



# PROTECT THOSE WEATHERBOARDS

**A *Build* reader recently asked if H3.1 treatment for timber cladding is sufficient to protect against rot. It is, but only if primed before installation, painted and regularly maintained.**

By Alide Elkink, Freelance Technical Writer, Wellington

**A**n insidious problem in timber-clad houses is rotting weatherboards, fascias and trims due to water entry, particularly into the end grain of the boards. A house maintenance programme with regular inspections of the weatherboards should mean any coating deterioration is identified early and only a minor repair required. If not, damage, such as rot, may become significant and costly to repair.

Building Code clause B2 *Durability* requires claddings to have not less than 15-year durability with normal maintenance, and NZS 3602:2003 *Timber and wood-based products for use in building* requires *Pinus radiata* for weatherboards and external fascias and trims to be treated to hazard class H3.1 and be well maintained with three coats of alkyd or acrylic paint. H3.1 timber will rot if it remains wet for any length of time, hence the importance of sealing cut ends, painting and maintenance.

## Painting reduces water leakage into framing

Deterioration of external timber cladding typically begins at the butted ends of boards, on internal corners and mitred external corners or around fixings, cracks and defects such as knots in the timber. A BRANZ study found that gravity leakage paths through cracks and gaps was a more common cause of water ingress than previously thought (*Build* 109 December 2008/January 2009, pages 64–65). Water can also be transported to the interior by air movement caused when a pressure differential occurs between different sides of openings in the cladding. Painting the timber to seal openings dramatically reduced water leakage.

The study also found that a wall with primer only performed worse than a wall that had

also been topcoat painted – a multi-coat paint finish provides a significant level of weather protection.

As an aside, the same research also tested composite, metal and plastic weatherboards and found that the butt joints of these

weatherboards also tended to be the weakest points for water entry.

## Always prime cut ends on site

Weatherboards and trimming boards generally come to site preprimed, but after they →

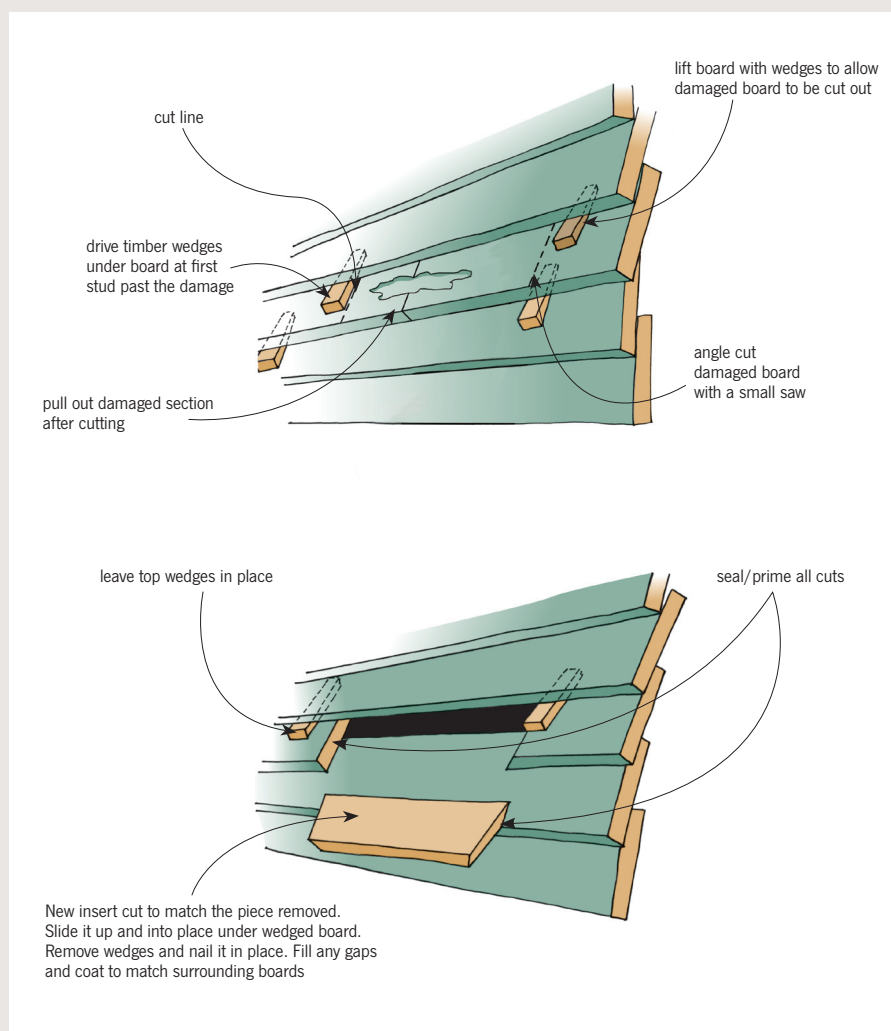


Figure 1: Repairing a damaged weatherboard.

are cut to length, the cut ends must always be reprimed. NZS 3602:2003 requires weatherboards and exterior finishing timbers (scribers, fascias and so on) that need paint protection to be primed on all faces (including cut ends) before fixing.

BRANZ goes further and recommends that all cut ends of boards have two coats of primer applied.

If there is no primer on end grain, water that gets into the gaps between boards can be absorbed into the end grain. If it cannot evaporate readily, the timber will rot.

Even when end sealing is carried out, the movement of boards – expansion and shrinkage – can cause the gaps to open up, which means that, over time, water may get into the timber through the more vulnerable end grain.

Exposed primers have a short life so weatherboards may need repriming before applying the topcoat – check the supplier's instructions.

### Regular inspections needed

Timber claddings should be inspected at least once a year to ensure that the paint finish is in good condition, the timber is sound and that

gaps have not opened up at joints, corners or junctions with other building materials.

Apart from removing dirt and mould, regularly washing the exterior of the house also ensures an inspection is carried out.

### Early signs of problems

If the finish shows signs of deterioration, for example, flaking, bubbling, peeling or chalkiness of the paint – evidenced by a chalky residue when rubbed – the problem should be remedied by:

- removing loose paint by scraping and sanding
- filling gaps, cracks, holes and punched nails with putty or an exterior-grade flexible filler
- priming and repainting exposed timber and filler with at least two top coats of a suitable paint.

### Repairing

Test for rot by inserting a pocket knife, awl or thin screwdriver into the timber. If there is deterioration, the tool will easily penetrate the timber.

To repair a section of damaged timber:

- cut out the section to nearest studs (at least 600 mm in both directions from rot) and slant cut edges (see Figure 1)

- check building wrap and framing are sound
- treat cut ends of existing timber with a paint-on preservative
- prime replacement timber and any existing timber that has been exposed
- fit insert of correctly treated timber, nail edges of existing and new boards – one nail per board per stud
- increase weather protection by butting joints and covering mitred corners with galvanised steel, stainless steel or copper soakers or timber cover boards (the same level of priming and painting is still needed)
- apply white or a light colour paint to minimise movement in the timber due to temperature changes.

As long as external timber claddings are well maintained with a sound paint finish and regular inspections and maintenance are carried out, H3.1 is a satisfactory level of treatment for external timber claddings.

*For more information on weatherboard handling, installation and finishing, see Build 124 June/July 2011, pages 15–16. ◀*