

Slating & Tiling

TIPS 72

repairing slated roofs

Unlike a tiled roof where the tiles are nibbed, and most tiles are not fully nailed and clipped, double lap slates should all be either twice centre nailed, twice centre nailed and tail riveted, once or twice head nailed, or once hooked with slate hooks; in other words, fully fixed. This can make replacing a slate more difficult, but not impossible.

Head nailed slates

For once head nailed slates that have been shouldered (had the top corners cut off) it is quite easy to swing the slates above the affected slate sideways and expose the head of the affected slate, and after removing the nail and the affected slate, replace it with a new slate, re-fix the head nail, and swing the slates above back into position.

If the head nails are slack the wind will make them rattle in high winds, which may make them vulnerable to breakage. If the slates are not shouldered and the nail is tight, or the slate is twice head nailed, then the slates will be almost impossible to swing sideways, in which case the nails will need to be ripped out

with a slate ripper and the slate reinstated using a slate hook fixing.

Centre nailed slates

Where the slates are twice centre nailed there are two acceptable repair methods. For both methods the affected slate should be removed along with the nails, using a slate ripper.

The first method is to install a slate hook of the right length, dependent upon the head-lap of the slates used. Before cutting two notches in the head of the new slate where the nail fixings of the slates above occur, allow the new slate to be slid into position over the slate hook and then pulled down into the hook, to locate it. Provided the side lap gap between the lower slates is sufficient to take the shaft of the slate hook the new slate should lay flat. This method is ideal for both natural and fibre cement slates

The second method is to install two Jenny Twin fixings to the new slate just above the normal nail hole position, such that each clip, which has a hinged gate that flaps down and rests against the head of the batten, is correct for the alignment of the bottom edge of the slate.

With Jenny Twin fixings it is important to slightly recess the side of the slate to accommodate the thickness of the clip, otherwise it will interfere with the adjacent slate, also the hole through the slate needs to be accurately positioned and punched to ensure there is no slack in the clip once installed. With Jenny twin fixings it is possible to use one clip and one nail fixing stitching in up the



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edge of a patch, with the final slate having two Jenny Twin fixings. Jenny Twin fixings can be used with fibre cement slates provided a copper disc rivet is also used at the tail of the slate.

Jenny Twin fixings are not suitable for re-fixing slates where there are no battens, and therefore not suitable for Scottish practice where the slates are fixed directly to the rigid timber sarking.

Hooked slates

Repairing hooked slates is the easiest of all methods. In many instances the slate hook can be reused, provided the metal is not bent or damaged. The broken slate is pushed up and over the hook holding the slate and slid out, and a new slate slid back in, and pulled down into the hook. If the hook is damaged in any way it should be removed and replaced.

There are two types of slate hook; the type that nails into the face of the batten and the type that wraps around the head of the batten. The wrap hook type is simple to install as long as the batten thickness and the wrap clip depth are the same. Where a rafter interferes with the installation of the wrap hook type, a nail fixed slate hook should be used.

For Scottish practice, where the slates are fixed directly to the rigid timber sarking, only the nail type slate hooks should be used. With the nail type slate hooks the nail portion of the fixing must be fully driven into the batten or sarking, which can be difficult if the slate hook is installed after the slates in the lower row have been installed. Therefore it is best to set out the roof and install the hooks in bays prior to the slates being installed.

Slate hooks are manufactured in a range of metals, but only stainless steel slate hooks should be used in the UK. There are two grades of stainless steel that are commonly available, Grades 304 and 316. Grade 304 material is very common, and therefore the cost is a lot lower than for grade 316. However BS5534, The Code

of Practice for Slating and Tiling, only recommends the use of Grade 316S11 and 316S19 stainless steel nail fixed slate hooks. Therefore if grade 304 stainless steel slate hooks, or wrap type slate hooks are used they will not comply with specifications that require compliance with BS5534.

Stripping down

If the broken slate to be replaced is close to a top edge, or there are several broken slates in the same vicinity, it may be easier to strip down in a V from the top edge and replace the broken slates and re-fix them securely to match the adjacent slates, rather than use slate hooks or Jenny Twin fixings, that may not be readily available on site.

While there are other temporary slate fixing methods, they are just that, temporary. Lead tingles straighten out, anything made of plastic will age harden and break under load and is unlikely to last as long as the slate. Wire will not be strong enough to resist the wind suction, and mastic will only stick to the outer layer of the slate which is formed of many thin layers and will pull away when put under load.

Tips

- When replacing a slate into a centre nailed slate roof always cut two Vs in the head of the slate to correspond with the nails of the course above, to allow the slate to be pushed up higher than normal and then pulled back down into the slate hook, or onto the gate section of Jenny Twin fixings.
- To install a slate into a slate hook, do not straighten and re-bend the hook section of the slate hook, as it weakens the slate hook fixing.
- Never use Jenny twin fixings or batten clip slate hooks where slates are nailed directly onto rigid timber sarking with no battens.



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