BUILD RIGHT

Structurally fixed cavity battens

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The larger shank diameter of fixings used to fix weatherboards over a cavity can cause splitting. One way to get around this problem is to fix timber cavity battens directly to the structural framing.

BUILDING CODE ACCEPTABLE SOLUTION E2/AS1 clause 9.1.8.4(c) says that cavity battens must be fixed to the structural frame by the cladding fixing. Table 24 gives methods of fixing different claddings. The table includes fixing types and sizes, minimum frame penetrations for fixings and fixing patterns.

Minimum penetrations required

The minimum penetration length of fixings into the frame for particular claddings is the same whether the cladding is direct-fixed or over a cavity. For example, in:

- paint-finish weatherboards, fixings must have a minimum penetration of 35 mm into the structural frame
- stained or bare finish weatherboards, fixings must have a minimum penetration of 30 mm into the structural frame.

This means that, when weatherboards are fixed over a cavity, fixings must be at least 20 mm longer to achieve the minimum penetration into the structural frame.

As a general rule, as the nail length increases there is also an increase in shank diameter. This can cause the weatherboards to split.

Solution – structurally fix cavity battens to framing

One way to overcome this potential splitting problem is to fix the timber cavity battens directly to the framing. The battens then become part of the structural frame, which allows the fixings given in Table 24 to be used.

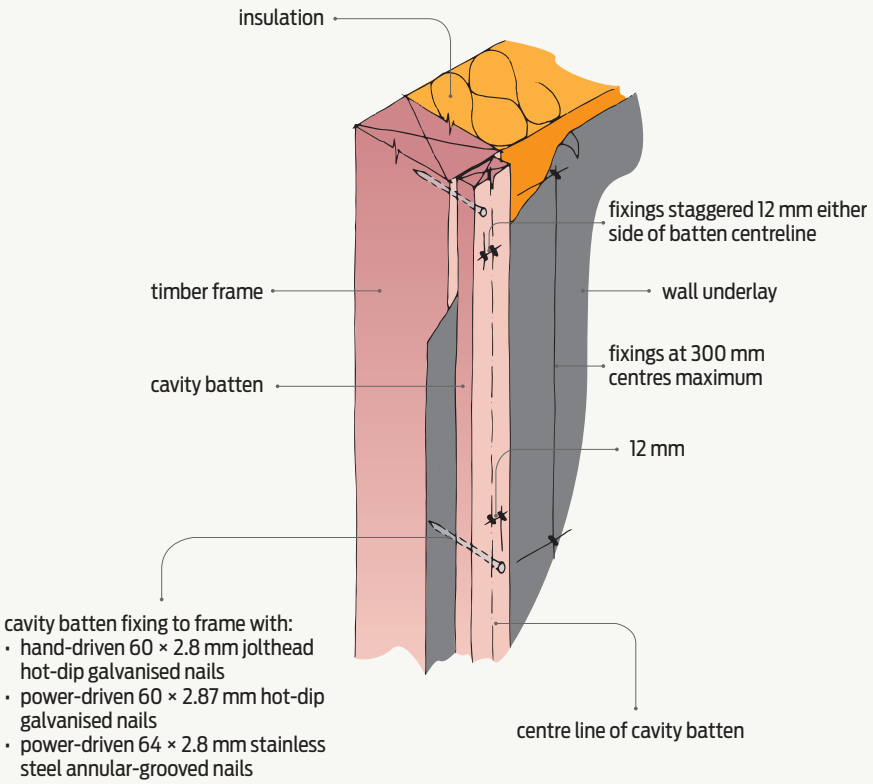

Figure 1 **Fixing for a structurally fixed timber cavity batten.**

Although this is an alternative method, structural integrity of this fixing arrangement was confirmed by BRANZ Test Report ST0589 Version 2 *Fixing horizontal weatherboards to studs over a cavity.* It is described in BRANZ Bulletin 582 *Structurally fixed cavity battens*.

Suit rusticated and bevelback weatherboards

BRANZ Bulletin 582 states that, to fix horizontal rusticated and bevel-back weatherboards, timber battens must:

- have a maximum thickness of 20 mm

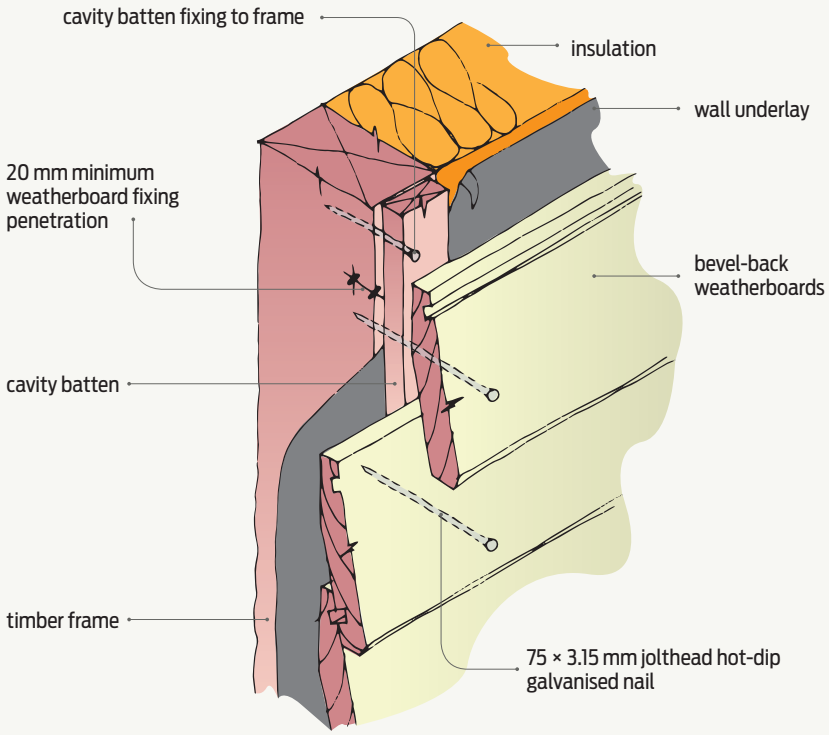

Figure 2 **Fixing for bevel-back weatherboards fixed to structurally fixed cavity batten.**

- be at least 40 mm wide (E2/AS1 requires a minimum width of 45 mm)
- be treated to at least H3.1
- be kiln dried
- be located centrally over studs over the wall underlay.

Fixings must be:

- at 300 mm centres vertically
- staggered 12 mm on either side of the batten centreline (see Figure 1).

Making it a structural fixing

To achieve structural fixing of the timber battens, the fixings should be either:

- 60 × 2.8 mm jolthead hot-dip galvanised nails, or
- 60 × 2.87 mm power-driven hot-dip galvanised nails, or
- 64 × 2.8 mm power-driven stainless steel annular-grooved nails.

The bulletin particularly recommends the use of 60 × 2.87 mm power-driven hot-dip galvanised nails as they have a D head, which provides greater holding power for the batten.

It also requires that cladding fixings must still be long enough to achieve a 20 mm minimum penetration into the timber framing (see Figure 2). Use jolthead hot-dip galvanised nails that are:

- 75 × 3.15 mm for bevel-back weatherboards
- 75 × 3.15 mm for rebated bevel-back weatherboards
- 60 × 2.8 mm for rusticated weatherboards.

Fixings for the weatherboards must be located centrally over the battens and studs.

Can use with other claddings

Structurally fixed timber cavity battens may be used in up to extra high wind zones for other claddings:

- For claddings other than weatherboards, fix battens to studs at 300 mm centres maximum with 75 × 3.15 mm flathead hot-dip galvanised nails.
- Sheet claddings must be fixed to the battens at 300 mm centres maximum, and fixings must have enough strength to resist the loads imposed in extra high wind zones.