

Slating & Tiling

TIPS 71

repairing tiled roofs



The nice thing about a tiled roof is that it can be dismantled and reassembled using the same tiles, if there is an alteration to the building. But too often roofs need to be repaired because they were not constructed correctly in the first instance, or a secondary trade, such as the plumber/electrician, has decided to install a vent, or flue, through the roof, and has removed tiles and not re-fixed them correctly.

In many instances it may be correct to slide out the affected/broken tile and replace it without nailing or clipping. But what should you do if the tiles are fully clipped and nailed? Reinstating the fixings can be difficult, but not impossible.

Interlocking variable head-lap tiles

If the tiles are nailed, or should be nailed, it is essential to determine if the rafter pitch is below 45° or not. At 45° and above all interlocking tiles must be fully nailed. Below 45° it is possible, unless the wind uplift for the roof is very high, to install a tile clip to the lower left hand interlock with some difficulty. This can be achieved by nailing the clip into position with the hook resting in the clip recess of the adjacent tile. The clip is held up with a trowel, or similar thin implement, while the new tile is slid into place under the hook of the clip. Once in position the trowel is removed releasing the clip, which locates with the side interlock of the tile. Clips are generally much more efficient at resisting wind uplift forces than a head nail fixing.

If the tile must be nailed and/or clipped as well, the solution is to measure the distance in, and the distance up from the bottom of the tile, to position the nail hole in the tile. Next release the clip on

the tile above and slide the new tile into position. Mark out the position of the nail holes of the tile below the replaced tile, and the replaced tile, and drill a hole through the upper tile directly above the nail hole to allow a screw with a cap and washer to be installed through the two tiles and into the batten below. This should be done twice for the head and the tail of the replaced tile. Depending upon the thickness of the tile being replaced, the screw could be between 40mm and 120mm long. If there are two nail holes and the tiles are laid broken bond it is important to not drill through the side interlock. Also the screw fixing should be either brass or stainless steel. A coated steel screw is not suitable. Also the cap and washer must form a waterproof seal around the hole; therefore careful drilling and the insertion of a mastic sealant around the screw shank where it passes through the lower tile would be advisable.

For resin slates, such as the Redland Cambrian slate, there are repair kit systems that use special adhesives applied to specific parts of the tile that bond the resin slate to the adjacent slates and transfer the wind suction loads to them. These systems are tile specific and the fixing instructions should be followed to the letter.

Interlocking fixed head-lap tiles

Generally speaking we are referring to clay pantiles that are laid straight bond. If the tiles are laid broken bond then they should be treated the same as variable head-lap tiles. With clay pantiles that have the top right hand corner and bottom left hand corner shouldered it is very easy to remove a vertical band of tiles down from the ridge to the eaves as they can be easily rotated out

to the left, once the head nail and the clip, if it has one, have been removed.

Many clay tiles, especially old designs with no weather bars and interlocks, have the nails driven in parallel with the rafter through the nib, rather than the face of the tile. With this type of fixing an individual tile can be re-nailed using a Z-shaped drift, by inserting the nail in the nail hole with the nail head resting on the nib. By positioning the tile 25mm up the roof under the raised corner of the tile to the top right, the nail can then be driven in using the Z-shaped drift and a hammer, much like using a sate ripper which eventually pulls the tile down into its correct position.

It is possible to repair these tiles by drilling through both tiles at the bottom of the pan directly above the batten. This is the worst place possible to do such a fixing as all the water on the tile is channeled to that point so should be avoided at all cost. Clipping the bottom edge of the tile in an array is possible with a Z clip, but the head of the lower tile must be head nailed.

Plain tiles

In many instances plain tiles are not nailed every row so it is quite easy to remove the two courses of tiles above, re-nail the affected tiles and replace the un-nailed tiles using a trowel. But where the tiles are all twice nailed such as with vertical tiling, it is impossible to re-nail replaced tiles.

In this case the Marley Plain tile repair clip can be installed to the tile, and using a special tool, the tile can be installed with the

clip clamping the tile to the batten. This clip only works with 38 x 25mm battens and where the back of the batten is exposed, i.e.

not nailed directly to rigid sarking, or a wall.

General

Where tiles are fixed with annular ring shank nails, when they are removed they will leave a

The excessive gaps between these torn hole. The new fixing should clay pantiles were caused by the cover width being stretched too be either a larger ring shank nail far, allowing rain to drive in. or screw fixing to achieve the grip in the same nail hole.

Conclusion

There are some situations where it is not possible to head nail tiles, such as with the Marley dry ridge system that has a plastic batten section. In most instances it is possible to undertake remedial repairs by using clips, or screw fixings, to comply with BS5534: The British Standard Code of practice for slating and tiling. Most systems are visible on completion, whilst others will be completely invisible. Either way the right fixing method for the tile and situation needs to be determined. Often stripping down from the ridge may just be easier and quicker than getting the right remedial fixings (unless you have them in your tool kit already).

Tips

- When drilling a screw hole through a tile never use the hammer action facility, and always use a sharp drill bit.
- Avoid using any plastic clips for long term roof repairs as the plastic will age harden and may fail under load.
- Never use coated steel screws or nails to fix tiles onto a roof as the coating can be scratched and rust will start to destroy the fixing.

Compiled by Chris Thomas FIoR
The Tiled Roofing Consultancy
2 Ridlands Grove, Limpsfield Chart,
Oxted, Surrey, RH8 0ST
tel: 01883 724 774
Email:

chris.thomas@thetiledroofingconsultancy.com

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

