

Builder's MATE



FREE TO ALL BUILDERS

May 2005

Issue 1.1

Teetering on the edge

Special care and thought is needed when you're building timber-framed balustrades and parapets



Timber-framed balustrades and parapets are prone to failure, especially if cap flashings are not used.

Designers have been relaxing their detailing standards when the building elements are outside of the building envelope, and builders have similarly taken less care than they should when constructing.

ABOVE

All aboard? Balconies can come in all shapes and sizes but care is needed in the detailing and building.

BELOW

To ensure your balcony, balustrade or parapet doesn't fail, limit the routes by which water can get into it, provide ways for any water that has got in to get out again, and make sure it's adequately ventilated to help dry any moisture within it.

contd page 2



photos used to illustrate high risk areas only



Industry News

Safe and sound

Site Safe New Zealand has appointed Adam Hunt as a safety advisor in the Manawatu and Wairarapa. Adam is a qualified carpenter who has also worked as a Territorial Army field engineer. He'll also be complementing Site Safe's local contracted trainer network by regularly running Passport training courses in Wellington. You can contact him on 021 800 610.

Building on success

Recently a bamboo-based building system, developed by the British research company TRADA International in partnership with the Indian Plywood Industries Research and Training Institute (IPIRTI), withstood a series of full-scale earthquake resistance tests carried out in collaboration with the Central Power Research Institute (CPRI) in Bangalore. The test building resisted seven repetitions of an earthquake equivalent to 7 on the Richter scale, as well as a replication of the Kobe earthquake (Richter 7.8), without any damage whatsoever. The intention is to use timber poles (a by-product of good plantation forestry practice) and bamboo, the fastest growing woody plant on the planet.

HAMMER 'N' NAILS



Inside: WIN! A Bosch cordless drill worth \$499.00!



Care is still needed – even if it is not on the outside!

It's often assumed that there's less of a need to keep water out of parapets and balustrades because leaks won't impact on the building itself. But, in reality, deterioration is often so fast and vast that it creates some pretty sizeable safety problems.

Balustrades can look robust and intact while having no structural integrity at all: they're often completely rotten inside and the only thing holding them up is the cladding!

Cracks develop

Balcony walls often rely on a textured coating to also be the flashing to junctions and the roof to wall tops. These coatings aren't suitable to do this job and, for a variety of reasons, coatings deteriorate, cracks occur and moisture is allowed in. With no ventilation to help dry it out, and no opportunity for that moisture to drain to the outside, hey presto – you've got rotting timber on your hands.

Treating timber doesn't fix the problem, it just delays the rotting process a bit, giving everyone a false sense of security. If the moisture content of the timber remains above 20% for any length of time you'll almost certainly find that rot will develop.



Guide to success

Good detailing and construction will hugely reduce the risk of failure.

For a quick guide to success follow these pointers:

- limit the routes by which water can get into your structure
- provide ways for any water that has got in to get out again
- ventilate your structure to help dry any moisture within it
- use timber that has been suitably treated for the exposure, e.g. H3.1 or better for balustrades
- use framing timber that's dry when you put the cladding on
- use skilled cladding applicators
- slope and flash the tops of parapets – BRANZ recommends a cap flashing as the safest option
- never fix handrails through the top surface of framed walls
- always install flashings at the junction of parapets and solid deck walls to external walls
- use a cavity behind all cladding materials.

The grey stuff

Designers will specify a concrete wall as having a finish such as F4 ... but what does it mean? Unless you have NZS 3114 you are unlikely to know. With the permission of Standards NZ we've scanned the finishes and have produced them here as close to the real thing as we can ... so you, too, can talk knowledgeably about the grey stuff.



F1. Roughest of all, for use where the finish doesn't matter, such as for foundations where the work will be covered.



F2. A surface that provides a key for plaster or other thick surface coatings.



F3. Permanently exposed surfaces that are not subject to close or frequent scrutiny, like surfaces of civil engineering structures which are seen from a distance.



F4: Used where it is reasonably important to look good and where it will be seen quite often, such as on walls, panels, beams etc, in a basement for instance. F5 is similar and used in offices, foyers and public spaces where appearance is important.



F6: The highest level of finish where appearance and accurate alignment are of greatest importance. This finish is often used in feature panels and also in high-speed water channels to minimise turbulence.

Need a hand? If you've got a building problem that needs fixing, get on the blower to Eddie Bruce at BRANZ advisory helpline!

Builders call **0800 80 80 85**. Home owners call **0900 5 90 90**

(0900 calls cost \$1.99 per minute, plus GST)

Next issue Site bending of reinforcing steel
Builder's Mate out July 1. Don't miss it!

Defend yourself against the weather

Building to keep the weather out is like building to resist invading forces

The weather seeks out the weakest points, concentrating its attack at the cladding joints, doors and windows. So that's where you need to concentrate your best defence strategies. We're talking about the 'four Ds' of weathering – Deflection, Drainage, Drying and Durability.

Your best defence weapon is deflection. Macro-deflection is provided by the overhangs (and other sheltering features from a building's shape), and micro-deflection is provided by overlaps at the joints and details. Next up is the drainage supplied by underlays and flashing systems, lapped to drain water to the outside. Third is drying, where dampness – penetrating the structure during normal wetting cycles – can diffuse out through claddings and linings during drying cycles in weather patterns. Fourth is durability – selecting materials to withstand occasional wetting and ingress of moisture. In the past you'd build with claddings and underlays fixed direct to the framing (see Figure 1).



But the risk of penetrating the outer cladding defence is greater on exposed sites. So you need to improve the second defence – drainage – by using a cavity. The cavity, in turn, improves the third defence: drying (see Figure 2).

But don't rely on one defence to keep water out. Every joint needs a combination of all four defences. Weathering design is a process of managing water entry. Always build to keep water out – that's your primary defence. If the invading weather does get in, have the back-up defences of drainage, drying and durability to deal with it.

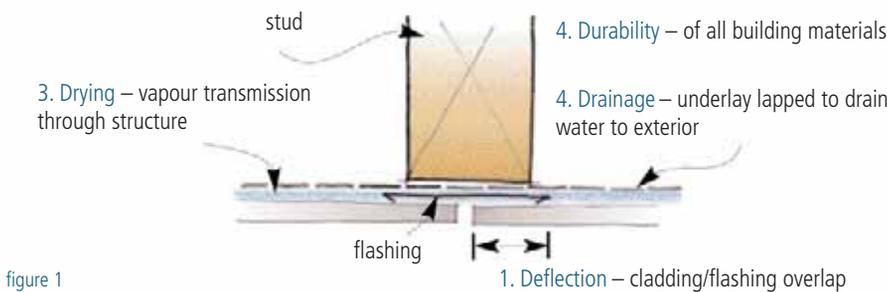


figure 1

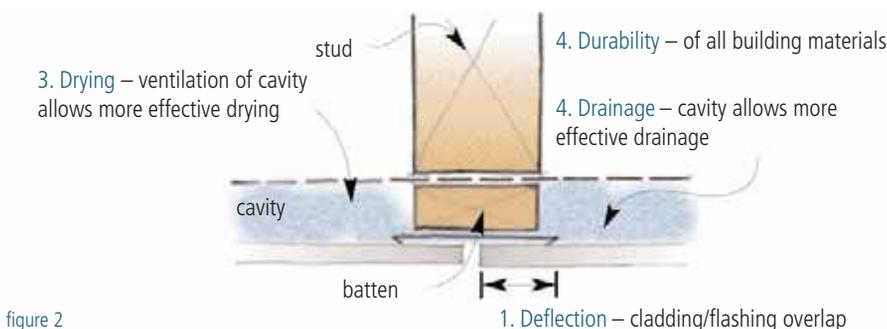
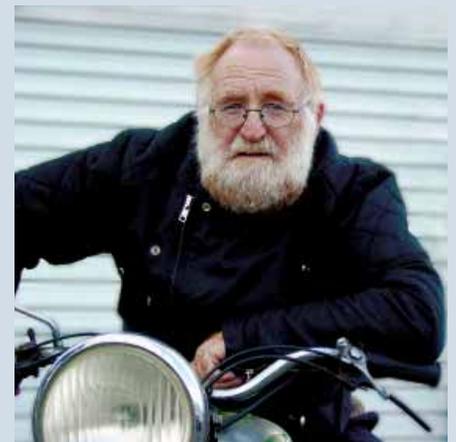


figure 2



Dribblings from the old geezer

The fact that 99.9% of builders have never seen the New Zealand Building Code would come as a surprise to Joe Public. But it's not a document that has any particular relevance to builders. Although there are Acceptable Solutions in the Code and some Verification Methods to demonstrate how a material or system can meet it, it's a document for designers, not builders.

Builders often hold up their NZS 3604 and say, "Isn't this the Building Code?" No, but it is an Acceptable Solution to aspects of the Code so you can follow it with confidence.

Your designer doesn't have to follow NZS 3604 or any other Acceptable Solution to the Code if their Alternative Solution has been well prepared and accepted by the Territorial Authority.

That's one good reason why you should never change anything in the contract documents without instruction. If you think you have a better way or better product, convince your designer first, and get an instruction from them, then have the consent amended by the TA, otherwise the liability shifts to your shoulders. Designers have professional indemnity insurance, you don't – so tread carefully.

Des Molloy, BRANZ technical writer

Product Information

Power to spare

American power tool company Milwaukee have produced a V28 lithium ion battery that has increased power and up to twice the run-time of 18-volt models. A built-in fuel gauge tells users how much run-time is available while consistent, fade-free power throughout the discharge cycle ensures the last job is as powerful as the first. For more information, check out Milwaukee@westora.co.nz or phone Grant Crawford, Westora Marketing Manager: 09 414 1756.



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Published every two months, BUILD is THE industry magazine for building-related issues. Subscriptions cost \$54.

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win!

A Bosch GSR 12VE industrial quality cordless drill worth \$499!



What is the name of this tool and what is it used for?

We've got together with the Tool Shed and Bosch to bring you this industrial quality cordless drill worth \$499!

To win it, just correctly identify our mystery tool, pictured, and tell us what it's used for.

Write your answer, together with your name and address on the back of an envelope (don't forget to tell us where you picked up your copy of Builder's Mate)

Terms and conditions: Entry is open to all New Zealand residents, except employees and immediate families of BRANZ Ltd, BRANZ Inc and BRANZ Pty, and the product manufacturer. The competition will close at 9am on Friday, June 10 2005. The prize is not transferable for cash. The judge's decision is final. No correspondence will be entered into. BRANZ may, from time to time, send you information about our products. You can contact us at any time if you do not wish to receive this information.

and send it to:

Builder's Mate Issue 11, Mystery Tool Competition, FREEPOST BRANZ, Private Bag 50908, Porirua City.

The winner will be the first correct entry drawn from our postbag at 9am on Friday June 10. Details will be posted on BRANZ website (www.branz.co.nz) and in the next edition of Builder's Mate, due out July 1 2005 – don't miss it!

Blokes on the job



Andy Brown, building in Wanaka

Favourite tip: get your flashings right and ensure there is a water path. Lap your wall wrap correctly.

Favourite tool: Paslode finishing gun.



Mathew Rusbrook, otherwise known by his mates as **Ropey**, building in Ngunguru.

Favourite tool: super-sized skilly.

Winner!

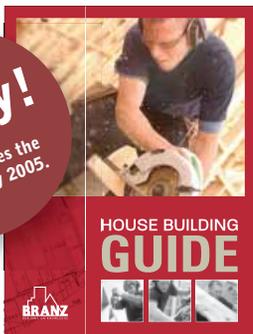


Our winner from Builder's Mate 9, Keith Fink of Lower Hutt, shares a joke with Kevin Prout of The Tool Shed. Keith won a 12v Hitachi impact cordless drill for identifying our mystery tool as a wood carvers screw to hold the workpiece through the work bench.

BRANZ House Building Guide

Hurry!

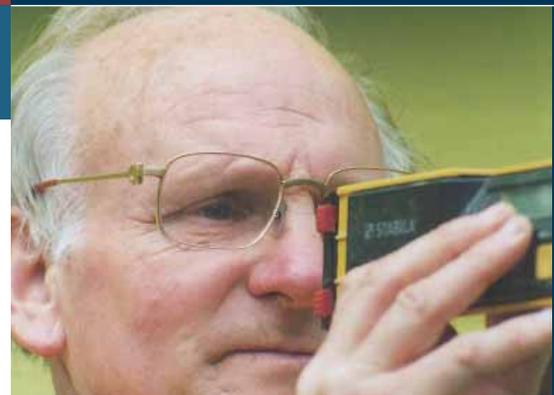
Offer expires the end of May 2005.



Running costs have increased so we've reluctantly had to put the prices of our books up. But for readers of Builder's Mate, we'll offer you the *House Building Guide* at the old price.

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Paul Findlay, working in Auckland

With his favourite tool, an electronic clinometer which measures angles. Paul's photo was sent in by Eva Findlay and he will receive BRANZ books worth \$50!

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Standards referred to can be purchased from Standards New Zealand.
Tel: 04 498 5991 or www.standards.co.nz.