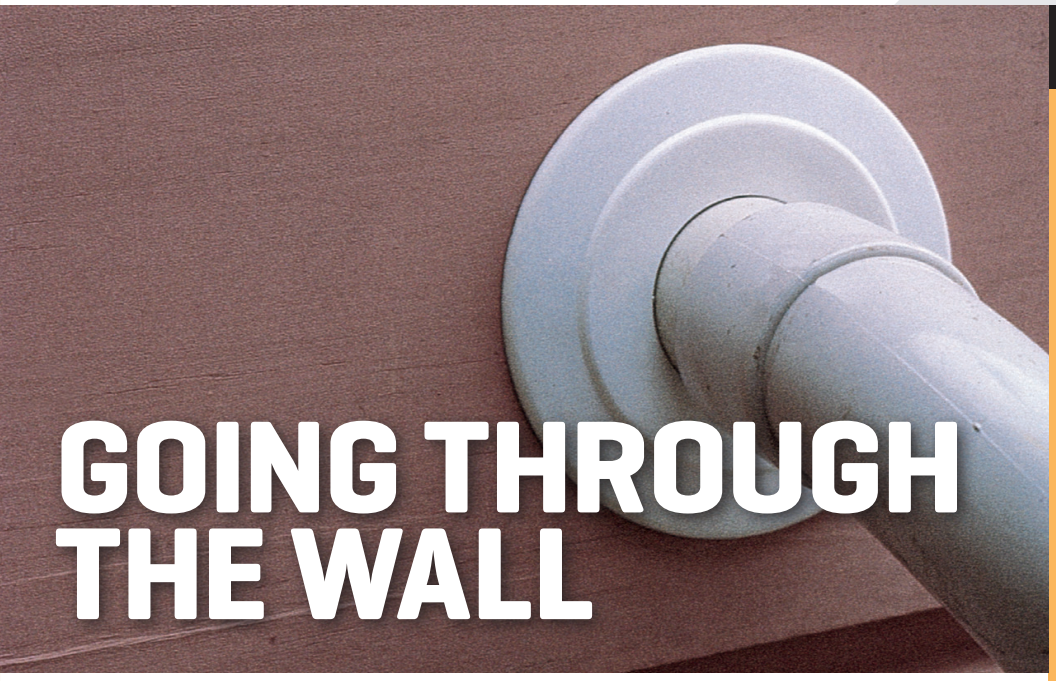
BRANZ

FREE TO ALL BUILDERS | ISSUE 97 | AUGUST 2019

builder's mate



GOING THROUGH THE WALL

There are a number of situations where it may be necessary to cut a hole in an existing wall, such as venting a rangehood or bathroom fan to the outside or installing a heat pump. What are the practical steps to make the penetration weathertight?

Effectively sealing and weatherproofing a penetration through the cladding of an existing building is more difficult than making a penetration during new-build construction.

For new builds, the most commonly used guidance is given in the Acceptable Solution E2/AS1 for Building Code clause E2 *External moisture*. Figures 68 and 69 show how to make pipes and service penetrations weathertight. For pipe penetrations, flexible flashing tape is used to seal the pipe to the wall underlay.

The ideal solution with existing buildings is to remove enough of the external cladding to provide the seal described in E2/AS1, but this is often not practical. (If the lining is being removed or replaced as part of a renovation, however, taping the penetration to the back of the underlay is an option.)

When making a seal against the wall underlay isn't an option at all, these are the next best steps: >

INDUSTRY NEWS

Survey finds little dust control

Breathing in dust can lead to serious illnesses. However, a survey of 250 Waikato construction workers found poor dust protection:

- Only 28% always wore a respirator doing dusty work (70% did 'often' or 'sometimes').
- Over a quarter did not use water suppression or dry dust extraction when cutting, drilling, grinding or polishing concrete.
- Over three-quarters usually used a dry broom to clean up dust.

Building Code updates

The Ministry of Business, Innovation and Employment has updated Building Code documents "to support housing densification, healthier homes, and easier pathways to Building Code compliance".

Updates include:

- adding extractor fans to G4/AS1 as a compliant way to ventilate bathrooms and kitchens
- making light steel framing a standard compliance solution
- updating the water supplies and foul water sections to cite the most recent standards.

Over 120 building standards now free

As part of removing barriers to achieving compliance, MBIE has funded over 120 standards for free download.

These building standards directly help demonstrate compliance with the New Zealand Building Code, and include standards such as:

- NZS 3604:2011 Timber-framed buildings
- NZS 3602:2003 Timber and wood-based products for use in building
- NZS 1170 Part 5:2004 Structural design actions – Part 5: Earthquake actions
- NZS 4218:2009 Thermal insulation – Housing and small buildings
- NZS 3902:2004 Housing, alterations and small buildings contract
- NZS 4121:2001 Design for access and mobility – Buildings and associated facilities
- NZS 3404.1&2:1997 Steel structures standard
- NZS 3101.1&2:2006 Concrete structures standard

A full list of the free standards is available on the Standards New Zealand website www.standards.govt.nz/sponsored-standards/building-standards.

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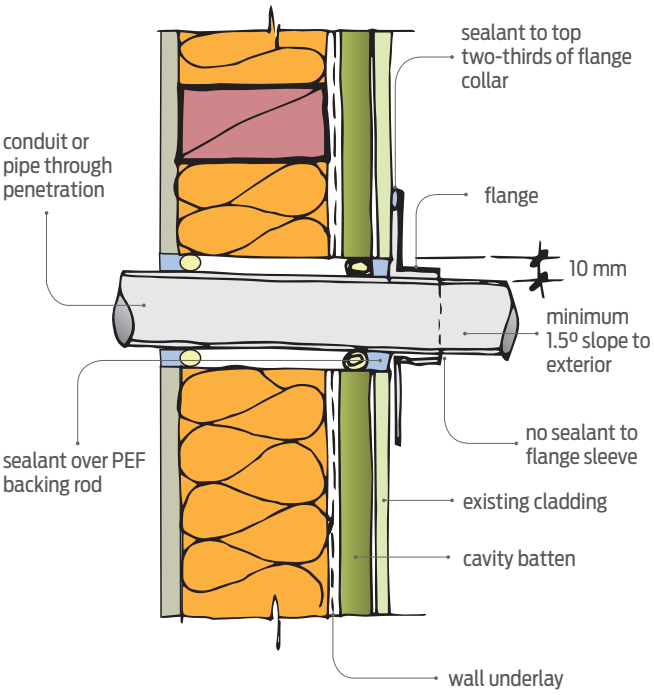
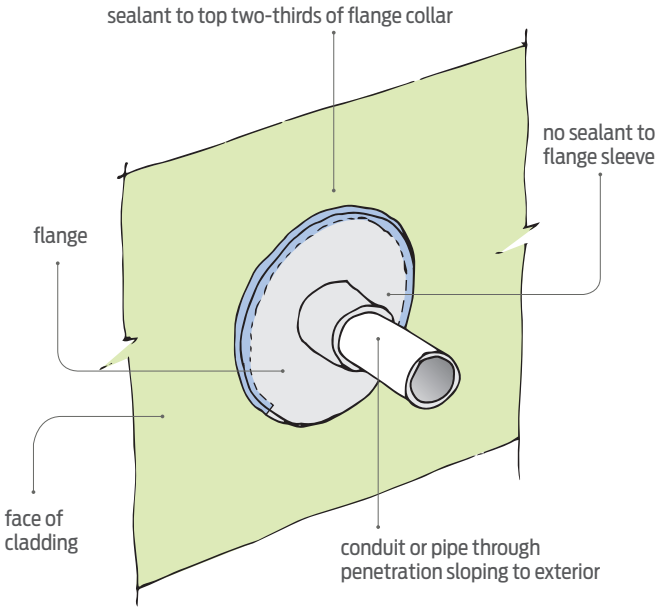


Figure 1. Fitting a flange to a penetration on an existing wall.



Note: Shaped packers sealed to cladding are required behind flange for profiled claddings.

Figure 2. Where sealant should and should not be applied on a flange.

- Locate the penetration in as sheltered a position as possible. This could be right under or through the eaves/soffit (ideal for clothes dryer vents or exhaust vents) or on the sheltered side of a building or under a covered veranda (but not close to a window).
- Slope the penetration down to the outside at least 1.5° so gravity will carry water down and out.
- For cables or other flexible materials, fit a protective sleeve with the same diameter holes to inside and outside. Seal the sleeve to the cladding and lining, then run the cables or small diameter pipes through the sleeve.
- Provide a hood or cowl to the penetration to reduce the amount of water running over it, and seal this to the cladding. Hoods/cowls are readily available in uPVC, stainless steel and other materials.
- Install a flange around the pipe/sleeve (Figure 1). Apply sealant over a PEF backing rod around the opening, cover with the flange and seal just the top two-thirds of the flange collar against the cladding (Figure 2). Don't seal the flange sleeve to the pipe because the sleeve lets water that gets past the flange drain out.

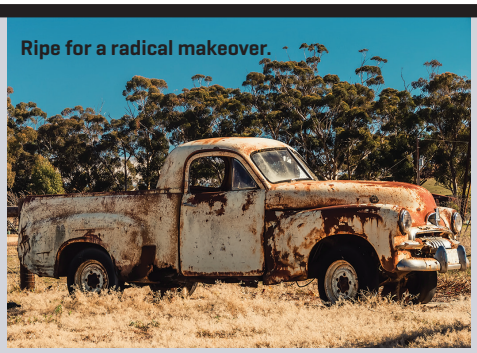
For a retrofitted heat pump, consider a floor console where the feed from the outdoor unit may be able to enter below floor level.

LVVTA inc
Low Volume Vehicle Technical Association (inc)

Mouthpiece

Modifying the ute legally

A lot of builders like the practicality of owning a ute, and more than a few have modified their vehicles. The New Zealand Transport Agency allows for many modifications, but beyond a certain limit, these require certification by a Low Volume Vehicle (LVV) certifier. In recent times, LVV certifiers and the Low Volume Vehicle Technical Association (LVVTA), which manages the certification system, have seen an alarming number of dangerously modified utes. Some have even passed warrant of fitness inspections when they shouldn't have.



Ripe for a radical makeover.

Strut spacers (in red) always require LVV certification.

The modifications of concern include suspension strut spacers, fitted to raise the height of the vehicle, and ball joint spacers, which help correct the altered suspension geometry that results from the spacers being fitted. Due to the added leverage being applied from the ball joint spacers, there have been a number of suspension arm failures occurring, which can lead to a loss of vehicle control.

The strut spacers themselves can, on some vehicles, lead to problems such as suspension bind, brake line and ABS issues or even shock absorber failure or CV and axle issues.

Strut and ball joint spacers can sometimes be certified, but they require a thorough assessment.

Besides the risk to road users, a modified vehicle that is not certified may lead to an insurer not paying out if a claim is lodged.

For any questions on LVV certification, visit lvvta.org.nz, email tech@lvvta.org.nz or call (04) 238 4343.

Other ute issues can include:

- tyres that are too wide for the rims
- tyres that are too large for the wheel arches
- overloading – many newer utes have a limited load capacity.

JUMPING THE GUN

For jobs that require a building consent, what work can you do before the consent comes through? The short answer is: nothing defined as 'building work'. A lot of preparatory work can be done, however, including:

- erecting temporary fences and establishing site facilities
- demolishing an existing detached building not more than 3 storeys
- site clearance (but not earthworks)
- excavating for slab-on-ground foundations or foundation walls for suspended floors (bearing in mind that the exact site may not be approved)
- setting out building profiles (with the same risk as above).

It can be tempting to get cracking on a project even before a building consent is issued or to do something that bends the rules when the build is properly under way. This can turn out to be expensive:

- A common first step when building consent authority (BCA) inspectors find work that does not comply is to issue a site notice requiring the work to be fixed.
- If the problem isn't sorted, the BCA can issue a notice to fix for any breach of the Building Act or regulations with a timeframe for action. Failing to comply with a notice to fix can result in a fine up to $200,000 plus up to $20,000 for each day the offence continues.
- A stop work demand can be part of a notice to fix. This requires that all building work stop immediately until the BCA is satisfied that future work will comply with the Building Act and regulations.

A notice to fix is most likely to be used where non-compliance is significant or repeated or the work is unsafe. MBIE has given a determination that, when a Code Compliance Certificate is refused, the BCA shouldn't issue a notice to fix but should explain the reasons in writing.

Building consents cannot be issued for work that has been finished but never had a consent. It is possible that work done will need to be demolished or proof will need to be provided that the building work is safe and sanitary. As described above, the BCA can issue a site notice or notice to fix and may prosecute if a problem isn't fixed.

Competition

Here is a tool

What is it?

A ToolShed compound cut mitre saw worth $299!

Cutting capacity up to 340 x 65 mm, cuts most standard framing timber. Mitres and bevels to 45° plus stops at common angles. 1700 watt motor, laser guide, dust extraction port.

The prize is provided courtesy of The ToolShed.

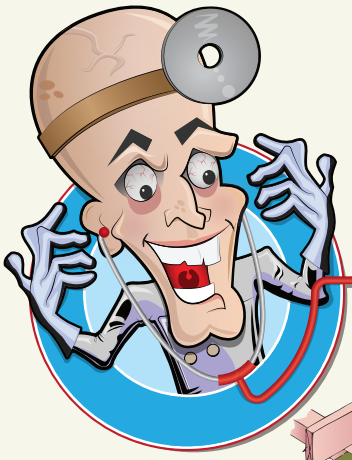
All you need to do is tell us the name of the mystery tool at the top of the page.

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

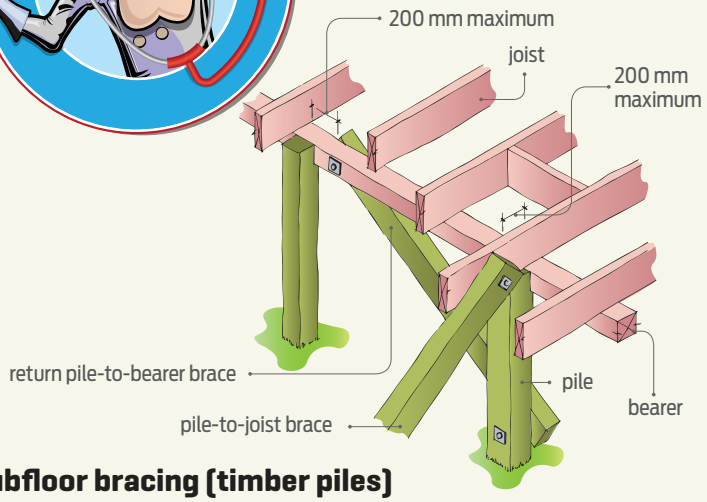
Don't forget to tell us where you picked up your copy of ***Builder's Mate***! The winner will be the first correct entry drawn at 9 am on Friday 13 September 2019. Details will be included in the next edition of ***Builder's Mate*** due out on 1 October 2019.

Winner of ***Builder's Mate 96*** was Rex Mangu of Gisborne. Rex wins a DeWalt hammer drill driver kit. The mystery tool was a nail puller.

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 13 September 2019. The prize is not transferable for cash. The judge's decision is final. No correspondence will be entered into.



DR DETAIL



Note:
If possible, also improve bearer-to-pile connections (H5 piles will need min. 304 stainless steel fixings) and connection of joist to bearer adjacent to braced piles.

Subfloor bracing (timber piles)

The suspended floors of many older homes won't have bracing. Adding bracing between piles and bearers/joists makes a house more earthquake resilient.

Bracing should be minimum H1.2, 100 x 75 mm (up to 3 m long) or 100 x 100 mm (3–5 m). The bottom fixing should be 200–300 mm above ground level and the top connection within 200 mm of the nearest pile. Fixings – M12 hot-dip galvanised bolts with 50 x 50 x 3 mm square washers under the bolt heads – should be no closer than 90 mm to the end of the brace.

The angle should be no greater than 45° and preferably shallower. See NZS 3604:2011 *Timber-framed buildings* for more information.