

Update: Slates & tiles

Slating & Tiling

TIPS 22

Plain tile hips - part 1

The ability to achieve a very neat hip detail with plain tiles, whereby the tiles sweep around the hip or are turned on a sharp edge without the need of mitre cutting or soakers, is much sought after. But to achieve such a detail requires many factors to be resolved during construction.

Rafter pitch/plan angle

The rafter pitch on both sides of the hip should be the same or within a degree of each other for a plain tile hip to work. If the pitches are different, for the same gauge there will be more courses on the shallower slope than for the steeper slope for the same vertical rise and they will not line up. While the gauge can be adjusted on the steeper slope to match the shallower slope when the rafter pitches are within a few degrees of each other, the alignment of the hip tiles will remain constant and therefore they will

not sit correctly. If the plan angle on the corner of the building is anything other than 90°, then either mitred hips or purpose-made handed arris hip tiles will be needed, especially for 120° or 135° plan angles.

Change of pitch

Where the rafter pitch varies, such as with a sprocket at the eaves, the relationship or size of the hip tile will vary. This may result in two different sizes being used and blended together or one size being used incorrectly. With concrete bonnet hip tiles there is only one size for equal pitches between 35° and 50°, but for clay arris hip tiles there will be different size hip tiles for every 5° increment of rafter pitch. As most eaves sprockets are not created by the rafter pitch but by raising the fascia board height, the choice of arris hip tile may need to be determined on site.



- Unless the heads of the bonnet hip tiles are packed up the mortar bed thickness can be excessive and the tile can back fall into the roof. Not a good idea.

edge of the battens should align such that they intersect on the centre-line of the hip rafter. If the hip rafter is set higher than the jack rafters, this will cause the ends of the battens to sweep up and change the dihedral angle across the hip (measured at 90° to the hip line). This can be avoided by chamfering the top edges of the hip rafter or by lifting the battens by gradually packing them up from 2m away from the hip.

Setting mortar thickness

Having completed the structure and the battens, and set the fascia board height correctly for the rafter pitch, a temporary set of tiles should be set up on each roof slope to allow a set of at least six hip tiles to be laid in position. Once in position, the hip tiles will kick up on the leading edge, showing a very large gap where the mortar bedding will be placed. The nominal visual thickness of mortar bedding for bonnet hip tiles should be 10mm and for arris hip tiles should be nothing. To achieve this the hip tiles should be tilted forward about the two outside corners. This will have the effect of lifting the heads of the hip tiles off the battens. To keep the hip tiles in

this position a thin lath should be laid directly on the joint between the battens directly down the line of the hip rafter. The size will vary from roof to roof and can only be determined on site. Where there is a change of pitch each individual hip tile will need to be packed up separately to ensure they all show a similar gap along the leading edge.

Tips

- Rafter pitches either side of the hip should be the same.
- The gauging of the battens on either side of the hip should be the same and intersect on the centre-line of the hip rafter.
- Hip tiles designed for a 90° building plan angle should not be used for any other building plan angle.
- Handed arris hip tiles are available from some manufacturers for 120° and 135° plan angles
- Hip tiles should have their heads packed up to ensure they sit in the right plane.

The next part of this article will deal with the laying and fixing of the hip tiles.

Compiled by Chris Thomas, The Tiled Roofing Consultancy, 2 Ridlands Grove, Limpsfield Chart, Oxted, Surrey, RH8 0ST, tel 01883 724774, Email:

chris.thomas@thetiledroofingconsultancy.com

To view previous Slating & Tiling Tips, go to www.thetiledroofingconsultancy.com