

BRANZ

builder'smate

What you should know about aluminium double glazing

If you are advising a homeowner on retrofitting existing single-glazed aluminium windows with double-glazed, there are key things you need to discuss with them. If they don't understand what they are getting, they could be very disappointed with the result.

Replacing old single-glazed windows with aluminium double-glazed windows of the same size does not normally require a building consent. The choice of window may be made by client and builder without the input of a designer.

Homeowners often want double glazing to make their house warmer and assume that this will also stop the condensation they had on their old single glazing, yet condensation can occur with double glazing too. BRANZ receives calls from homeowners dismayed by the trickle of water down their wall from condensation on newly installed aluminium windows.

Aluminium is a great conductor of heat. On very cold days, the inside of the frame can be almost as cold as the outside, and moist air inside the house then condenses on the frames and runs down.

The problem is most likely to occur on aluminium frames that don't have thermal breaks. If there are no condensation channels, the water will spill onto the reveals.

Condensation channels at the bottom of frames collect water and either drain it to the outside or hold it until it evaporates. E3/AS1 only requires condensation channels for single-glazed windows to >

INDUSTRY NEWS

Homes rise but not jobs

New housing consents have continued growing, with consents for new dwellings (excluding apartments) in June up 14.5% on a year earlier, and over 3% higher again in July, but the housing boom isn't matched by new jobs. The number of people employed in the construction sector in June 2013 was up just 2.8% on a year earlier.

Photovoltaic generation calculator

A household can generate its own electricity from sunlight with a photovoltaic system on the roof. The cost of these systems has fallen in recent years. But how much power can they generate?

The Toolbox on the BRANZ website now has a photovoltaic generation calculator. Just enter a few facts about the size of the system, whether it is flat or inclined, how far away from facing north it is and so on, and at the click of a button, you can find out how much power you can expect it to generate.

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be a minimum of 10 mm wide and 5 mm deep (but notes that channels 25 mm wide are easier to clean). Not all double-glazed aluminium windows have these channels, but it is a very good idea to specify them.

Thermally broken aluminium frames have a very strong spacer with a higher level of thermal performance between the inner and outer parts of the aluminium frame. BRANZ testing has shown that frames with this feature can be almost 60% more thermally efficient than those without it.

Other options to reduce condensation include using composite aluminium/timber frames, timber or uPVC

frames, all of which conduct less heat than unbroken aluminium frames – however, when the window type is changed, a building consent will be required.

Specifying window frames with built-in passive ventilation is also a good idea. Ventilation helps reduce indoor moisture and therefore the risk of condensation.

Remember, when installing new windows into an existing opening the installation should incorporate:

- flexible flashing tape across the sill trimmer and turned 50 mm down the face of the cladding
- a sill tray flashing where cladding is direct fixed
- air seals.

The homeowner can also be advised to reduce the risk of condensation by lowering indoor moisture levels – for example, using a rangehood over the cooktop in the kitchen, having an exhaust fan to take steam out of a bathroom and not using unflued gas heaters.

For more information about reducing internal moisture, check out the BRANZ publication *Building Basics: Internal Moisture*, available for purchase from www.branz.co.nz.

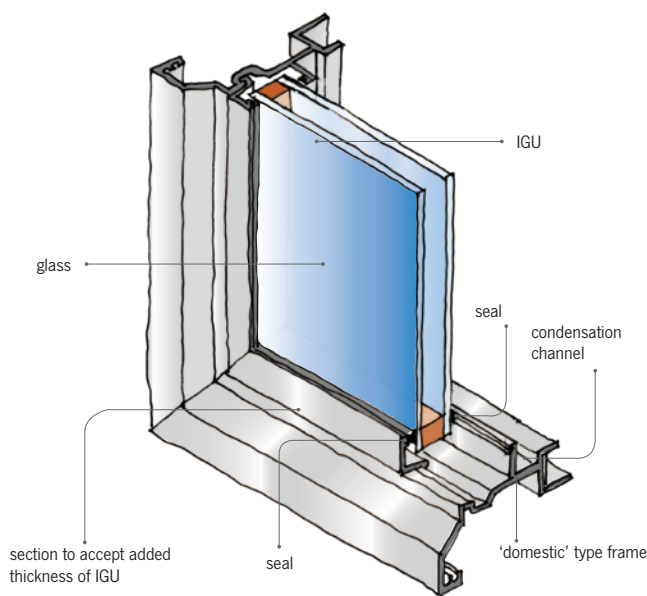


Figure 1: Indicative aluminium window section with condensation channel and double glazing



Figure 2: Display showing benefits of a thermally broken window



Mouth piece

The LBP scheme is now well and truly up and running and two things will feature large going forward: skills maintenance, and accountability.

On the positive side, skills maintenance will help to drive improvements in sector performance. You will hear more about this in the coming months.

Complaints are also a necessary part of the scheme. The Building Practitioners Board received 55 complaints about LBPs in the 2012/13 year, and 14 in the first two months of the 2013/14 year. The Board is set to publicise decisions soon.

Most people agree that it's fair to hold LBPs accountable if they take on work that they don't know how to do and then muck it up. But at least 60% of complaints to the Board so far have been entirely avoidable.

Here are three simple things you can do to avoid a complaint:

1. Communicate. Agree with your customer (in writing) **what** you are going to do, **when**

you will do it, and **how much** it will cost. If things change, communicate some more. Poor communication lies at the heart of many complaints.

2. Issue the Record of Work. If a customer doesn't pay what they owe, don't respond by withholding the Record of Work. Regardless of the rights and wrongs of the situation, under the Building Act, you have no option.
3. Make sure that work has a building consent (when it needs one). Under the Building Act the owner is responsible for ensuring that a building consent is obtained, but an LBP risks a disciplinary penalty for doing the work without consent. Councils don't tend to prosecute owners who break the law, but they are much more likely to lay a complaint about an LBP.

Mark Scully

Registrar of Licensed Building Practitioners
MBIE

Measuring and installing handrails for stairs

Internal stair handrails will be designed and detailed on building plans, but measuring, ordering and fixing them in place is an important job for builders.

The first key part is to make a very careful site measure before ordering – the actual dimensions of the building once framing and lining are up may be very slightly different from the design.

The rules around handrails depend on the type of stair being constructed. Table 6 of compliance document D1/AS1 lists four types of stairs based on use. These are:

- accessible
- common and main private
- secondary private
- service and minor private.

You need to install handrails on both sides of accessible stairways that are continuous except where there are doors on landings. Begin these handrails 300 mm forward of where the pitch line (an imaginary angled line, expressed in degrees, that touches the

nosing of each stair tread) intersects the floor – in other words, one tread width plus 300 mm in front of a vertical line projected from the face of the first riser.

Other types of stairs with two or more risers and up to 2 m wide require a single handrail according to D1/AS1. Where stairs are more than 2 m wide a handrail is required on each side.

Install the handrail at the same angle as the stairs and 900–1000 mm above the pitch line. Continue the handrail on the pitch line past the top and bottom risers, then horizontally at 900–1000 mm above the floor for at least 300 mm.

For stairs other than accessible stairs, handrails should finish at least one tread width past the top and bottom risers.

Install handrails with a 45–60 mm clearance from the wall.

Stairs with no more than three risers don't need a handrail.

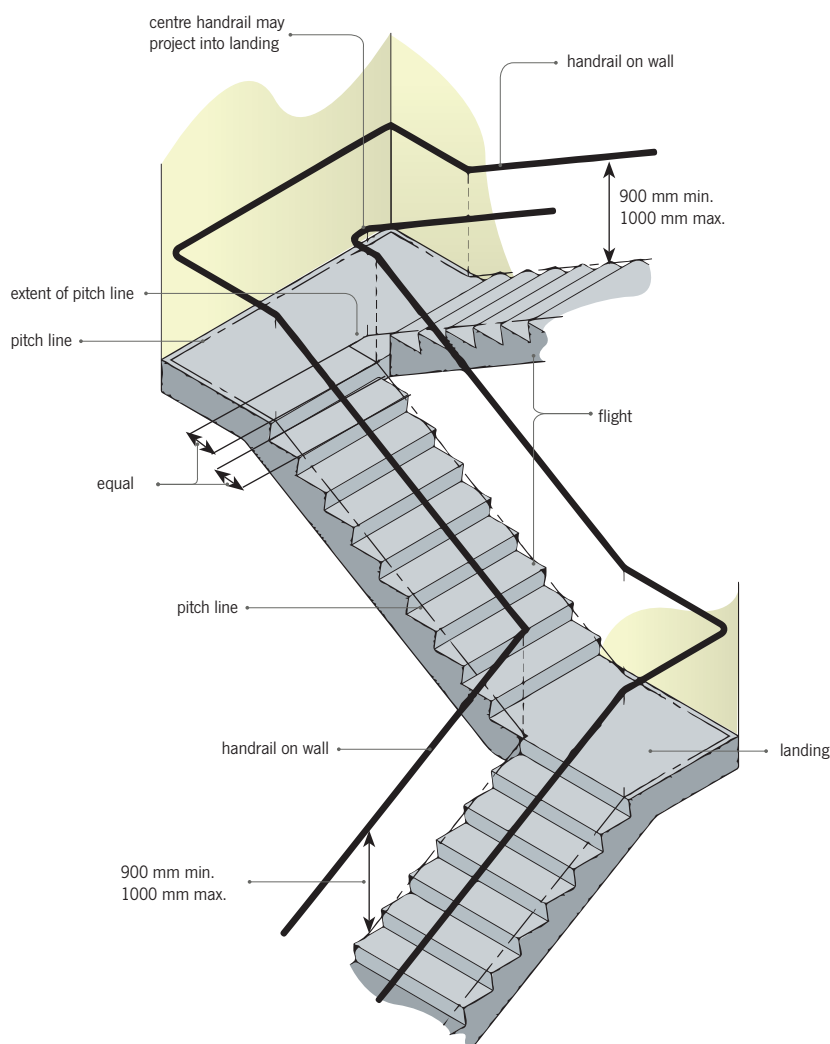


Figure 3: Handrails and landings for stairways and ramps (adapted from Figure 25 of D1/AS1).

build

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Competition

Here's a tool. What is it?



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The prize is provided courtesy of The Tool Shed.

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 "October 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 8 November 2013. 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 December 2013.



Winner of the August competition was Steve Williams of Titahi Bay, Porirua. Steve wins a Hitachi 7½" circular saw worth \$350. The mystery tool was a stapler.

Terms and conditions:

Entry is open to all New Zealand residents except employees and immediate families of BRANZ and The Tool Shed shops. The competition will close on Friday 8 November 2013. The prize is not transferable for cash. The judge's decision is final. No correspondence will be entered into.

What's wrong in these PICTURES?



1 ROOF FLUE



2 APRON FLASHING

1. Lead flashing not dressed tightly to roofing; lead may fixings missing with sealant patch; lead not dressed properly to pipe.

2. Apron flashing upstands should be installed behind the cladding; no weatherproofing of flashing downturn.

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