GUIDELINE BRANZ
HELPLINE 0800 80 80 85 (press 1) www.branz.co.nz

August 2014

More questions from the floor of the *You Asked* seminar series

As I have a nominal 20 mm cavity, does it really matter if the cladding leaks?

Yes it does. E2/AS1 is based on a nominal 20 mm dry cavity that is there to deal with any unintended leaks and requires claddings to be weathertight. Any regular leak may affect the durability of materials within the cavity such as H3.1-treated timber battens.

Can original window head flashing details for timber windows installed into bevel-back weatherboards be used where a new addition is to match the existing construction?

Yes they can, but such use will need to be submitted for consent as an alternative method. Part of the supporting evidence will need to show that the existing details have been working and that they will be replicated exactly.

Where do you measure edge distance for fixings into concrete slabs to and from?

Measure the edge distance from the outside face of the concrete or concrete masonry to the centre of the fixing. Edge distance for fixings should not be confused with the concrete cover requirement, which is measured from the face of the concrete to the nearest point of the fixing or reinforcing steel.

Has asbestos fibre ever been used in plasterboard stopping compounds?

Not as far as we are aware, but it may be present in some textured ceiling finishes.

Can cavity battens be structurally fixed to the framing so that the length of the cladding fixings can be reduced?

Yes. Timber cavity battens can be fixed in accordance with BRANZ Bulletin 475 *Structurally fixed cavity battens* and be submitted for consent as an alternative method. The cladding fixings are as described for direct-fixed cladding in Table 24 of E2/AS1.

What are the key differences between an E2/AS1 rigid underlay and a rigid air barrier?

E2/AS1 rigid underlays are a generic sheet product (such as fibre-cement and plywood sheets with butted joints) that is overlaid with a flexible wall underlay. Under E2/AS1, using a rigid air barrier is a requirement in an extra high wind zone

Rigid air barriers, which are not covered by E2/AS1, are a proprietary air-barrier system that may be coated and has flashed or taped joints. To be considered an air barrier, a product or system should have a measured airtightness that exceeds 0.1 MNs/m^3.

Can softboard be used as a rigid wall underlay under E2/AS1?

No. Only 6 mm fibre-cement or 7.5 mm plywood can be used.

Can a veranda beam be cantilevered under NZS 3604?

Only if specifically designed by an engineer.

How do cavities deal with construction moisture?

It is dried by the ventilation that occurs.

Is a 40 mm deep cavity for claddings other than masonry veneer better than a 20 mm deep one?

Not really. BRANZ research has found that there is more than sufficient ventilation and cladding separation to prevent moisture bridging the cavity in a well constructed nominal 20 mm dry cavity.

July *Guideline* clarification: nails for enclosed (dry in service) copper-based treated framing

A question has arisen over our interpretation of NZS 3604:2011 Table 4.3 and the type of fixings that can be used in dry enclosed situations where the framing is treated with a copper-based treatment.

Our interpretation in the July *Guideline* is based on the *Build* 137 article (page 40) that states, where the timber moisture content remains at 18% or less, bright steel nails can be used with CCA-treated timber and hot-dip galvanised nails used with copper azole and copper quaternary preservative-treated timber.

Note 5 to Table 4.3 in the standard refers to clause 4.4.4, which says that stainless steel fixings are required for copper azole and copper quaternary treated timber in exposed and sheltered locations (part a), while in all other locations (part b), hot-dip galvanising is sufficient. Clause 4.4.4 makes no specific mention of fixing requirements for CCA-treated framing.

Product safety warning – Goldair fan heaters 3108 and 3109

The Stuff website reported on 28 July that two models of bathroom heaters have been banned from use after causing fires. The wall-mounted Goldair fan heaters 3108 and 3109 were likely to have been installed more than 3 years ago, says Energy Safety, part of WorkSafe NZ. The heaters have caused a number of fires, and people should immediately stop using them.

More detail about the recall is available from Goldair at 0800 232 633 or recall@goldair.co.nz.

BRANZ Maintenance Schedule

BRANZ's new web-based tool Maintenance Schedule is now available for use. Schedules can be purchased individually or as a pack of five. Individual schedules must be completed and downloaded as a PDF within 3 months. However, for a five-pack purchase, you have 12 months to complete and save the five schedules as PDFs. At the end of the 3 or 12-month period from purchase date, all details entered will be deleted and will not be recoverable.

To purchase a user licence, you need to have a My BRANZ account. Click here to set up an account.

A video user guide for Maintenance Schedule can be found here.

Heating in early childhood centres and care facilities for the elderly

The performance requirements of Building Code clause G5 *Interior environment* paragraph G5.3.1 states that, for early childhood centres and care facilities for the elderly, 'Habitable spaces, bathrooms and recreation rooms shall have the provision for maintaining the internal temperature at no less that 16°C measured at 750 mm above floor level, while the space is adequately ventilated.'

BRANZ *House Insulation Guide*

The 5th edition of the BRANZ *House Insulation Guide* is now available for purchase on the BRANZ website. Click here to order.

This edition has been fully updated and incorporates additional information on steel framing and concrete floor systems.

Graphs on pages 24 and 25 allow you to calculate the R-value of ceilings with non-rated recessed downlights and with CA-rated downlights for an average living area ceiling of 43 m^2. The unrated downlight graph should only be used for assessing existing ceilings in residential buildings – these downlights are no longer permitted to be installed in residential ceilings.

To use this graph for ceilings with an area other than 43 m^2, the following ratings of recessed downlights per m^2 can be applied to the graph (values have been averaged):

- 4 downlights per ceiling = 1 downlight per 10 m^2
- 5 downlights per ceiling = 1 downlight per 8 m^2
- 7 downlights per ceiling = 1 downlight per 6 m^2
- 10 downlights per ceiling = 1 downlight per 4 m^2
- 20 downlights per ceiling = 1 downlight per 2 m^2
- 40 downlights per ceiling = 1 downlight per 1 m^2.

The only recessed downlights permitted in new residential installations are CA rated, IC or ICF rated. The lamps must be clearly marked with their rating:

- CA = close abutted (where insulation can touch but not cover the downlight). The variants are CA 80 and CA 135 – the number refers to the maximum temperature that the insulation can be exposed to.
- IC = insulation contact (where insulation can touch and cover the downlight). IC types cannot be used with loose fill or foamed insulation and require the insulation to have passed a needle flame test.
- ICF = these types prevent small pieces of insulation touching their hot parts and can be covered with all types of insulation except foamed insulation.

Where recessed downlights are being specified, ICF downlights are recommended as they allow insulation to go over them, which means there is no reduction in the ceiling R value, and they also prevent internal moisture being transferred into ceiling spaces. Any insulation that contains an electrically conductive material must not be used with ICF downlights.

Perforated acoustic ceiling linings

Acoustic ceiling lining products that are perforated may not be suitable for use in domestic buildings as the perforations may allow the passage of internal moisture into ceiling spaces. This moisture may result in wet insulation or condensate in the colder roof spaces above the insulation.

These products are designed to be used in commercial situations that have environments controlled by heating, ventilation and air conditioning.

Building a Better New Zealand Conference

The Building a Better New Zealand Conference is being held in Auckland at the Rendezvous Grand Hotel from 3–5 September, and BRANZ is a foundation sponsor.

The conference will bring together a wide range of industry stakeholders including researchers, industry leaders, policy makers, innovators, designers and manufacturers to focus on research findings and best-practice case studies.

Aligned strongly with the New Zealand Building Research Strategy, the conference will include local and international speakers to share their knowledge and insights on innovative, high-performance and low-impact approaches to developing, maintaining and retrofitting the built environment.

Spanning policy, planning and design through to construction, maintenance, refurbishment, reuse or deconstruction, the focus of the conference will be the future of New Zealand's built environment and how to transform the building sector to deliver on the needs of future New Zealand.

Register for the Building a Better New Zealand Conference here.

BRANZ seminar: *Building Energy End-use Study (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 undertaken. 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
- types and nature of building systems and the extent to which passive solutions can be integrated
- components (lighting, HVAC, refrigeration, etc.) of energy use 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)

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

To register for the seminars, click here.