



- The eaves tile on the left has been set too high due to the height of the over fascia vent grill. The tile on the right is at the bottom of a valley and is in the correct plane for the tiles above. Note the breakage at the head of the interlock due to the two tiles not laying in the same plane.

Slating & Tiling

TIPS 25

Eaves fascia board height

The fact that all tiles and slates in the middle of a roof slope have their top end resting directly on a batten and the bottom end on another tile or slate means that the true angle of the top surface of the tile or slate is shallower than the pitch of the rafters on which the battens are fixed. The difference between the rafter pitch and the true tile/slate pitch depends upon the batten gauge and the thickness of the tile or slates at the batten position.

Eaves tiles

At the eaves, where there is no tile below, interlocking tiles normally rest on a fascia board or tilting fillet to provide a support for the bottom edge. But the height of the leading edge of this support is critical – and often incorrect. The height of the board or fillet above the top of the rafter should equal the combined height of the batten and one thickness of interlocking tiles. This should ensure that the eaves tiles lay in the same plane as all the tiles above them.

Sprocket

Eaves tiles that rest on a fascia board that is too high will sprocket, or lay at a shallower angle than the tiles above. Whilst some architects like the look of sprocketed eaves, it can be detrimental to the performance of the roof, especially if the tiles are close to their minimum rafter pitch limit. A tile that is not parallel with the tile above will result in the upper tile resting on the eaves tile along the knife edge. The effect of this will be to make the weather bars designed into the underside of the bottom edge of the tile ineffectual in keeping rain out. Combine this with a tile that may be below its

minimum true pitch and rain water will be easily blown in onto the underlay. For every 10° of sprocket on one tile the tile above will be affected by approximately one degree. This figure will vary slightly from one design of tile to another and the actual length of head lap used.

Dip

Eaves tiles that rest on a fascia board that is too low will dip or lay at a steeper angle than the tiles above. This can look unsightly as a gap will open up between the eaves tiles and the tiles above (unless they are cambered). The gap will allow wind driven rain to gain access directly to the top of the tile where the upper tile rests on a knife edge. Again the weather bars on the underside of the bottom edge will be ineffectual in keeping out the rain.

Other factors

However, things are not as simple as may first appear. The height of the fascia board may need to be lowered to accommodate the height of an over fascia ventilation grill. Each manufacturer's product will have a different overall height and some are designed to span forward over the gutter so altering the point of contact of the eaves tile with the top of the grill. The further forward the fascia grill spans, the lower the top of the fascia board needs to be.

The amount the bottom of the eaves tile spans over the gutter to form a drip will also have an affect, along with the thickness of the fascia board. With some interlocking tiles the thickness of the bottom edge of the tile is less than the top edge and this can change things.

Consequences

The knock on effect of sprocketing or dipping eaves tiles are that with some designs of tile clips, holding down the second row of tiles may be difficult and reduce its performance. The nails holding the head of the eaves tiles in the batten may not penetrate the batten fully, reducing the performance of the fixing. At junctions with other perimeter features such as where a verge rising from a lower eaves meets a fascia, the level of the tiles will not match, leaving an open side interlock or excess pressure on a closed side interlock, which will cause it to break. Unless the eaves tiles lay in the same plane as the tiles above, the risk of wind driven rain blowing in, and tile breakage, is also greater.

Right height

Some manufacturers provide tables of fascia board heights, especially with over fascia ventilation grills. Where no table exists for the combination of rafter pitch, tiles, eaves vent grill and fascia board thickness that is to be used, you must either draw the detail accurately to full size and measure off the height, or on site set out the first three battens and lay three tiles, one above each other. Cut a small section of fascia with a section of over fascia grill attached and by sliding the fascia board up the face of the vertically cut face of the rafter, lift the eaves tile until it is in line with the two tiles above. This is best done with a metre long straight edge resting

on the three tiles. The straight edge will rest on the leading edge of the tiles, if it touches only the first and third tile the eaves tile is too high. If the straight edge touches only the first and second or the second and third tiles the eaves tile is too low. But when the straight edge touches all three tiles at the same time the eaves tile is in the right position. By repeating this exercise in several locations, the carpenter can be given the correct height dimension for fixing the fascia board.

Too often the carpenter has fixed the fascia board to suit the position of the soffit board long before the roofer arrives on site. The co-ordination of trades is the responsibility of the main contractor unless otherwise stated in the contract and will always be a problem unless co-operation between trades is improved.

Conclusion

- Interlocking tiles at an eaves should never be laid with a sprocket or a dip.
- An eaves tile not laid in the same plane as the tiles above will not perform correctly.
- The size and shape of an over fascia ventilation grill will affect the fascia board height.

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