

Slating & Tiling

TI PS 89

Brick corbelled eaves

It is nice to see some well constructed and detailed brickwork that shows off the skill of the bricklayer. Often this extends to the finishing of the brickwork at the eaves and the verge. But unlike the verge where the bricklayer knows that he must finish flush with the top surface of the end rafter, at the eaves there is a range of options that will affect the tiling on the roof, and which can go wrong. So what can the roofer do to overcome the construction that has been dictated by the architect, and constructed by the brick layer?

We need to understand the thinking behind the brick corbelled eaves detail. Firstly the architect will be trying to finish the building using as much brickwork as possible, in a decorative way, and to reduce or eliminate completely the use of painted timber or plastic fascia and barge boards, to create a maintenance free external envelope. In itself this aspiration is a good idea. But to achieve this it takes co-ordination between the trades, as the bricklayer will lay bricks in courses 75mm high, meaning that the exact height of the leading edge of the brick work for the tiles or slates, is likely to finish at the wrong level.

But what is the right level? When the tiles or slates are laid on battens the first three courses should all lay in the same plane. The practice of sprocketing the eaves tiles or slates is common but presents further technical difficulties, and so should be avoided at all cost. The excuse used by some architects and roofers that the sprocket is there to slow the water down as it runs off the roof is bunkum. If anything, during severe storms, a pronounced sprocket can act like a ski jump and encourage the rain to jump over the guttering. It is better that the brickwork is left low allowing the roofer to pack up the top surface with a suitable sized piece of timber. It is easier to build up the wall than to cut down the brickwork.

The other option would be to counter batten the complete roof to bring the top surface of the rafters up, but this will probably affect the brickwork on the verge and the flashing around any chimneys, or at side abutments.

Secondly the architect will be trying to copy or match a look from an older generation of buildings, where the construction will be different. By this I mean the walls may be solid, not cavity brickwork, or the roof structure not trussed rafters. Unless the total building construction is the same the relationship of components will be different, so a full understanding of the old and new construction is needed. Often the trussed rafters will finish on the wall plate on the inner wall skin, and the distance across the cavity and out to the face

of the outer skin of brickwork, which has been corbelled forward by between 10mm and 50mm, could be in excess of 250mm. This means that installing plain tiles or most double lap slates will be almost impossible as there will be nothing to fix the first batten to. Therefore interlocking tiles should be the preferred option, which may not fit in with the architect's desired look.

Thirdly the architect will be trying to show his artistic flair, by showing indented toothing or creasing tile fans, or something that is normally only seen on older buildings. This can result in the top course of bricks being less secure than the brickwork below. This will make it difficult to plug and screw a timber batten into the top surface to pack up the eaves course of tiles, or for the guttering to be fixed to. In windy locations and on steep pitch roofs interlocking tiles will need to be clipped along the eaves course and so there needs to be a semi structural timber batten that the eaves clips can be nailed to and transfer the wind uplift loads into the wall structure.

If the interlocking tiles are profiled, reform eaves filler units, or an eaves comb, will be needed to keep birds and small rodents out of the batten cavity, and they need to be nailed to something, which is not easy directly into brickwork. Then there is the presence of an over fascia ventilation system. In many instances VP underlay is specified to eliminate the need for eaves ventilation, but there are instances where eaves ventilation is needed and the over fascia grills need to be fixed to something. There are vent units that are compatible with brickwork having tabs that fit into regular brick joints, but these are the exception rather than the norm.

Quite often at the junction of the verge and the eaves a projecting quoin is constructed that finishes 50mm forward of the brick corbelled eaves, which makes a nice corner feature but causes the corner eaves/verge tile to kick up, unless the top surface of the brickwork is cut at the rake of the roof. Also it stops the guttering from extending to the verge edge resulting in the water running off the verge tiles missing the guttering.

Another problem can be the bottom of an inclined gutter that needs to discharge through the brickwork and into the gutter without kicking up the tiles on either side. If there is an eaves batten



The top of the brick wall was just right for the single pantiles, but the VP underlay was draped behind the gutter with no underlay support board. The eaves comb was not nailed to the top of the brickwork allowing birds to nest in the batten cavity, the guttering was screwed into a brick joint and set too low for the tiling, and the eaves tiles were not nailed or clipped

fixed to the top of the brickwork, this can be cut down to accommodate the valley construction, especially with GRP valley troughs.

Conclusion

Brick corbelled eaves when installed correctly can be very effective and good looking, but can be difficult to get right. The relationship of the tiles specified, the rafter pitch, the brick coursing, the amount of step forward and the corner detail can all have an effect on the finished article. The tiles should not be sprocketed, and there should be some form of timber onto which an eaves comb, eaves clips and perhaps an over fascia ventilation system can be installed, easily and safely; plugging and screwing into brickwork close to the edge is not recommended. Finally the underlay needs to be fully supported between the rafter and the wall face with an underlay support tray or timber tilt fillet, and the underlay must not drape into the gutter.

Tips

- Large format interlocking tiles rather than plain tiles or small format slates should be used with brick corbelled eaves
- The detail of the eaves should be drawn at 1:1 at all junctions such as the verge, valley, hip and general to ensure that the carpenter, bricklayer, plumber and roof tiler all agree and can comply with the detail, before work commences, and that any amendments are made and agreed if it is found not to work.
- All plug and screw fixings into the top course of bricks should be made into the centre line of the brickwork at approx 450mm centres.

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