FREE TO ALL BUILDERS

BRANZ

BUILDER'S MATE

ISSUE 30 | JUNE 2008

When is a concrete slab dry enough to use?

With a bit of care, you can drive your car onto a new slab-on-ground just a couple of days after pouring. After seven days, the concrete will have developed most of its strength. But you'll have to wait much longer for the slab to be dry enough to lay floor coverings over it.

Overlaying the concrete too soon can result in swelling and lifting of timber overlays, bubbles under vinyl, tiles cracking (typically as the drying concrete shrinks), condensation under carpet underlay, and sometimes loss of adhesive bond for fully adhered flooring.

In the Building Code compliance document E2/AS1 section 11.2, a figure of 75% relative humidity is used to decide whether it is safe to lay floor coverings. BRANZ recommends a maximum 70% for timber flooring overlays. This test of relative humidity can be undertaken with an

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INDUSTRY NEWS

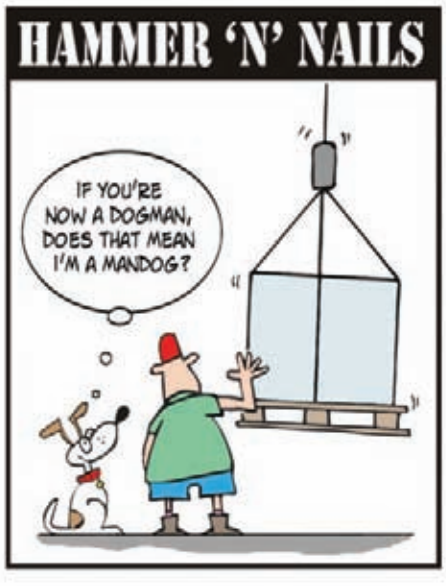
Limitations on DIY building outlined

There will be strict limits on what DIY housebuilders can do after the builder licensing scheme becomes compulsory in 2010.

- The DIYer will have to own the land on which the building work is carried out.
- They will have to sign a statutory declaration that the new building is to be their home.
- Council records will show that the work was done by a DIYer, so future buyers of the property can find this out.
- The implied warranties in the Building Act that apply to builders will be extended to apply to DIYers.

If a DIY builder does restricted work themselves – that is work involving things such as weathertightness, fire prevention or the structural framework – they will face the same liability as that which will apply to licensed builders if they don't get it right.

The details were announced by Building and Construction Minister Shane Jones at the Registered Master Builders Federation Conference in Wellington.



Inside:

Win!

A Hitachi DH22PG Rotary Hammer Drill worth almost $375

Continued from previous page

The Edney hygrometer measures relative humidity in slabs.

Edney flooring hygrometer. (See photograph above. A description of the hygrometer and how to use it can be found in BRANZ Bulletin 330 *Thin flooring – Preparation and laying*).

Some product manufacturers specify a maximum 5.5% moisture content in the slab before their product can be put down. However, this is still quite wet so only products that the manufacturer clearly specifies can tolerate these levels should be put down.

Other specifiers refer to the rate of evaporation. Once this has slowed to less than 15g/m^2 per 24hrs, the slab is deemed to be dry enough to lay flooring. There is a standard test ASTM F1869-04 for this, but the same warning applies – if the evaporation rate is measured as 15 g/m^2/24 hours the concrete is still very wet, and only products that can tolerate these high moisture contents should be used.

The hygrometer only reads the relative humidity in the top few millimetres of the concrete. If the relative humidity close to the surface of the concrete is 75%, it is still quite wet in its interior. If the concrete is covered by flooring, the moisture will be trapped, and will redistribute itself to a uniform moisture content that may be as high as 85% relative humidity.

It is also very important to realise that if the slab has been force-dried (for example, with heating or dehumidification), or if the concrete has been rewetted, with rain for example, the Edney gauge can no longer be used. It measures the surface relative humidity, which will have been reduced by the force-drying, while the interior of the concrete, which is what really counts, has remained quite wet.

The best thing you can apply is time just as our fathers did. They knew that the floor was drying at a rate of 1 inch (25 mm) per month of slab thickness, and there was no rush to stick the lino down. They never had problems with bubbling floors.

Dribblings from the Old Geezer

We evolve and our skills evolve. The ones who follow us never have the skills and knowledge that we have, or had.

Yeah right! This has been the boringly repetitive theme of many a gnarled old builder's diatribe when a glass of the amber liquid is in hand and a peer is there to nod agreement. Of course it is not true, but neither is much of what is said on licensed premises. Yep, the young ones know nothing about making copper soakers for bevel-back weatherboards, can't make a roof or solder a gutter and wouldn't know what trap wadding is.

This has been a repeated scenario since cave man days as old duffers probably lamented the inability of young pups to skin a brontosaurus and wasted all their time playing with those new round things. In reality it is scarily simple. If your Junior Woodchucks can't do the things that you can, then either you haven't taught them, or that skill is no longer necessary. Yes, it happens. Painters no longer know how to make a paint brush, chippies no longer know how to sharpen a saw. But a good standard of workmanship is still a good standard and the best is always the best.

Des Molloy

Air seals and backing rods

When wind blows against a building, the pressure outside is generally higher than that inside. This pressure difference will drive air through any tiny paths, carrying any moisture present into the building.

Some cladding materials let air through more easily than others. These need an air barrier to prevent air (and moisture) moving inside. In most New Zealand houses, internal plasterboard linings provide a general air barrier. The job can also be done by rigid underlay (plywood or fibre-cement) on the outer face of the framing, or by a flexible wall underlay that meets the requirements for an air barrier in Table 23 of E2/AS1.

Air paths can also occur around penetrations such as windows (Figure 1), doors, pipes and meter boxes. The solution is to fit an air seal between the framed opening and the reveal (Figure 2). This aims to get the air pressure in the void as close as possible to the outside pressure.

The air seal must not completely fill the void because it could end up wicking moisture through to the inside. The air seal is fitted against a backing rod, which stops the gap being overfilled.

The construction from the outside in, typically goes – cladding, void, backing rod, seal, and finally the trim around the opening.

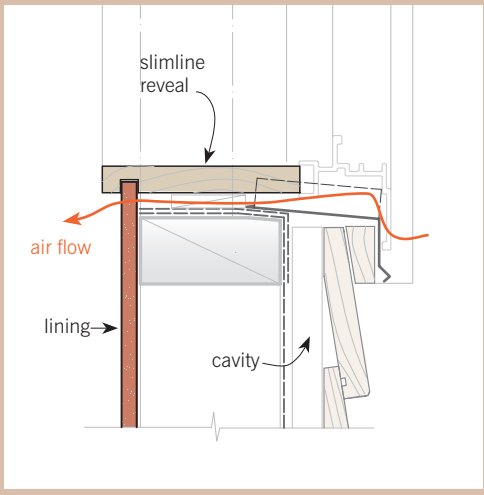


Figure 1: The potential air flow through a window with no air seal from higher outside pressure to lower inside pressure.

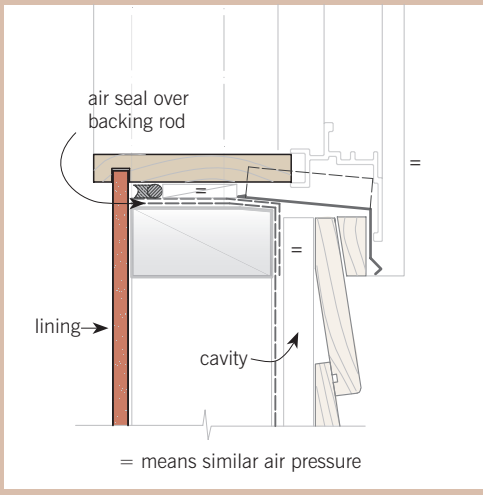


Figure 2: The same window, but with an air seal and backing rod.

At a glance

Straightening a stud

According to NZS 3604, Section 8.5.3

> Prepared with the help of Bryan of Steve Butler Builders, Takaka.

Use a long straight edge to identify where the middle of the curve in the stud is.

Mark for cutting.

Cut stud no further than the mid-point (no more than 2 cuts per stud. See NZS 3604 for other criteria)

Cut timber wedge with grain lengthwise.

Drive in wedge until the straight edge shows that the stud is straight, then cut off end of wedge.

Nail flitch or fish plate to sides. This must be thicker than 19 mm and extend not less than 225 mm past the end of cut.

COMPETITION

Win!

A Hitachi DH22PG Rotary Hammer Drill Worth almost $375!

?

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

Use the new Hitachi DH22PG Rotary Hammer Drill, complete with SDS+ drill bits, for normal rotary drilling in steel (13 mm) or wood (32 mm). Or with the flick of a switch, change to rotary impact drilling for masonry (22 mm). This great prize has a very convenient 2.3 kg weight and 620 watt motor.

The prize is provided courtesy of The Tool Shed.

All you need to win is tell us the name of the mystery tool (above, right) and what it's used for.

Send us your answer plus your name, address and telephone number on the back of an envelope. Post it (you don't need a stamp) to: Builder's Mate 30, Mystery Tool Competition, FREEPOST BRANZ, Private Bag 50 908, Porirua 5240. 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 Monday 30 June 2008. 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 August 2008.

Terms and conditions:
Entry is open to all New Zealand residents except employees and immediate families of BRANZ Ltd, BRANZ Pty, Building Research and The Tool Shed shops. The competition will close on Monday 30 June 2008. The prize is not transferable for cash. The judge's decision is final. No correspondence will be entered into.

The Tool Shed

BUILDER'S MATE WINNERS

The winner of the BM 29 competition was Kieran Ashford from Opotiki. The mystery tool was a reciprocating body saw or air body saw, used to cut metals, plastics and fibreglass. Kieran won an Arges rotary hammer drill.

BLOKES on the job

VILIAMI FILIMOEHALA

Remarkables Park, Queenstown.

Favourite tool
A smile.

Favourite tip
Smile – it is a new day in paradise.

SIMON BARTELING

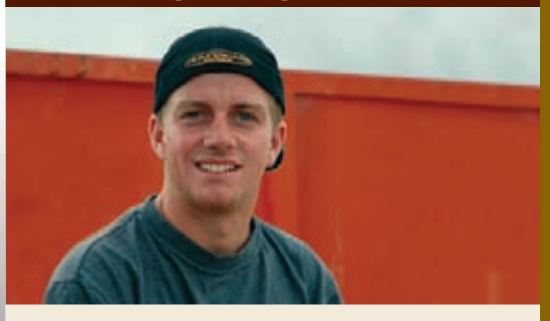
Christchurch trade outlet.

Favourite tool
Cordless drill.

Favourite tip
Use an O-ring rather than hemp or tape when fitting brass male and female connections.

MATT BAMBERY

From Tauranga, working in Rotorua.



Favourite tool
Mouse sander.

Favourite tip
When buying tools buy quality.

Know someone on the job? Send us details of his or her favourite tip and tool and you could win $50-worth of BRANZ books.

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