GABLE DORMER JUNCTIONS

Dormer roof junctions with profiled metal roofing always present a tricky area of flashing and their detailing is often conveniently overlooked by designers.

By Alide Elkink, BRANZ Technical Writer

The simplest way to deal with dormer flashing is, if possible, to avoid the dormer. Where it is not possible or desirable to design without a dormer, a shed or lean-to dormer presents fewer flashing issues than a gable dormer.

Gable dormer

For a hipped roof, a gable dormer (see Figure 1), rather than a shed dormer, is often the preferred option but flashing issues are more complex. The dormer is effectively a wide cricket, directing the flow of water to either side of the penetration. The problem areas for flashing the gable dormer include:

- dormer ridge/main roof junction (location 1 in Figure 1)
- valley gutter/dormer roof junction (location 2 in Figure 1).

Ridge flashing

The dormer ridge/roof junction requires a two-part, custom-made flashing (see Figure 2) that goes under both the main and dormer roofs and over the valley flashing.

Valley gutter/dormer roof junction

A valley gutter (see Figures 1 and 3) collects water from the main roof and the dormer roof. Typically, apron flashings flash the sidewalls of the dormer. A problem occurs at the junction between the two as the base of the valley gutter is located *below*, i.e. at a lower level to, the roofing, but the water must be redirected up and *over* the roofing and apron flashing (see Figure 4).

In a situation where the dormer extends to the edge of the main roof, this problem can be resolved by inserting the flashing →

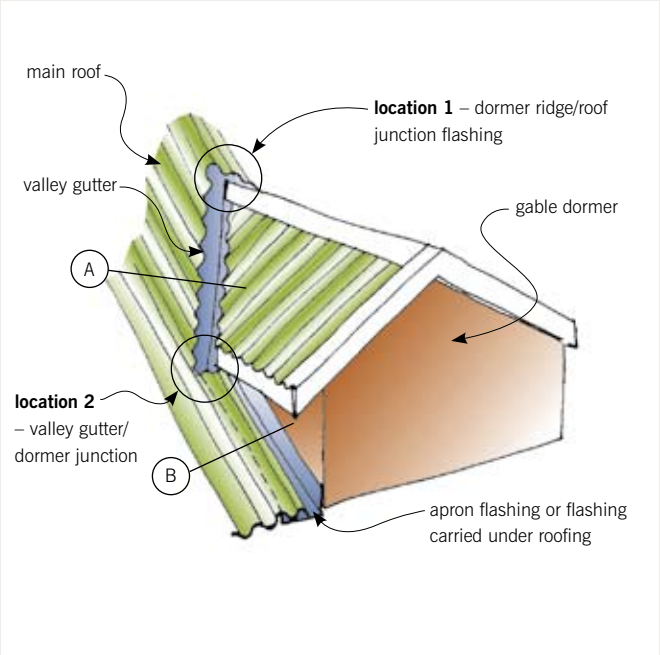


Figure 1: Gable dormer.

Figure 2: Dormer ridge/roof junction flashing.

under the roofing instead of using an apron flashing (see Figure 5). The flashing is fixed before the roof and wall claddings are installed, and must extend a minimum of two corrugations under the roofing. As this flashing system is installed before the roof goes on, the dormer cladding is easier to install.

When the dormer does not continue to the edge of the main roof, an apron flashing over the roofing is used (see Figure 4). The valley gutter is then cut and folded over the apron flashing and a lower section of roofing must be lapped under the roofing above.

Another alternative is to 'soft' flash, using zinc or butynol, to fold the flashing up from the valley gutter and onto the lower roof.

Downpipes

Dormer eaves often have spouting but no downpipes (see photo). But where does the water go? The water usually discharges onto the main roof at the back of the spouting at the same point that the water discharges from the valley gutter onto the main roof. This increases the volume and turbulence of water at an already vulnerable area of roof flashing. If the dormer roof is not large this is acceptable, but a large dormer roof should have downpipes with spreaders on both sides of the gable to discharge the water to a lower part of the roof.

Dormer roofs can be flashed satisfactorily but careful consideration must be given to the design, detailing and installation of flashings.

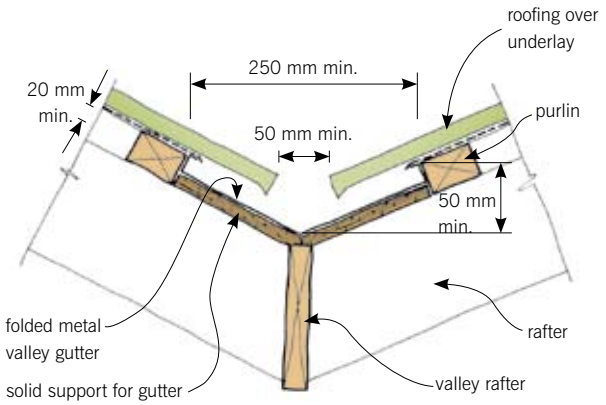
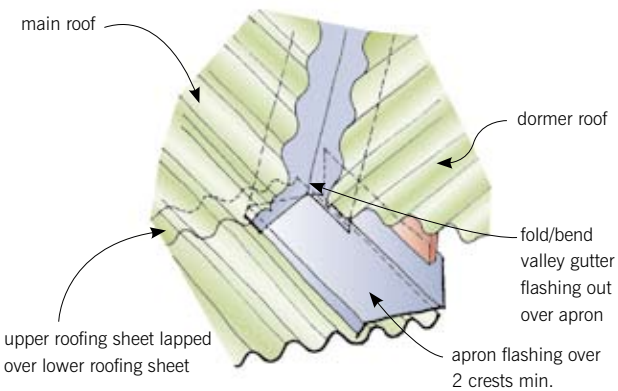


Figure 3: Detail A in Figure 1 – valley gutter.



Note: This detail is easier to achieve where the dormer does not have an eave overhang.

Figure 4: Apron flashing (required when dormer does not go to the eaves line).

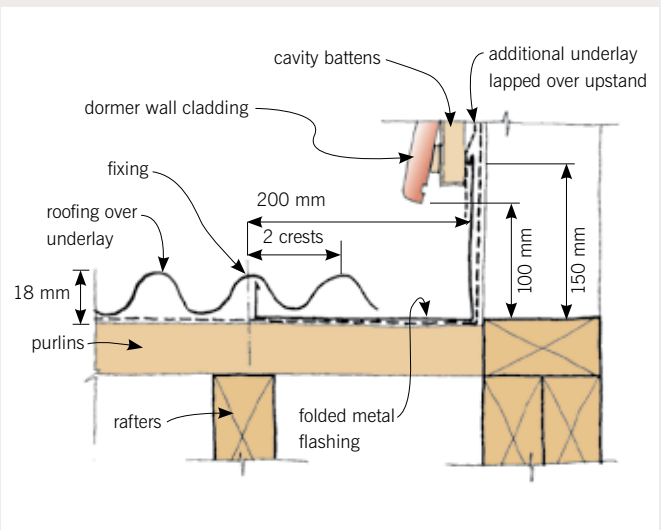


Figure 5: Detail B in Figure 1 – dormer flashing under roofing.

Where does the water go?