



Knock it on the head



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Head flashings are a critical element when it comes to detailing and installing windows.

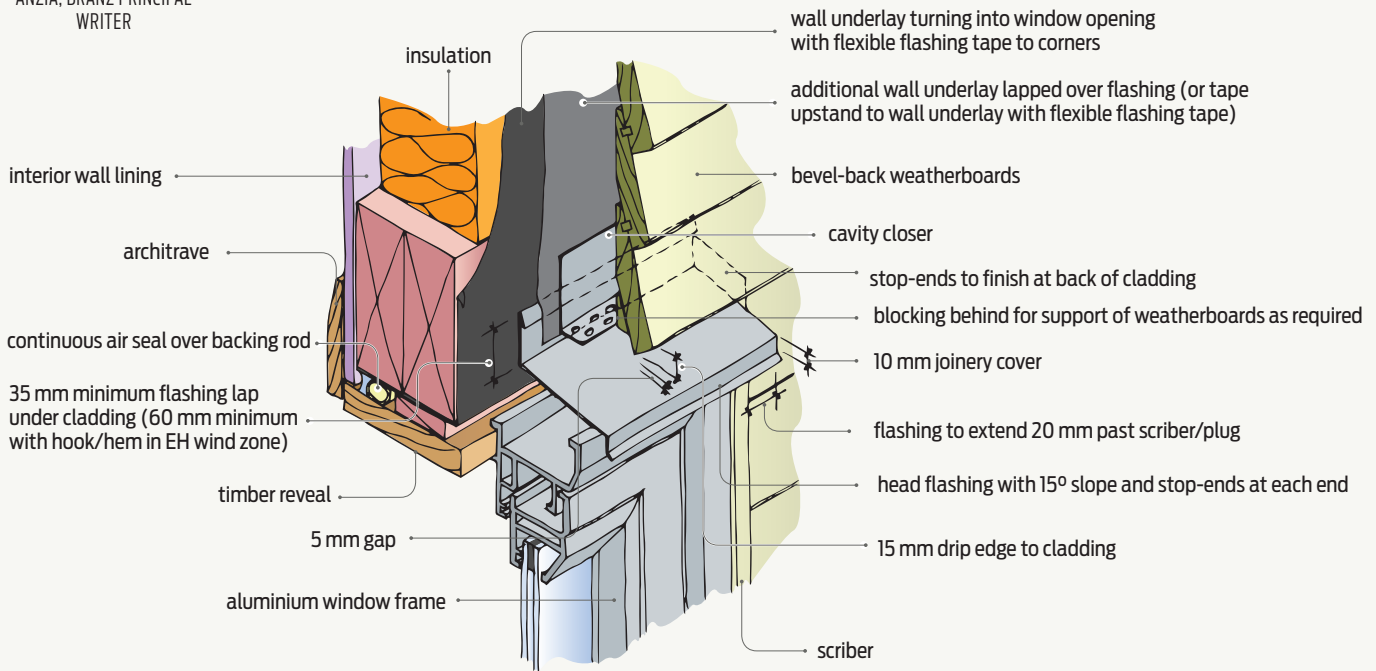


Figure 1 Option 1 – aluminium window head detail – bevel-back weatherboards on cavity (based on E2/AS1 Figure 85(a)).

IN TERMS of the 4Ds of water management – deflection, drainage, drying and durability – head flashings provide:

- a drainage function, allowing water on the back of the cladding to drain out at the window head
- a deflection function by diverting water away from the top of the window.

Two options for head flashings

Window installation details in E2/AS1 show two options for a head flashing to a conventional aluminium window:

- Option 1: Where the front downturn of the head flashing *fits firmly* over the top window flange – for example, E2/AS1 Figure 85(a) for cavity weatherboard (Figures 1 and 2).

- Option 2: Where the downturn and kick-out are located *forward* of the window flange – E2/AS1 has one example, Figure 76(a) for stucco cladding (Figure 3). While E2/AS1 outlines critical dimensions for head flashings, it does not give a dimension for a gap between the head flashing and the window head flange.

Size of gap queried

Installations on site typically produce varying gaps. A question that arose was whether a gap is acceptable or whether a tight contact is needed between the front edge of the head flashing and the window flange.

To answer this, MBIE provided guidance in *Codewords* 61, which gave a maximum overhang or gap of 9 mm.

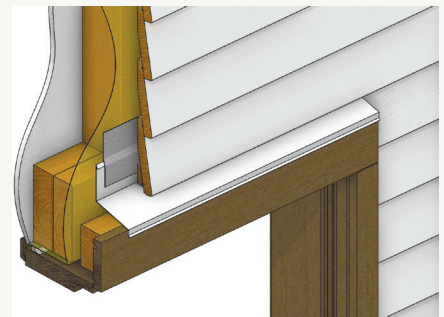


Figure 2 Option 1 – timber window head – flashing tight to opening.

Option 1 – firm fit

Option 1, where the head flashing fits firmly over the top window flange, is the more traditional detail and is, in BRANZ's view, the neater and safer solution (Figures 1 and 2).

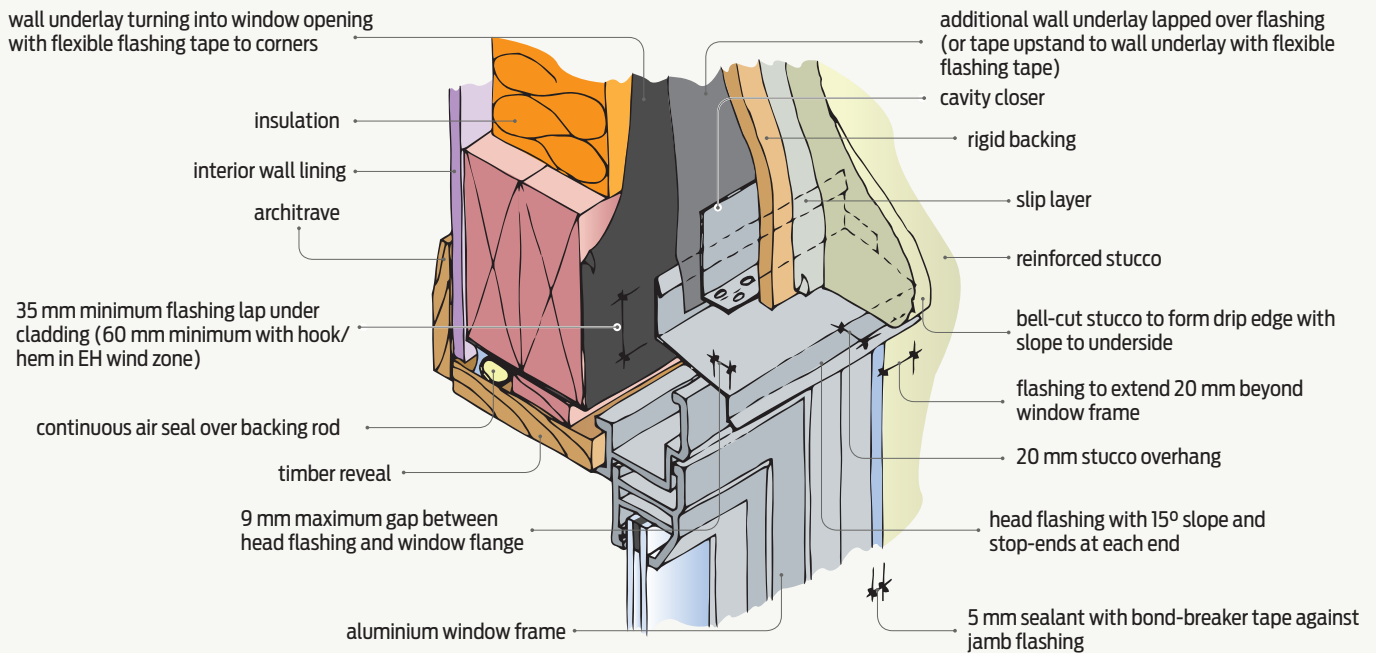


Figure 3 Option 2 – window head detail – stucco on rigid backing (based on E2/AS1 Figure 76 (a)).

The designer will need to specify ‘folded to fit’ where a tight fit is required as few flashings are folded to fit the installed dimensions, allowing the downturn to fit to the flange. Getting the dimensions correct is important as there is a risk of the flashing buckling if it has to be force fitted.

This option is less likely to have wind pressures lifting the flashing.

Option 2 – downturn projected forward

E2/AS1 only shows this detail with stucco cladding where the downturn is projected forward of the face of the stucco at the jambs.

A standard preformed off-the-shelf flashing can be used provided the flange downturn will be located forward of the window flange. Head flashings for aluminium windows are typically extruded section, manufactured to a range of standard widths. The standardised widths are to accommodate the range of offset dimensions of window flanges from the frame, influenced by underlay type, cavity battens (or direct fix) and cladding type.

Option 2:

- is more likely to get wind pressures lifting the flashing
- has an increased risk of wind-induced noise from the flashing vibrating

- requires a seal between the underside of the flashing and the top of the flange or there will be an increased risk of water being driven over the top of the flange under wet and windy conditions.

Selecting a flashing that keeps the downturn as close as possible to the window flange is considered prudent to address some of these concerns (Figure 3). Also, the head flashing needs to be in contact with the top edge of the window flange. Most extruded head flashings are fabricated in 5–6 mm width increments. It is possible, therefore, to select a width that will result in an overhang gap not exceeding 9 mm.

A tight fit

E2/AS1 Figure 95(a) for profiled metal wall claddings has the head flashing fitting tight to the flange but employs multiple custom folds to form the head flashing downturn to integrate with the jamb flashing.

Traditionally, timber windows always had the front downturn of the head flashing fitted tight to the top window section or facing.

What else?

Other key requirements for E2/AS1 head flashings are:

- a 15° cross-fall

- a kick-out to break capillary action to the front downturn
- 10 mm minimum downturn cover to the window flange
- 20 mm projection past the vertical side flange or scriber/facing
- extruded flashings cannot be used under E2/AS1 in the extra high (EH) wind zone as they are not formed with a hook or hem
- a 35 mm cladding cover for the flashing upstand, or 60 mm in the EH wind zone, with a hook/hem
- maintaining the 5 mm drainage ventilation gap between the bottom of the cladding and the top of the flashing
- for very high (VH) and EH wind zones, sealant is installed between the underside of the head flashing and the top edge of the window head flange (E2/AS1 Figure 71(c))
- for direct-fixed claddings, a 50 mm bead of sealant is installed between the cladding and each end of the head flashing
- for cavity installations, incorporate 10 mm turn-ups as stop-ends to each end of the head flashing, terminating at the inside face of the cladding so they do not pass through the cladding. ◀