

BRANZ

builder'smate



Setting up a site

For a small job, you can just turn up with the right tools, but for more complex projects likely to take weeks or months, setting up a construction site takes planning.

Before starting the physical setting-up process on site, check that:

- all required consents (resource and building) have been granted
- the relevant documentation is provided, including signed contracts, drawings, construction plan, safety plan and quality assurance plan
- disclosures and checklist required by the Building Act have been given to the client
- insurances are in place, which include at least a contract works policy, public liability insurance and business assets/vehicle insurance
- for renovation or maintenance work on an existing building, the owner has informed their insurance company that work is being carried out
- for new construction and extensions to buildings, site boundaries have been verified
- drains and services have been identified and located
- neighbours have been contacted, especially if noise/dust/traffic may affect them or access to their property may be required
- materials that have a long delivery time are ordered ►

WIN!

The Arges 10.8 v
cordless drill

The Tool Shed

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worth \$149!

INDUSTRY NEWS

Honouring women in construction

The Hays NAWIC Excellence Awards were held on 7 May 2015 to celebrate the achievements of women in the construction industry. Mary Bartlett of painting business Tickled Pink won Tradeswoman of the Year, and architect Deborah Cranko won Professional Woman of the Year. www.nawic.org.nz

BCITO push for more apprentices

In early April, BCITO launched its biggest recruitment drive for a long time, aiming to find 5,000 new apprentices. Chief Executive Ruma Karaitiana says that, while nearly 30% of school leavers head to university, fewer than 7% go to trade apprenticeships, and the BCITO is trying to change that. One of the messages being pushed is that apprentices don't have student loans, they have jobs. www.bcito.org.nz

BRANZ seminar

The next BRANZ seminar will focus on building quality. It will be presented in 22 locations in June and July. Details available soon. www.branz.co.nz/seminars

HAMMER 'N' NAILS



- arrangements have been made to have temporary power available
- facilities that need to be hired (such as portable toilets, lockable storage sheds, scaffolding or fencing) are identified and ordered
- for work on an existing building, the owner is aware that their toilet facilities are likely to be used (and make sure you and your staff keep them clean)
- keys are obtained where access to an existing building is required.

When preparation of the site begins, erecting fences or barriers should be the first consideration to keep people and property safe and to avoid risks such as fly tipping or waste dumping.

Options include:

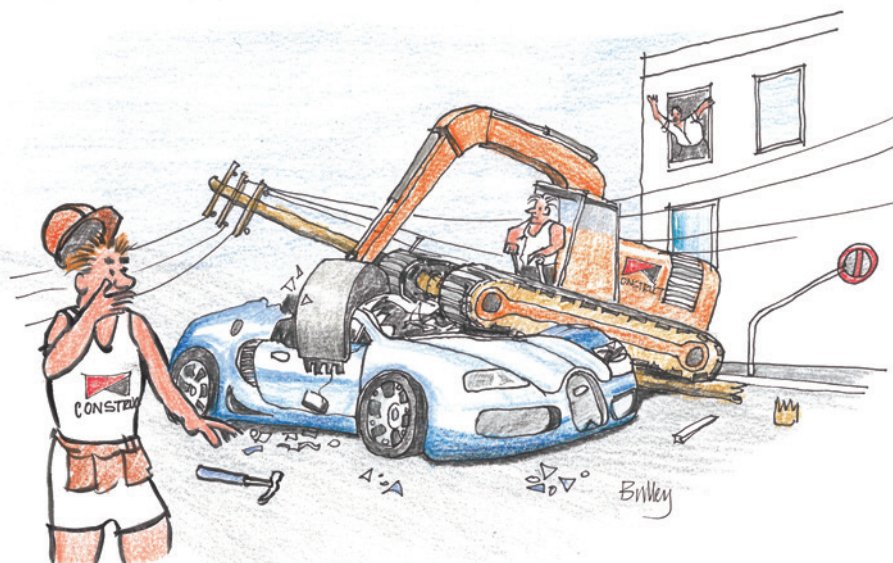
- perimeter fencing and lockable gates
- signs warning of specific dangers and asking people to stay out
- netting or screens to stop things falling from the building or scaffolding
- physical barriers to block excavations and openings.

For alterations, boarding walls can separate the work area from occupied areas and shield the inside from the outside if the building is opened up.

Temporary accommodation and ablutions

If it is a new building site, consider what facilities are needed. Every site must have:

- suitable washing facilities
- suitable toilet facilities
- a supply of drinking water
- first aid facilities
- accommodation for clothes and meals.



PUBLIC LIABILITY INSURANCE GIVES PROTECTION AGAINST DAMAGE TO THIRD PARTY PROPERTY

Site accommodation should be easily reached, in an area that will not interfere with construction, and should not be on top of underground cables or pipes that need to be accessed.

For a very small team, first aid facilities and accommodation for clothes and meals could be provided in a large work van.

Storage

Plant should be immobilised and preferably locked away overnight and on weekends. For storage areas, consider:

- size and space required (and available)
- proximity to work areas and excavations

- need for secure storage
- manufacturers' requirements for materials storage
- undercover and open-air options
- what can stay on site at the end of each day and what needs to be taken away
- facilities for hazardous material storage.

Subcontractors often need somewhere to store tools and materials as well.

Skips for construction waste and areas for storing recyclable or new materials should be away from the street to reduce the risk of theft and unwanted rubbish being thrown into the bins.



Mouthpiece

When I arrived at BRANZ in 1974 so much of the physics of heat and moisture in buildings was not understood – surprising considering we had landed a man on the moon. Now, at retirement, I can see why building science is so difficult. Buildings are not as accurately engineered as a moon landing module, and this introduces uncertainty, a curse in the precise world of science.

Airflows that permeate gaps in buildings are particularly fuzzy because they depend on build quality and material selections, both of which vary enormously. Airflows move moisture very effectively and can solve problems (such as ventilation drying water behind a leaky cladding), or cause problems (damp subfloor air infiltrating the roof space and condensing on cold roof cladding). BRANZ science has made good progress on problems such as engineering cavity walls for

ventilation drying and understanding the role of air infiltration in home ventilation. It is working on ways to manage moisture in roof spaces.

An alternative to big science is to use the sledgehammer of air and vapour barriers. This is necessary in cold climates, but shuts down useful drying processes, leading to moves in North America to back away from air and vapour barriers where they are not helpful.

It boils down to a choice between simple buildings supported by big science or buildings engineered like a moon landing module. Most likely we will see a mix of these approaches and that is ok so long as decisions have a sound scientific basis.

Mark Bassett

Principal Scientist, BRANZ Building Performance Group

Handling the PRESSURE

Many features keep water out of a building – flashings, capillary breaks, drip edges and the like. But these aren't designed to keep air out, and airflow into a building can be a problem.

When wind acts on a building, the pressure outside is generally higher than that inside, and if there are any gaps in the wall, air can flow through them. If water is present, the airflow can carry it into the building. This can lead to moisture problems and rot.

Cavity construction and some claddings are relatively air leaky. Wall construction must incorporate an air barrier to prevent airflow into the building. Plasterboard linings often serve this role. It can also be provided by a rigid underlay, such as plywood or fibre-cement, or a flexible wall underlay (meeting the specific requirements for an air barrier given in Table 23 of E2/AS1).

There is also a risk of this airflow occurring at any penetration through the external envelope, such as windows, doors, pipe penetrations and meter boxes. An air seal needs to be fitted between the framed opening and the reveal.

Equalise the air pressures and stop the airflow

The aim is to try and get the air pressure in the cavity and in the voids around the window as close as possible to the outside pressure. Then there is no path inside for the air and therefore no driving force to carry water into the building.

The air seal must not completely fill the gap around the window or door, as this can lead to water being transported by capillary action from the outside to the inside. A backing rod ensures that the gap is not overfilled. BRANZ staff have seen instances where no rod was installed and the foam is billowing out behind the window flange on the outside of the building. If the gap is completely filled, it negates the pressure moderation.

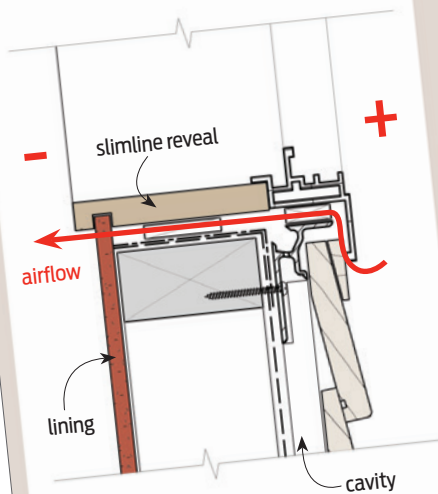


Figure 1: The potential airflow through a window with no air seal from higher outside pressure to lower inside pressure.

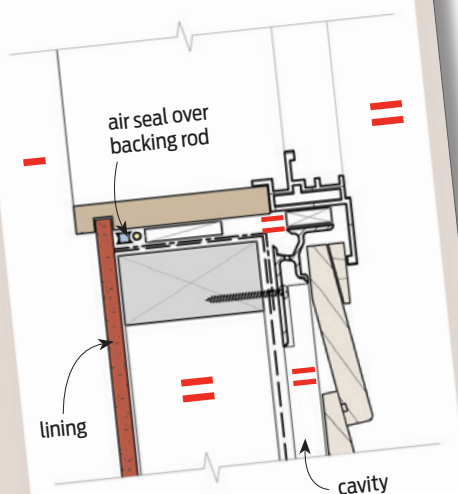


Figure 2: Window with air seal.

build

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WWW.BRANZ.CO.NZ

Competition

Here's a tool



What is it?

Win!

The Arges 10.8 v
cordless drill



Worth \$149!

This drill is professional quality and comes in a case with 2 x Li Ion batteries and a range of bits.

The prize is provided courtesy of The ToolShed.

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

Email your answer to buildersmate@branz.co.nz. Put "June 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 10 July 2015. 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 2015.



The winner of the February issue was Nancy Gubb of Auckland. Nancy wins an Arges 950w rotary hammer drill and breaker. The mystery tool was a locking C clamp.

The winner of the April competition was Mark Crocker of Palmerston North. Mark wins the DeWalt Ultimate Drill Bit Set worth \$200. The mystery tool was a mortise and marker gauge.

Terms and conditions:

Entry is open to all New Zealand residents except employees and immediate families of BRANZ and The ToolShed shops. The competition will close at 9 am on Friday 10 July 2015. The prize is not transferable for cash. The judge's decision is final. No correspondence will be entered into.

+ BUILDERS' APPS



In this new series we'll introduce some great apps and tools for your smartphone. If you know any you'd like to recommend, email us the details at buildersmate@branz.co.nz



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BUBBLE LEVEL

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