May 2014

BIM hits home

Building information modelling (BIM) is a tool to support collaborative working in the design, construction and operation of a building (or bridge, dam or road) by providing a digital representation of the complete physical and functional characteristics of the built asset. Used well, it has the power to transform the construction process and significantly increase productivity.

The Building and Construction Productivity Partnership is working with industry to promote greater uptake of BIM in New Zealand – it is one way we can meet the forecast rising construction demand while maintaining quality and containing costs. The BIM Acceleration Committee and BRANZ have produced a leaflet, *Productivity Benefits of BIM*, to encourage use of BIM.

The Productivity Partnership is also keen to receive your comments on two draft documents:

- *New Zealand BIM Handbook*
- *New Zealand BIM Schedule*

They can be found at: http://buildingvalue.co.nz/publications

Post-earthquake repair videos

MBIE has produced animated online videos focusing on post-earthquake repairs to support the residential rebuild in Canterbury. They are a response to requests from builders at briefings in Canterbury for practical online resources.

The videos are clearly illustrated and explained, with written reminders posted on screen. There are 3D diagrams of key stages and a section on keeping yourself safe.

They complement other resources, including MBIE's *The guide for Canterbury builders: Below-floor work* and *Repairing and rebuilding houses affected by the Canterbury earthquakes*.

Watch the videos:

- *Packing house piles*
- *Lifting a wall plate*
- *Jacking up a foundation*

For more information, see www.dbh.govt.nz/guidance-information.

MBIE Building Controls Update No. 157 – Residential guidance fifth issue of technical clarifications and updates

(Reproduced verbatim from the MBIE website.)

17 April 2014: MBIE has released a fifth issue of technical clarifications and updates to the guidance document *Repairing and rebuilding houses affected by the Canterbury earthquakes*, December 2012.

These technical clarifications and updates should be read in conjunction with the guidance document itself. They have been prepared for professional engineers and others implementing the guidance to provide them with greater explanation, new knowledge, and to respond to new issues that have been raised.

The updates provide further clarification and guidance on:

- Chimney repairs, building consents and exemptions
- Notching bearers and piles to assist with relevelling
- Removing plywood skirt around perimeter for Type 2A-300 and 2B foundations
- Aligning slab edge with building perimeter in TC3
- Summarising TC3 Type 2 surface structure foundation technical requirements.

Wall bracing panel hold-downs

When using a proprietary wall bracing system the installation of that bracing system must be in accordance with the manufacturer's literature. Substitution of anchors or other hardware/components that are specified for the system is not permitted as they may not provide the same level of performance.

For example, bolts or other anchors may be labelled as complying with the requirements of clause 7.5.12.3 of NZS 3604:2011 *Timber-framed buildings*, but these requirements relate solely to bottom plate fixings for loads applied in plane, out of plane and for uplift. The uplift requirement for an external bottom plate in NZS 3604 is to resist a vertical load of 7 kN.

The specified bottom plate anchors of a bracing system are likely to be required to resist a vertical load of 12–15 kN – if a lesser bolt or anchor is used, it would seriously diminish the bracing rating of the element, and the bolt/anchor would need to be replaced.

Treated timber framing – maximum weather exposure

Where H1.2 boron-treated timber framing has been left in the weather for more than 3 months – timber stored uncovered on site or as erected frames – it will generally require some verification that the treatment level is still adequate to satisfy the requirements of NZS 3640:2003 *Chemical preservation of round and sawn timber*.

Removing lead-based paint

Until 1965, buildings were likely to have been painted with lead-based paints. Use of white lead in paint was finally banned in 1979, although some special-purpose paints manufactured and applied after this date may contain red lead. The paint on many older buildings will still be lead-based.

Lead is poisonous, and young children and animals are particularly at risk when lead paint is being removed. When removing lead-based paints (internally and externally):

- use dropsheets so all dust and scrapings can be collected and disposed of
- use wet rather than dry methods when hand sanding
- all power equipment must be fitted with dust collection bags
- all workers removing paint should use good quality disposable masks and overalls, protective clothing should not be worn home or in vehicles and faces and hands should be washed before eating
- a thorough clean-up should be carried out to ensure all particles and dust are removed on completion of the job
- when removing external paint, keep all windows and doors closed – for internal paint, keep the doors to the room closed to minimise dust migration
- keep children and animals from the work areas, and remove pet food and water dishes.

Paint testing kits are available from some paint retailers. For more information see paint company information sheets, WorkSafe NZ Lead-based paints Guidelines for the management of lead-based paints or the BRANZ Maintaining My Home website advice on lead-based paint.

Exterior timber doors

When specifying doors for exterior use, check with the supplier that the proposed location of the doors meets those covered by the supplier. Exterior doors are typically supplied with restrictions of use – for example, they can be fully exposed to the weather or they must be protected from rain wetting and sunlight by a porch.

Use instructions should also give the requirements for painting – typically a requirement that all surfaces are painted, including all edges (including the top and bottom), all rebates for glazing (before the glazing is installed) plus any holes or other rebates.

Other selection factors include:

- timber species – some timbers or composites are less stable than others
- colour – this can affect movement where sunlight hits all or part of a door.

Multiple doors that are unstable or incorrectly located increase the problems.

Currency of P21 bracing tests

NZS 3604:2011 requires that proprietary bracing systems are evaluated using the 2010 P21 test method, which covers the evaluation and testing to assess the capacity of wall bracing systems.

Bracing systems that have been evaluated using previous versions of the P21 test may be able to have their results updated by submitting back to the testing laboratory. Old tests that have not been updated no longer meet the requirements of NZS 3604.

The 2010 P21 test tightens up some of the procedures to ensure testing laboratory results are consistent with each other.

BRANZ special deals

Books for the building trade are aimed at designers, architects, builders, students, plumbers and drainlayers, building officials and surveyors. BRANZ has a wide variety of books that provide practical advice to ensure good practice is followed. Buy 3 or more books from the range and receive 25% off. Offer expires 30 June 2014. To view the range, click here

BRANZ Details offer over 800 wall cladding, roof cladding and weathertight remediation construction details that can be used in contract documentation. Details are available for 6 common wall claddings and 4 common roof claddings Buy 10 or more BRANZ Details and receive 25% off. Offer expires 31 July 2014. Click here to select your CAD details

BRANZ bulletins are aimed at builders, architects, designers and building officials. Published bimonthly, they contain easy-to-read good practice guidelines. They also contain illustrations on a wide range of topics that relate to building and building performance. Buy 5 or more bulletins and receive 25% off. Offer expires 30 June 2014. Click here to view the current bulletins

Level – a one-stop resource to sustainable information. This series is aimed at builders, architects and designers to help homeowners design and build homes that have less impact on the environment and are healthier, more comfortable and have lower running costs. Buy 5 or more books from this series and receive 25% off. Offer expires 31 July 2014. Click here to view the Level series

BRANZ seminars: *You Asked – 24 Critical Questions Answered*

You Asked, a series of seminars for designers, engineers, builders and BCAs, provides a technical update and answers to important questions to the BRANZ Helpline:

- What is the content and importance of MBIE Advisory notes?
- For bracing, how are 'along' and 'across' defined?
- Why can't I substitute a similar product that I can get cheaper?
- Why is installing cladding over a cavity considered easier than direct fixing?
- Why is the scope of a BRANZ Appraisal important?
- How close to the edge of a slab can a fixing be?
- How much bracing is provided by existing construction?
- Why is an air barrier important in a wall cladding system?
- How do we know cavities work – the science behind cavities – the 4Ds?
- Why are multipliers used in NZS 3604 tables?
- How can I use the E2/AS1 risk matrix as a design tool?
- Are the 4Ds of weathertightness still relevant?
- What is the way to work out the loaded dimension and member spans?
- Why can my deck joists have a bigger span, and how do I calculate bracing?
- What do I need to consider when specifying wall underlays and flexible flashing tapes?
- Why do I have to use stainless steel with some new timber treatments?
- How can we use the benefits of diaphragms and dragon ties?
- What are the advantages and drawbacks of top venting of cavities?
- What are the differences between a wet cavity and a dry cavity?

- How were risk scores of the E2/AS1 risk matrix determined?
- How can I use E2/AS1 to support another way of detailing?
- What are the rules for tying down roof framing and lintels?

…and much, much more, including questions you wish to ask on the day – definitely a technical update and clarification session not to be missed.

Presenters:

Greg Burn has extensive knowledge and experience in the processes of building design and construction and an understanding of building technology and New Zealand standards for residential construction and Building Code compliance. He has presented of a number of national seminars for BRANZ. Greg has also run industry-based training courses and written a number of technical articles and books.

Harry Dillon is a weathertightness specialist. He has over 20 years' experience in the construction industry, primarily in the area of weathertightness. Harry has been the guest speaker at a variety of industry conferences and was the main presenter for the recent Ministry of Business, Innovation and Employment national seminar series *Weathertightness – An Induction Course for Builders*.

Confirmed dates and venues:

Gisborne	Monday	26-May	The Emerald Hotel
Napier	Tuesday	27-May	The Mission Estate Winery
Palmerston North	Wednesday	28-May	Travelodge Hotel
Invercargill	Tuesday	3-Jun	Ascot Park Hotel
Queenstown	Wednesday	4-Jun	The Heritage Hotel
Dunedin	Thursday	5-Jun	Forsyth Barr Stadium
Rotorua	Monday	9-Jun	Rydges Hotel
Tauranga	Tuesday	10-Jun	Trinity Wharf Tauranga
Hamilton	Wednesday	11-Jun	Claudelands Conference & Exhibition Centre
Whangarei	Monday	16-Jun	Flames International Hotel
Auckland	Tuesday	17-Jun	Crowne Plaza
North Shore	Wednesday	18-Jun	North Harbour Stadium Function Centre
Mount Wellington	Thursday	19-Jun	Waipuna Hotel & Conference Centre
Nelson	Monday	23-Jun	The Rutherford Hotel
Blenheim	Tuesday	24-Jun	Marlborough Vintners Hotel
Wellington	Wednesday	25-Jun	Mac's Function Centre
Timaru	Monday	30-Jun	The Function Centre
Hokitika	Tuesday	1-Jul	Beachfront Hotel Hokitika
Christchurch	Wednesday	2-Jul	Addington Events Centre
New Plymouth	Monday	7-Jul	Quality Hotel Plymouth International
Wanganui	Tuesday	8-Jul	Kingsgate The Avenue
Upper Hutt	Wednesday	9-Jul	Silverstream Retreat

Seminars run from 1–4 pm at all venues and we would appreciate registration being completed by 12.50 pm. Online registration is now available on the BRANZ website.