



Ask our experts



Dick



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Your design, product and specification questions answered by our expert columnists.

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Q— *We own a circa 1900 weatherboard house. We're not sure of the R-value of the batts in the roof, and we've put some batts under the floor, primarily to help control draughts through the gaps in the boards. The exterior weatherboards are in poor condition with large gaps between, and the internal walls are uninsulated and lath and plaster construction. The ceilings are 3.3 metres high. We have one wood fire in the open plan living, dining and kitchen that takes the chill off but struggles to make it toasty let alone heat the bedrooms. The windows are all single-glazed with curtains except a double-glazed bifold with no window covering.*

Where should I spend my money? Should I increase the roof insulation, insulate the walls, double glaze or just invest in a heat pump? - Jason Carter, Launceston

A— How much does it cost to move a house to Brisbane? You have some serious work to do to make this little cottage in Launceston comfortable!

If the fire is open it will be drawing cold air in through every gap, heating it and sending it straight up the chimney. If you want to stick with wood, swap to a controlled combustion heater that complies with the Australian Standard for emissions. But consider other options as well, as it is likely that one day wood heaters will be banned in town because of smoke pollution.

As for the draughts, batts under the floor are a good start, but if they're not lined underneath air will still get through and rodents will get on top of them. Look at lining the floor with either a cement sheet, or a product like Air-Cell Permifloor. This could be pinned to the underside of the joists, leaving the bearers exposed, but taped to the bearers and at the ends to keep the vermin out. They can chew through it

though, so if rats are a problem in your area, cement sheet is best.

Don't disturb the lath and plaster on the exterior walls as it's a nightmare to hold together once cut. You could look at replacing the weatherboards if budget permits, although maybe all they need is re-fixing to become tight. Either way, when the boards are off, a minimalist approach would be to install R2.5 polyester batts between studs, cover the whole face of the frame with a breathable non-foil skin like Proctorwrap, and replace weatherboards. The wrap makes any remaining gaps less of a problem, while allowing the wall to breathe, providing respite from condensation.

A more stringent approach would be to put a high density foam board with R-values up to 4.5 into the wall, fitted neatly between studs. This is a bigger spend, and to be honest, the windows are the biggest problem.

Old windows tend to leak air, so fitting Raven seals everywhere will have an effect. Double-glazing is best, which is easiest to achieve in new windows and doors, but a low budget option, which also honours the heritage values of the home, is to double-glaze in situ. Fitting insulating blinds inside is also easy. In fact, one of Australia's best suppliers is close by, Beautiful Blinds. Their double honeycomb blinds are simply amazing at retaining warmth, and much better quality than most online suppliers.

Find out the R-value of your existing batts in the ceiling. If less than 4.0, add more on top again. R6.0 total is not excessive. – Dick

Q— *How do I insulate the walls in a 30-year-old brick veneer house, without removing the bricks? The internal walls are standard plaster.*

A— There are a number of options that will depend on the existing wall situation. They include:

- Removing the plaster walls and installing insulation between the studwork. This has the great advantage of enabling a check of the structural integrity of the timberwork and the installation of either bulk or rigid sheet insulation in a way that maintains the integrity of the cavity. The disadvantage is the mess and expense it can incur.
- Installing rigid insulation on the interior walls, which has the advantage of incorporating a vapour barrier if required, and not creating mess by removal of the existing plaster. It has the disadvantage of taking space from the existing room, which might not be appropriate.
- Injecting insulation into the space, either through holes drilled through the brickwork or through the plasterwork. Like the issue noted above, there is great concern that this insulation can bridge the cavity and create problems with water tracking from the outside skin to the timber frame and internal lining. The high performing Bonded Bead insulation from Europe might reduce the possibility of this happening, but is difficult to obtain in Australia at the moment.

– Caroline

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