Builder's MATE

FREE TO ALL BUILDERS

BRANZ
BUILDING ON KNOWLEDGE

September 2005
Issue 13

CAVITIES

THE INSIDE STORY

Cavities behind wall claddings are now often required in domestic buildings. It's vitally important that they're constructed properly if you want them to keep the wall framing dry.

In line with E2/AS1, cavities must have drainage and ventilation slots:

- at the bottom of the wall
- above any flashed inter-storey joint
- where the bottom of the wall cladding terminates over a roof
- across the top of openings.

Cavities need careful planning: additional framing may be needed to support the battens, particularly at openings.

Installing the wall wrap correctly is important. The wrap material should be folded around and into the trimmed openings. Fit it taut to prevent bowing into the cavity. When the batten spacing exceeds 450 mm you can prevent bowing by installing:

- additional vertical battens
- vertical strips of tape, stapled to dwangs
- netting over the flexible wrap.

Then stick flexible flashing tape to each corner of the opening and across the sill.

Before installing the battens, fit any flashings – such as head flashings – that will bridge the cavity. An additional layer of wall wrap is installed over the flashing upstands (and under the strip above) to maintain a drainage path, or flexible flashing tape can be fitted over the top of the flashing upstand.

Drainage and drying space

The battens that form the cavity provide a drainage and drying space. They are installed at each stud position. At the top of the cavity a continuous closing batten is used. Cavities must not vent into the roof space or into boxed eaves.

Continues p2

Inside: Win this easy storage concrete mixer worth over $500!

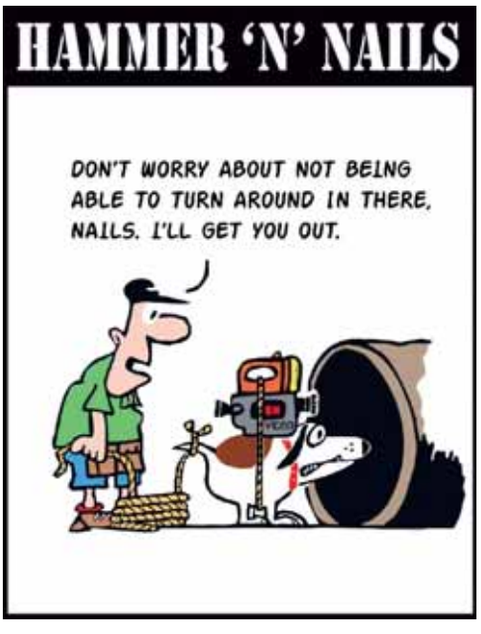
Industry News

Setting Standards

The Department of Building and Housing (DBH) and Standards New Zealand (SNZ) are developing a process whereby the DBH will approve a Standard as soon as it is published. This will prevent a Standard being published and used before it has been approved. They're also encouraging more input from designers, builders and manufacturers at the draft stage. Have your say at: www.standards.co.nz

Get back to work

Dr Robin Griffiths, an occupational physician from Otago University's Wellington School of Medicine, reckons working is good for your back. Dr Griffiths is working with ACC to manage low back pain safely and has published the *Acute Low Back Pain Guide*. For an information brochure call ACC on 0800 THINK SAFE or 0800 844 657.



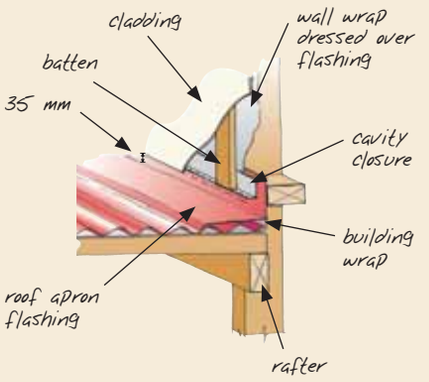
Generally, cladding fixings must increase in length by the thickness of the batten. BRANZ has tested a batten-fixing system using No 1 Framing Guide timber battens structurally fixed to the framing (see BUILD magazine February/March 2005). The cladding can then be fixed to the batten without increasing the cladding fixing length.

Horizontal joint

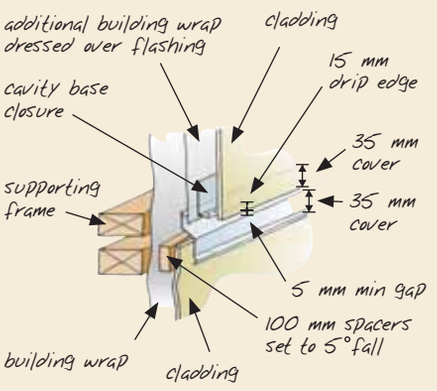
When a cladding needs fixing at a horizontal joint, install 100 mm long packers on a slight slope with a 50 mm gap between (and between the vertical battens). Don't fit a continuous horizontal batten between the vertical battens: this will block the cavity and prevent drying and drainage.

Fit a cavity closer at the bottom of all cavity spaces with 3–5 mm ventilation slots or holes to allow drainage and drying.

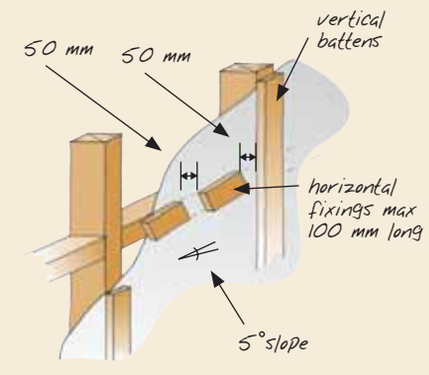
Cavity base over adjoining roof



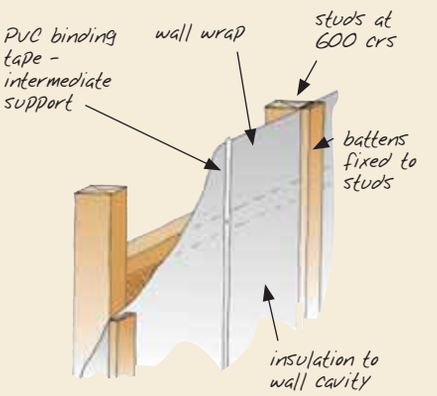
Inter-storey flashing joint



Horizontal fixings



Supporting building wrap between studs



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**

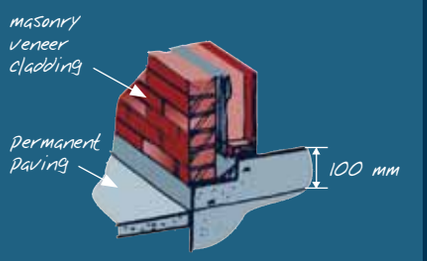
(0900 calls cost $1.99 per minute, plus GST)

Next issue Slabs (and we don't mean a 24 pack)
Builder's Mate out November 1. Don't miss it!

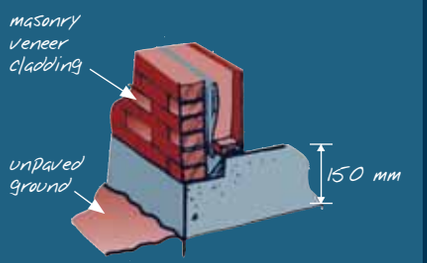
Check your ground clearances

When working out the height of your foundation walls, d'you know how much ground clearance you'll need for different claddings? Stick to these and don't build up gardens or lawns to reduce them.

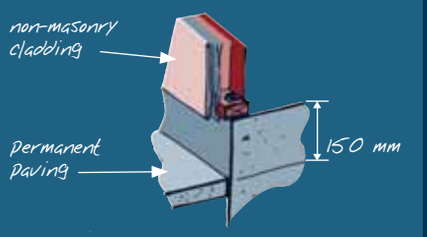
Masonry veneer with permanent paving



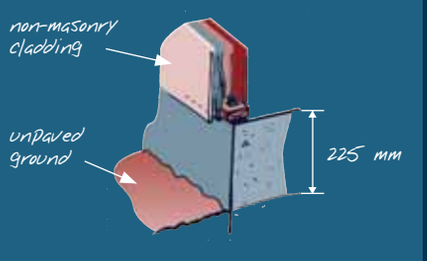
Masonry veneer with unpaved ground



Non-masonry cladding with permanent paving

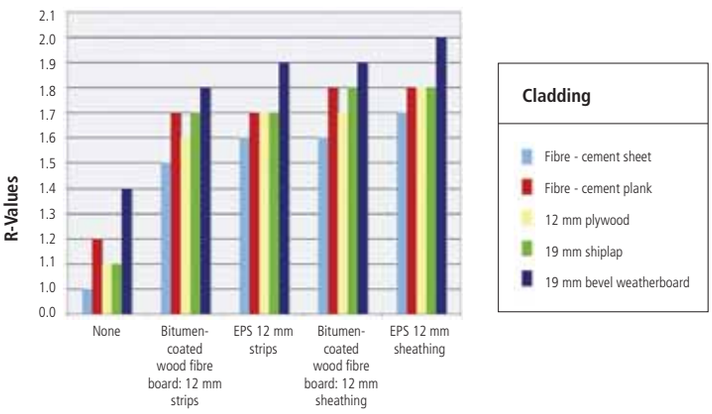


Non-masonry cladding with unpaved ground



A thermal bridge too far

Graph 1. Types of thermal break



Thermal bridges and condensation are two areas you need to be wary of when using steel framing.

A thermal bridge exists wherever there is a continuous path to conduct heat. A steel framing member can act as a bridge, allowing heat to move from a warm interior, through the wall framing to the external cladding and outside, effectively bypassing the insulation.

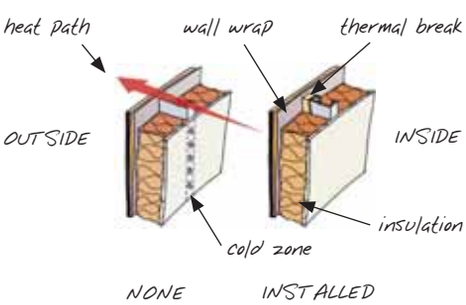
On cold days this will cool the wall lining along the bridge. If this temperature is well below the dew point of the indoor air, moisture will form on the lining.

If the steel framing is in contact with the external cladding, condensation can form on the steel in the wall. Walls or roofs that have thermal bridges will not comply with the New Zealand Building Code (NZBC).

R-values

Condensation is not the only potential problem with thermal bridges – the heat resistance of the wall (R-value) can be seriously degraded.

Figure 1. Thermal breaks



Graph 1 shows the improvement in R-value if thermal breaks are used. With no thermal break, there is up to 30% loss in R-value. Since R1.5 is the minimum required for walls in North Island Climate Zones, this could mean a building fails to meet NZBC requirements.

Thermal breaks are insulating materials placed on the *cold* side (outside) of a thermal bridge (see Figure 1) so that heat passing across the bridge meets a high thermal barrier. These barriers can be either strips of material across the face of the framing where they meet the cladding or sheathing behind the cladding. The aim is to keep the structure as warm as possible.

Thermal breaks should be installed on the outside face of all steel framing on exterior walls. If the floor is steel-framed, breaks should also be used around the perimeter where the cladding is fixed to the floor members.

Ceilings

Insulation in steel-framed ceilings should be carried over ceiling joists, not just placed between them. Otherwise the steel joists act as a thermal bridge between the inside and the ceiling space.

The thermal break material must support the exterior cladding, so it needs to be non-compressible. Suitable materials include 12 mm softboard, 10 mm extra high-density expanded polystyrene (EPS), or 10.5 mm bitumen-coated wood fibreboard.

Dribblings from the old geezer

When a building element goes out of fashion, the know-how about its construction can follow. Take weatherboard cladding: it fell from favour when monolithic cladding became everyone's favourite must-have feature.

Well, weatherboard cladding is back and guess what … there are builders throwing it at houses with little skill. We've seen them going crazy with their nail guns, firing nails with gay abandon. As a result, weatherboards are being double- and triple-nailed. Worse, they're being nailed through the lap – a real no-no. The boards should be nailed once, just above the lap, so they can move without splitting. So save your nails and do it right. If you're not sure, ask your junior woodchuck. He or she will have the correct way of doing this detailed in their BCITO resource box. Useful things, these junior woodchucks. If you haven't already … maybe you should get one!

Des Molloy, BRANZ technical writer

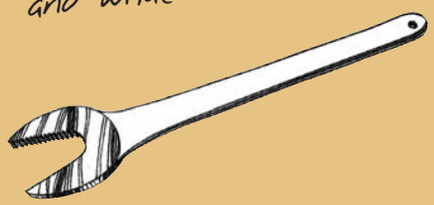
Product Information

VentClad wall cladding

The BRANZ-Appraised VentClad Ventilated Cavity System is a cavity-based flush-finished, monolithic plaster wall cladding. It is designed to be used as an external wall cladding system for residential and light commercial-type buildings where domestic construction techniques are used. For more information, contact PBS Distributors Ltd., PO Box 302 202, North Harbour, Auckland. Tel: 09 477 0960.

win! A portable cement mixer worth over $500!

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



Have we got a prize for you! This portable wheelbarrow-type concrete mixer is easy to store and transport – great for smaller volume contracting work.

It features:

- rubber wheels that make it easy to move around
- a heavy-duty steel bowl (590 mm and 140-litre capacity)
- 0.5hp motor (23 rpm).

And it comes with an easy-to attach stand – just what you need when height is required for removing the mix. Now hop to it!

This concrete mixer is available now at Powertool Centres around New Zealand. But we're offering you the opportunity to get one FREE! All you have to do is tell us the name of the mystery tool and what it's used for.

Send us your answer (one entry per entrant please) on the back of an envelope and post it (you don't need a stamp) to:
Builders Mate 13, Mystery tool competition,
FREEPOST BRANZ, Private Bag 50908, Porirua City.

Don't forget to tell us where you picked up your copy of Builder's Mate! The winner's name will be the first correct entry drawn at 9am on Friday 7 October 2005. Details will be posted on BRANZ website (www.branz.co.nz) and in the next edition of Builder's Mate, due out on 1 November 2005 – don't miss it!

Terms and conditions: Entry is open to all New Zealand residents, except employees and immediate families of BRANZ Ltd, BRANZ Inc, BRANZ Pty and Powertool Centres, nationwide. The competition will close on Friday 7 October 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.

Builder's Mate winners

The winner of the competition in BM 11 is Ross Windle of Raumati Beach who won a Bosch GSR 12vE industrial quality cordless drill, worth $499! Meanwhile, the BM 12 competition winner is John Briggs of Stratford, Taranaki. The prize is a Hitachi sabre saw. Prizes donated by The Toolshed.

Weathertight Solutions

Buy Weathertight Solutions Volume One (2nd edition) at the special launch price of **$100** for the Hardcopy Folder (normally $115), **$30** for the CD ROM (normally $50).

Or buy the Folder and CD ROM together for

only $110

plus $8.00 p&p

A huge saving of $55 off the normal price!!

But hurry - this exclusive to Builder's Mate readers is only valid until 30 September 2005.

Send your order with a cheque or credit card details to BRANZ Publications, Freepost BRANZ, Private Bag 50 908, Porirua City 6220, Wellington

Pay by credit card: call 0800 80 80 85 press 2

Blokes on the job

Robbie Ball and his apprentice **Joel Hart,** building in Karamea on the South Island's West Coast.

Favourite tool: the laser level.

Favourite tip: Keep your sunblock and shades on when the sun's out.

Hilton Hewitt, at a BRANZ seminar in Timaru.

Favourite tool: a cordless nail gun.

Favourite tip: Don't be afraid to get advice. Don't do it alone.

Al Gourley and **Colin McKenzie,** building in Tauranga.

Favourite tool: 18v Hitachi cordless tool pack with drill, circular saw and sabre saw … ideal for sites without power.

Favourite tip: Make sure you have a straight and square set-out.

Know a bloke on the job? Send us his (or her) details together with a photograph and favourite tip, and you could win $50 worth of BRANZ publications!

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