

Slating & Tiling

TIPS 23

Plain tile hips - part 2

In the previous article (Part 1) we looked at the requirements of the roof structure and the battening prior to the laying of plain tile hips on the roof. In this article we will be looking at the process of laying the tiles themselves.

Sorting

The first process in this phase of the work is for the clay hip tiles to be sorted. This is especially important with clay arris hip tiles, as one surface can bow during firing due to the way the tiles are stacked in the kiln. Only one side of the hip tile rests on the floor of the kiln car, while the other is free to move during the molten stage of the firing process. By sorting similar tiles together they can be laid up different hip lines to give an even appearance. Where there is a sprocket flatter hip tiles can be used. Those that are too flat or

bent upwards should be rejected as unusable. It is better to have a hip tile with a smaller dihedral angle than required, as the tile will dig into the roof. A hip tile with a larger dihedral angle than required will kick out leaving a gap, lifting the tile above and looking 'wrong'.

Mortar bedding

When laying the hip tiles the mortar bedding should be undertaken as the work proceeds. For bonnet hip tiles this means placing a 50mm wide bed of mortar along the line of the leading edge of the hip tile above, while with arris hip tiles the mortar bedding should be placed just in front of the nail hole. The smaller the gap between the hip tiles the less it will kick the tiles up and the more side lap will be achieved with the adjacent tiles. If the thickness of the mortar bedding



- The clay arris hip tiles on this roof were not sorted correctly. While some of the hip tiles fit correctly, others kick out badly. Note how tile and a half's have been used to maintain the half bond.

is excessive, the top surface of the hip tile can fall back in towards the hip rafter – not a good idea.

Side laps

The hip tiles should provide a side lap of 55mm but this will vary with gauge. The tiles adjacent to the hip tiles will need to be cut to form a neat fit with the hip tile. As work proceeds up the hip the width of the tile adjacent to the hip tile will become wider to maintain the half bond with the rest of the roof. In this instance a tile and a half should be cut to fit. In some instances two cut tile and a half's are needed to avoid creating a side lap of less than 55mm with the adjacent tiling.

Fixing

Each hip tile needs to be nailed into the hip rafter, or a hip batten greater than 25mm thick. A hip batten must also be adequately nailed to the hip rafter for it to be of any structural use. The nails holding the bonnet hip tiles into a hip rafter can be very long as the distance down to the hip rafter can be as much as 75mm plus the 25mm of nail penetration. Therefore a 100mm long nail would be required. With arris hips laid on a hip batten this figure will be considerable less. Therefore the length of nail used will need to be determined on site by positioning the hip tile and then dropping a nail into the nail hole. Provided the nail sticks out above the hip tile by at least 25mm it should be adequate to achieve a 25mm penetration when fully driven into position. Beware, the act of hammering the nail will disturb the mortar on the hip tiles that have already been laid. For this reason some tilers screw fix the hip tiles into position. At the

top of the hip, especially where there is a top edge abutment, the top hip tile may need to be cut to fit. If this is the case a new nail-fixing hole will need to be formed to allow it to be nailed in place. This is easy to achieve in some clay and all concrete tiles, but is almost impossible with some hard clay tiles. If this is the case, then cutting slots at right angles to the side of the tile will allow the nails to be installed and fixed.

Alignment

The alignment of the hip tiles, especially arris hip tiles, must be as straight as possible up the line of the hip. If it wavers in any direction it will look drunk and will be difficult to correct at a later date. The use of a string line located correctly at the apex should assist the tiler to maintain the line as work proceeds.

These are not the only factors a tiler needs to take into consideration when forming a plain tile hip, but unless these basic factors are followed the hip will not have been constructed correctly.

Tips

- Clay hip tiles should be sorted before they are placed on the roof. Some may need to be rejected.
- Every hip tile must be mortar bedded either along the leading edge with bonnet hip tiles or back bedded with arris hip tiles.
- Every hip tile must be nail fixed.

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