FREE TO ALL BUILDERS

BRANZ

BUILDER'S MATE

ISSUE 53 | April 2012

Photo: Paul Estcourt, *New Zealand Herald*.

We have liftoff!

The weather bombs and tornadoes that have hit New Zealand in recent years have highlighted the need to ensure that building components are adequately secured against wind uplift.

You'll often hear media reports of roofs "blown off". In fact, they are more likely to be lifted off. When wind blows across a roof it usually creates an upward suction or negative pressure on the roofing, the purlins and the rafters. Upward pressure is also exerted on veranda posts and beams. The greater the wind speed and the lower the roof slope, the greater the forces exerted.

For new buildings

All roofs, including veranda roofs, need to have their cladding and framing securely tied together to resist the uplift forces.

You'll need to make sure:

- **lintels** are tied to trimming studs and the top plate above. (More detail is given >

INDUSTRY NEWS

New and updated BRANZ books

One new title and two new editions have recently been published by BRANZ. They are:

- Good Practice Guide ***Concrete Slabs and Basements*** – a guide to the planning, design, detailing, specification and construction of ground floor slabs and basements in residential buildings
- Building Basics ***Steel Framing*** – a new book that looks at materials, fabrication, design and erection, including thermal break requirements, underlay, insulation and cladding
- ***Landscape Construction*** – a new edition of the guide to building construction within the landscape.

BRANZMap goes live!

The latest online service from BRANZ is a map tool that tells you instantly the earthquake zone and corrosion zone for any address in New Zealand. It's in the toolbox at **www.branz.co.nz**. Take a look!

HAMMER 'N' NAILS

Inside:

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in NZS 3604:2011 *Timber-framed buildings*, including Figure 8.12 and Table 8.14)

- **rafters** or trusses are tied to the top plate and wall studs. (See NZS 3604 Section 8 – especially Figure 8.18 – for top plates, and Table 10.1 and Figures 10.6 and 10.21 for rafter connections)
- **veranda posts** have sufficient mass and a strong enough connection at the base, and the posts have a strong enough connection to any veranda beam they support (Section 9)
- **ridge beams** are anchored within the framing and rafters are anchored to the beam (Figures 10.5 and 10.8)
- **purlins** are secured to the rafters as given in NZS 3604 Tables 10.10 or 10.11.

You can also find a lot of these details in the BRANZ *House Building Guide* (3rd edition, 2011).

Roof cladding manufacturers should provide the instructions for the purlin spacing of longrun metal roofing, and the size, type, number and spacing of fixings that are appropriate for the roof cladding type or profile and wind zone. For profiled longrun metal roof cladding, the crest fixings may need to incorporate load-spreading washers to accommodate the uplift that may be acting on the roofing.

For tile roofs (front page photograph), there are specific fixing requirements for the tiles to tile battens and tile battens to the roof structure.

For older buildings

Much of the roof damage in the weather bomb that hit Taranaki hard in early March was to older buildings. Fixings can corrode and lose some of their holding power over time, particularly in coastal areas, and older buildings were generally designed and built to a lower standard than that required by NZS 3604:2011.

If you're carrying out maintenance on older buildings, check the condition of roof framing connections and cladding fixings – although this may not be easy.

If you're carrying out renovation work, include upgrading of fixings as part of the work brief.

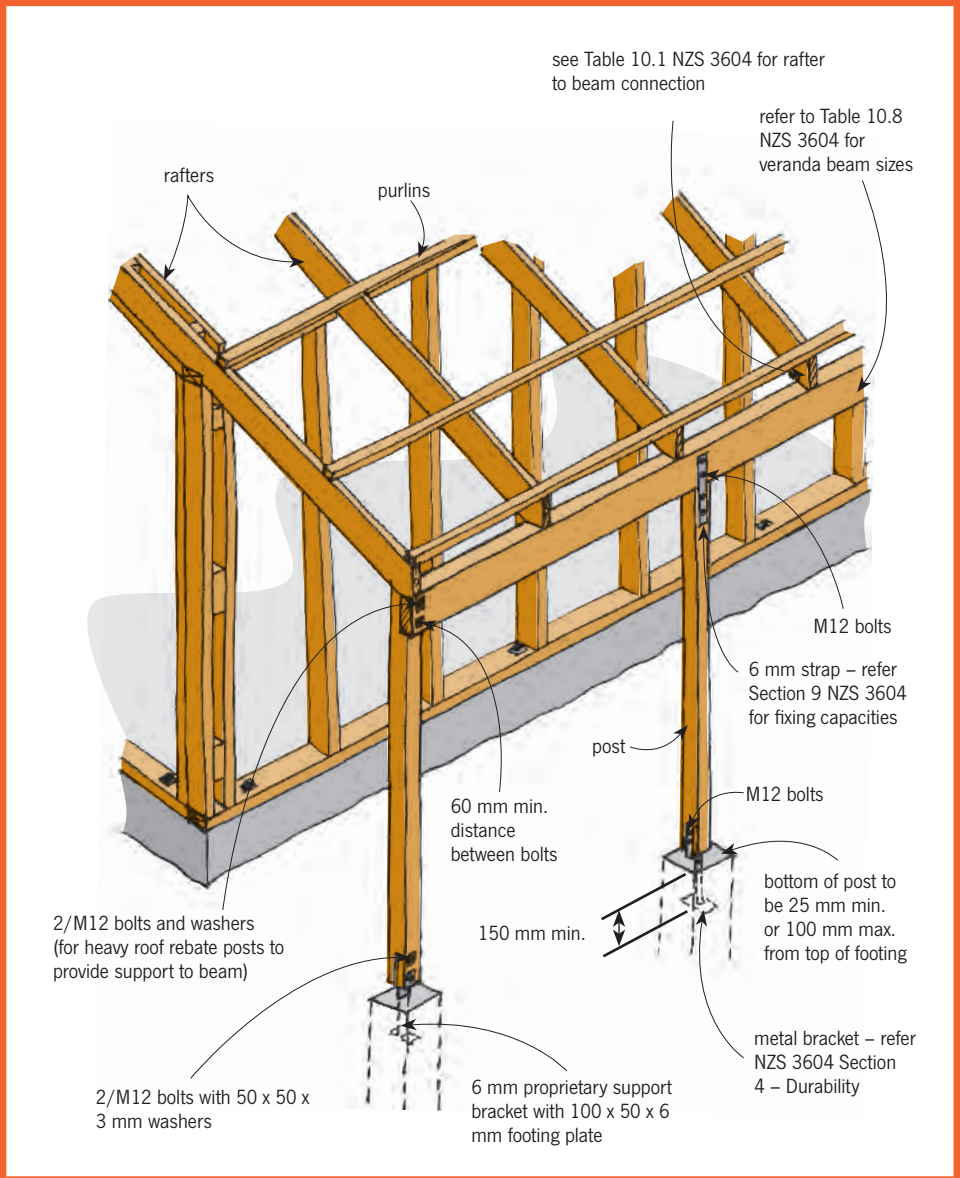

Figure 1. Fixing posts and beams to resist uplift.

Dribblings from the Old Geezer

Innate and learned behaviour are both important to us. Innate behaviour you learn for yourself naturally. You drink when you are thirsty, you pee when you need to etc. No one tells you to do it – you just do. Learned behaviour is when you are told or shown to do something and you always do it from then on. This can be good – but a word of caution.

Everyday when I went off to work at BRANZ I put on steel toecap boots even though usually the most dangerous thing that could happen would be to drop a cheese scone on my foot. I wore the steel toecaps because my early morning behaviour related to preparing for work and my learned behaviour dictated appropriate footwear.

However, sometimes learned behavioural practices can clash. Our household is a 'shoes-off' sanctuary and automatically before entering, footwear is removed. So recently when carrying out a simple carpentry task indoors, the needed work outside was done with steel toecaps on because the cognitive auto-pilot steering me said so. Similarly the approach to the backdoor led to the removal of the protective footwear because – I don't know why that was – and when I dropped the piece of 100 x 50 on my socked big toe, something in me said "I knew that would happen!"

I am not suggesting a work-plan and hazard analysis for every domestic chore but remember work is a four-letter word and as such pretty serious – and more important than taking your shoes off.

Des Molloy

Garage door levels and clearances

Garage entries need to be carefully designed and built so that rainwater drains away effectively and doesn't get blown into the garage.

Closing garage doors into a recess in the edge of the slab can help keep water out of the garage. E2/AS1 Figure 65 shows a set down of 20 mm.

And because the part of the slab at a garage entrance isn't protected by waterproofing, maintaining ground clearances is especially important.

E2/AS1 sets out minimum distances between the building floor level and outside surfaces (Figure 1). Garages that are part of the house (or attached to it) must have no less than 50 mm total level change between the interior and exterior paving. This can be achieved by ensuring the finished ground level adjacent to the opening is 50 mm lower, or by using a raised threshold or concrete nibs at the opening.

The new E2/AS1 gives a 25 mm minimum clearance between the bottom of cladding and the driveway at garage door openings.

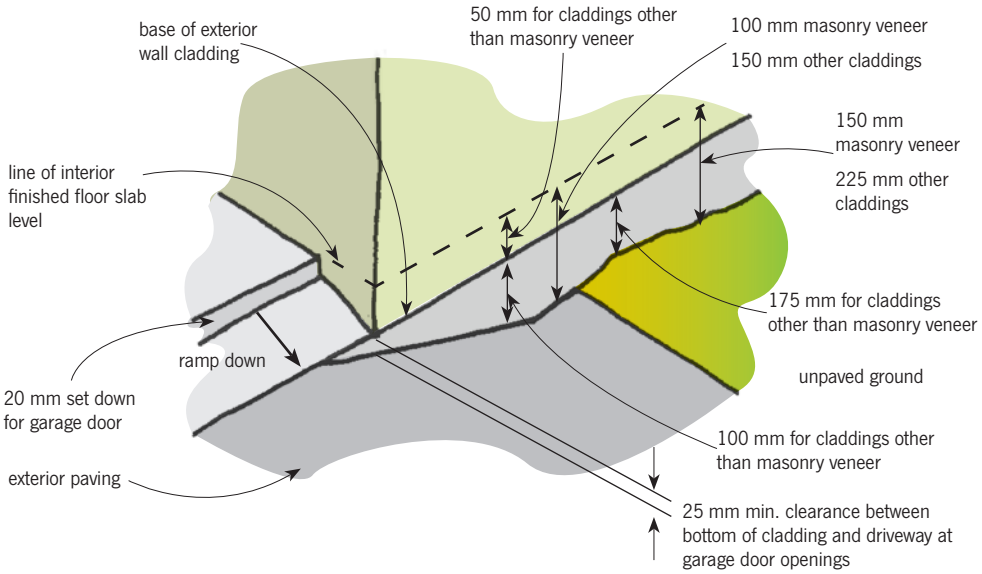

Figure 1. Minimum clearance distances in E2/AS1

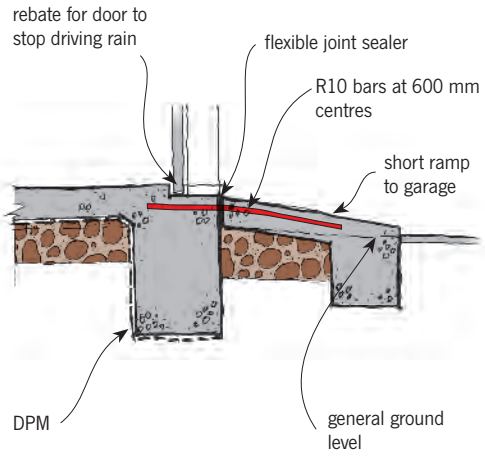

Figure 2. Garage entrance. (Reinforcing in footing not shown)

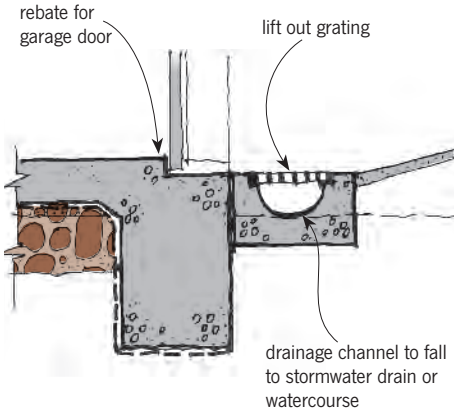

Figure 3. Garage entrance with step down approach. (Reinforcing not shown)

Correction: Builder's Mate 46

In our February 2011 issue, we stated that a licensed engineering associate who designs restricted work in buildings does not require a design licence under the new licensing scheme. In fact, the exemption only applies to registered architects and chartered professional engineers.

COMPETITION
Win!

A Makita worksite radio!

This 2 speaker stereo radio is Mp3/iPod compatible, works from mains power or Makita battery, has a digital quartz display and is built to take rough handling. Now available through Toolshed shops.

Worth $249!

The prize is provided courtesy of The Tool Shed.

All you need to do to win is tell us the name of the mystery tool (above right).

Email you answer to **buildersmate@branz.co.nz**. Put "April Competition" in the subject line. The message should include your answer, your name, postal address and phone number. One entry per entrant please.

Don't forget to tell us where you picked up your copy of Builder's Mate! The winner will be the first correct entry drawn at 9 am on Friday 4 May 2012. Details will be posted on the BRANZ Ltd website (www.branz.co.nz) and in the next edition of *Builder's Mate* due out on 1 June 2012.

Terms and conditions:

Entry is open to all New Zealand residents except employees and immediate families of BRANZ and The Tool Shed shops. The competition will close on Friday 4 May 2012. The prize is not transferable for cash. The judge's decision is final. No correspondence will be entered into.

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Here's a tool
What is it?

The winner of the BM 52 competition was Brian Stafford of Marton. The mystery tool was a floorlayer's hook-knife for using on vinyl floors and the prize was a bag full of carpentry tools worth $370.

What's wrong with these PICTURES?

1 TIMBER PILE AND BEARERS

2 INSULATION UNDER ROOFING UNDERLAY

Answers:

1. There is insufficient bearing due to an incorrect bearer or post location. There are no connectors between bearers and pile. (See BRANZ *House Building Guide*, 3rd edition, page 83 for fixing details.)

2. The insulation is in contact with the roof underlay. There should be a minimum 25 mm air gap between insulation and flexible roof underlay. This is to stop any moisture in the underlay wicking into the insulation.

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