Guideline

October 2015

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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BRANZ CPD – Detail, Science, Build seminar

Reserve your place now

A common theme among questions to the BRANZ helpline and previous seminar feedback from builders and designers is 'Why?' Designing and constructing buildings is a complex balance of building skill based on sound science and design/detailing prowess. How well we do this depends on how well we understanding the why – the science behind the detail. This 3-hour CPD/LBP points session will apply the building science and performance expectations to a range of aspects of construction.

Why we need to detail and construct:

- a gap here but not there
- a strap here but not there
- effective drying behind claddings
- air seals and air barriers
- effective cavity drainage
- appropriate fixings for bottom plates – slab edge distance and verified fixing performance
- taut and effective flexible wall underlay
- stop-ends, spreaders
- insulation without gaps
- thresholds
- as specified without substitution
- and much more…

The aim is to demonstrate what the designer needs to incorporate and the **builder** needs to construct on site to achieve the why. A number of practical building details will be discussed to explore the why. What are the essential science and performance requirements? Why must the builder ensure that all performance aspects of the detail are achieved on site? Why may getting any aspect of the construction wrong mean that the completed building does not perform as expected? It may be less durable, allow water in, be structurally compromised and not perform to the level the client expects.

Dates and locations and online registration for the 1–4 pm seminars are available here and at the end of this *Guideline*.

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Cantilevered floor joists
Cavity cladding soffit detailing

Where an upper floor cantilevers past a lower floor, the detail of the intersection of the soffit lining and the base of the cavity behind the upper floor cladding is important. It must ensure that cavity drainage remains open and appropriate drip edges are formed. Watch for a detail in *Build* 151.

Cantilevered deck joists
Cavity closure required

When the saddle flashed cantilevered deck joist detail (Figure 16 of E2/AS1) is used, designers and builders need to ensure that a cavity closure is installed between each of the joists. If this is not done, there is a gap left under the joists that would allow the entry of vermin into the cavity behind.

Steps to decks – treads and riser sizing
Rules for exterior private stairways

In the definitions to NZBC D1/AS1 *Access routes*, it states that all exterior private stairs shall be designed to meet the requirements of a main private stairway in the Acceptable Solution. For a main private stairway, the design parameters are:

- tread width 280 mm minimum
- riser 190 mm maximum
- maximum slope or pitch of 37°.

D1/AS1 defines 'main private stairway' as a private stairway intended to provide access to and between frequently used spaces such as living areas, kitchens and garages and includes all exterior private stairways.

Minimum treatment of structurally fixed timber cavity battens
Durability requirement

Using the word 'structurally' to describe timber cavity battens that are fixed to the framing in a way that allows shorter cladding fixings has caused some confusion. They are not considered structural as one would consider a stud, rafter or beam as they only support the cladding. Therefore, the durability requirement is the same as that for the cladding, i.e. not less than 15 years. The batten can easily be replaced at the end of the serviceable life of the cladding.

To meet a not less than 15-year requirement, timber battens treated to H3.1 are acceptable to meet the durability requirements. Specifiers always have the option to specify a higher level of timber treatment such as H3.2.

MBIE advises changes to Canterbury earthquake region seismicity
Issued 28 September 2015

The limitation on using the site hazard spectra using Z=0.3 minimum factor in the Canterbury earthquake region only for structures of 1.5 seconds and less has been removed. Designers can now use Z=0.3 (minimum) in the Canterbury earthquake region for the full period range when designing for earthquake loads using NZS 1170.5:2004 *Structural design actions – Part 5: Earthquake actions – New Zealand*.

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The return period factor Rs for serviceability limit state in Canterbury reverts to 0.25, i.e. the same as that provided in Table 3.5 of NZS 1170.5:2004.

Note: This does not change the peak ground acceleration (PGA) values for liquefaction assessment (Class D – 0.13g for SLS event and 0.35g for ULS event) as specified in the Residential Guidance Appendix C2. These geotechnical design parameters are derived on a different basis to the structural value.

It is anticipated that these changes will be incorporated into the revision of NZS 1170.5:2004. Referencing the revised standard in an updated Building Code Verification Method B1/VM1 will follow.

Attitude is key to quality

Avoiding substandard construction

The number of times I have heard a person on site say 'I don't know about that mate, I am just here to…' This attitude has become pervasive for a number of building projects, and the end result is the quality issues that are being reported in the media. This is reinforced further by Auckland City's recent release of a number of videos documenting substandard construction.

To ensure we do deliver all buildings of a sufficient quality, we must have:

- good QA processes
- good record keeping
- sign-off by the designer, LBP, contractors, BCA and client
- adequate accurate documentation
- someone taking responsibility
- sufficient design and construction skill
- sufficient time and money
- the right attitude by developers, designers and all building trades.

Detail, Science, Build seminar – dates and locations

Invercargill	Tue 27 Oct	Ascot Park Hotel
Queenstown	Wed 28 Oct	Crowne Plaza Queenstown
Christchurch	Thu 29 Oct	Sudima Christchurch Airport
Hokitika	Mon 2 Nov	Order of St John Hokitika
Nelson	Tue 3 Nov	Rutherford Hotel
Upper Hutt	Wed 4 Nov	Silverstream Retreat
Dunedin	Mon 9 Nov	Dunedin Centre
Timaru	Tue 10 Nov	The Landing Service Conference Centre
Christchurch	Wed 11 Nov	The Chateau on the Park
Hamilton	Mon 16 Nov	FMG Stadium Waikato
New Plymouth	Tue 17 Nov	Quality Hotel Plymouth International
Palmerston North	Wed 18 Nov	Convention Centre Palmerston North
Auckland – Mt Wellington	Mon 23 Nov	Waipuna Hotel and Conference Centre
Napier	Tue 24 Nov	Mission Estate Winery
Wellington	Wed 25 Nov	InterContinental Wellington
Whakatane	Mon 30 Nov	Tuscany Villas Boutique Hotel
Tauranga	Tue 1 Dec	Trinity Wharf
Auckland – Albany	Wed 2 Dec	QBE Stadium
Whangarei	Wed 9 Dec	Forum North
Auckland – Central	Thu 10 Dec	Crowne Plaza Auckland

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