

Slating & Tiling

TIPS 64

chimney & dormer units part 1

There are particular roofing issues that relate to the installation of chimney and dormer window units that need to be taken into consideration. In this first section we shall look at the construction up to tiling/slating the roof around the chimney/dormer window unit.

Design and construction

The position of the chimney/dormer window unit should be determined early in the design process to suit the layout of the room, or to simplify the layout of the trussed rafter units. But consideration should also be given to the module of the tiles/slates and the distance from other features such as other chimney/dormer window units, the side abutment, or verge.

Careful sizing and positioning can increase the security of the roof and reduce the installation cost.

In the majority of situations the chimney/dormer window units will be fixed to a timber trussed rafter, or attic truss roof construction, although they are suitable for other constructions like composite panels.

The opening width and length are predetermined by the size of the units and the pitch of the roof, and should always be trimmed top and bottom. Depending upon the weight of the units they should also have a double rafter under the vertical wall faces, and additional rafters and trimmers under the outer edges that form the side and head flashings.

If the trimmers and additional rafters are missing, it will be difficult to finish the underlay and battens around the chimney/dormer window unit, and may result in long-term deformation of the unit.

The additional rafters under the side flashings should be positioned to allow the ends of the battens to be nailed to the additional rafter. This may require a 50mm x 50mm batten nailed to the side of the additional rafter to provide sufficient width to support and nail the ends of the battens.

Underlay and battens

Across the bottom and up the sides of the units the underlay should be fixed to the rafters before the unit is

fixed into position. But at the head, the underlay should lap onto the edge of the back gutter or inclined valley, depending upon the design of the unit.

If the underlay laps onto the side flashings there is a risk of water tracking between the underlay and the side flashing and dripping into the roof. At the head, if the underlay laps under the back gutter or inclined valley, any water on the underlay will run down between the underlay and the unit and drain inside the roof. Often the chimney/dormer window units are installed before the roof covering has been started. It is best done in collaboration with the roofer.

The battens should be gauged out using the head and tail of the units as fixed points. Depending upon the tile/slate module, and the size of the units, a short course of tiles/slates may be required. The side flashings and back gutter/inclined valley are designed to sit on the top surface of the rafters and can be up to 10mm thick. The battens should be cut up to the edge of the side flashings and fixed into the additional rafters to ensure there is a secure fixing and should not be lapped onto the side flashing as this will cause the edge tiles/slates to kick up.

Flashings

Some units have the apron flashing built in, while others have to be installed separately. Regardless of which situation applies, the flashing should be long enough to lap over the lower course of tiles/slates. In many instances the flashing is just capable of achieving 150mm of lap onto a slate that is butted up to the unit framing, but is not long enough where the gauging-out results in a gap between the head of the tile/slate and the chimney/dormer window framing, or where high-profile Roman or Pantiles are used, as the flashing has to rise up to the height of the corrugation, reducing the lap length.

Where the rafter pitch is less than 35° the length of the flashing should be increased in accordance with the recommendations of the Lead Sheet Association.



The flashing should either lap under the chimney/dormer window unit by a minimum of 150mm, or, if the distance is less, turn up to form a 50mm high vertical step within the unit construction. Where the apron flashing extends under the side flashing it is not possible to form a 50mm upstand, so the alternative has to be used. At this point the apron flashing will be unsupported, so a timber support board should be installed between the main rafter and the additional rafter, and to the end of the flashing if it extends beyond the additional rafter.

At the junction between the upstand and the side flashing, the apron flashing should not be cut, as that will form a leak path. The flashing should be bossed, or a section welded in. Where the flashing is dressed onto the head of the tiles it is common for the flashing to form a trough between the framing and the tiles, which in some cases is up to 100mm higher above the rafter face. Water that is trapped in the trough can run sideways and under the first course of tiles on either side. At this point there should be a welt to stop the water flowing off the end onto the underlay. It is better to have no trough there in the first place.

With profiled tiles the flashing should be dressed down into each corrugation to allow the first tile on each side to sit correctly into the tile below, without being kicked up.

Back gutter

Where there is a back gutter arrangement there is often no tilt fillet, or one of the wrong height. Each type of tile/slate will require a different height of tilt fillet. Placing

a loose timber batten on the back gutter is not correct as it will be affected by water over time.

Mortar bedding the first row of tiles/slates will also be incorrect as it will restrict any water on the underlay escaping. The correct detail would be for the correct height of tilt fillet moulded into the back gutter, or for a minimal tilt fillet moulded in with a plastic ventilation grill of the right thickness, nailed into position.

Conclusion

Unless the basic construction, underlay, and battening is correct, what follows will be uneven and insecure. The apron flashing and back gutter detailing are also very important – water could seep into the building, or, over time the construction will deteriorate. Part two will deal with installing the roof covering around the chimney/dormer window unit.

Tips

- All edges of the chimney/dormer window unit should be fully supported and provision left for the ends of the battens to be fixed to the additional rafters.
- The apron flashing should be long enough to provide a minimum 150mm lap, avoiding the formation of a trough that will collect water and discharge it sideways under the adjacent tiling.
- The tiles/slates above the chimney/dormer window unit should sit on a tilt fillet of the correct height.

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