New Zealand. Lee's research interests centre on improving the understanding and performance of energy and water use in buildings and the interaction with overall water efficiency.

### **Dates and venues for the seminars (all run from 1–4pm)**

<b>Dunedin</b>	The Dunedin Centre	Monday	22 September
<b>Christchurch</b>	Chateau on the Park	Tuesday	23 September
<b>Hamilton</b>	Claudlands Conference & Exhibition Centre	Wednesday	24 September
<b>Auckland</b>	Crowne Plaza	Thursday	25 September
<b>Wellington</b>	InterContinental Wellington	Tuesday	30 September

To register for the seminars, click [here](#).

## WorkSafe seminar: Want to run a safe and successful construction site?

It's 3 years into the Preventing Falls from Height project and WorkSafe NZ has a simple message for the building industry – it's working.

"This is the third year of the campaign, and we've now got the data to share with everyone," says WorkSafe NZ. "The news is good, with serious harm notifications dropping 20–25% in the last 2 years."



To make sure that message gets out, WorkSafe NZ is running a 3-month roadshow visiting over 30 locations around the country from Kerikeri to Invercargill. The presentations are 2 hours long and include speakers from SiteSafe and BCITO, as well as WorkSafe.

The presentations will be providing a fact sheet and information on how to run a safe and successful construction site, based on the feedback they've been receiving over the last 3 years as well as reviewing how far we have come with the Preventing Falls from Height programme.

The seminars will offer essential health and safety top tips you should follow if you run a construction site, even if you don't directly employ the people working there. Safety guidance will be provided for:

- planning a safe approach
- your workers' health and wellbeing
- employing
- subcontracting
- managing resources at differing stages of the build
- tools and machinery
- protecting the public
- emergency management.

A review of Preventing Falls from Height:

- How far we have come
- What impact has this project had?
- WorkSafe figures
- Feedback from our industries and further guidance for safe work at height.

### ***Dates, locations and venues***

9 September	Cambridge	Cambridge Cosmopolitan Club
10 September	Hamilton	Hamilton Cosmopolitan Club
11 September	Rotorua	Rotorua Citizens Club
22 September	Auckland	Avondale RSA
23 September	Auckland	Manurewa RSA
24 September	Auckland	Glen Eden RSA
25 September	Auckland	North Shore Cosmopolitan Club
29 September	Whangarei	Northland Club
30 September	Kerikeri	Kerikeri RSA
1 October	Warkworth	Warkworth Bowling Club
13 October	Taupo	Cosmopolitan Club
14 October	Napier	Napier Sailing Club
15 October	Porirua	Porirua Club
16 October	Petone	Petone Working Men's Club
20 October	Masterton	Masterton Cosmopolitan Club

21 October	Palmerston North	Palmerston North Golf Club
22 October	New Plymouth	New Plymouth Sportfishing Club
4 November	Nelson	Club Waimea Richmond
5 November	Blenheim	Clubs of Marlborough
6 November	Christchurch	Hornby Working Men's Club
10 November	Christchurch	Woolston Club
12 November	Ashburton	Ashburton Club
13 November	Timaru	South Canterbury RSA
24 November	Dunedin	Edgar Centre
25 November	Invercargill	Club Southland
26 November	Queenstown	Goldbridge Resort
27 November	Wanaka	Albertown Tavern
1 December	Greymouth	Blaketown Rugby Club
2 December	Westport	Westport RSA

If you want to attend one of these WorkSafe NZ sessions that run from 5.30 to 7.30 pm, please register online [here](#).

**BRANZ seminar advance notice: *From She'll Be Right to Build It Right***

Legislative changes that affect how you safely build and get paid.

BRANZ, in partnership with MBIE and WorkSafe, invite you to a seminar covering legislative changes that affect how you build safely and get paid, running from mid-October to early December in 28 centres.

Building Amendment Act 2013 – Gain an insight into changes to the Act and how they impact you and the way you do business. If you are involved in costing and managing any type of residential building work, this seminar will help you get up to speed with the changes before they come into effect.

New consumer protection measures for residential building work come into effect from 1 January 2015 including:

- a requirement to have a written contract for building work over \$30,000 (including GST)
- a requirement to give customers a building checklist as well as information about your credentials – skills, qualifications, licensing status and so on
- an automatic 12-month defect repair period when you will have to fix any defects the customer has told you about
- fines for not complying with the law.

Construction Contracts Amendment Bill – Be updated on progress with the Construction Contracts Amendment Bill, which now seeks to apply the progress payment, the adjudication framework and remedies for recovery of payment provisions to residential building as well as to all building industry professionals and materials supply.

Health and safety regime – Find out about the new health and safety regime and what the industry should be doing now to prepare for the changes. This includes the WorkSafe NZ philosophy and the 3 Es (educate, engage, enforce), the Preventing Falls from Height campaign and the Health and Safety Reform Bill.

**This seminar will be a must for** building contractors, builders and specialist trades and will impact on the work of architects, designers, engineers and building surveyors.