

Tiling tips: No 10

Single or double lap slate choice: part 2

In the first part of this article, published last month, we discussed curved roofs, straight bond, long rafter lengths and decoration. Some of the main differences in the use of single and double lap slates are with the fixing and perimeter detailing which need to be appreciated along with the other issues.

Fixing

Double lap manmade and natural slates are traditionally twice nailed close to the centre line with copper nails, just above the head lap position, where there are three layers of slate. They may be head nailed, but this is less stable in high winds and tends only to be used for thick, heavy stone slates. The Continental method of hooking slates is becoming more popular as it eliminates the need for making holes in the slate and the problems of breakage and leakage that can result.

Double lap slates have no nibs, relying on the nails or hooks for their fixing. Centre nailing is very efficient as the slate above the nails rests on a batten that stops the slate from rotating about the fixing point in high winds. Slates that may bend or break in their length due to high wind forces tend to either have an additional tail fixing, normally a copper disc rivet located in the joint of the slates below, or use a slate hook to reduce the bending lever arm. Slate hooks are normally used one per slate, positioned in the joint of the course of slates below. They can also stabilise slates that can only be head nailed, such as at a top edge abutment or ridge, and prevent broken pieces of slate from falling off a roof as they hold them in place along the leading edge.

Single lap slates will either be head nailed and or tail clipped. In sheltered locations some slates in

the middle of the roof may not be nailed or clipped at all, as the self-weight and the nibs will be sufficient to hold them in place. Head nail fixing is good at preventing a slate from sliding off the batten but poor at resisting wind lift due to the short distance between the nail fixing and the pivot point of the nib. Two nail fixings are better than one, but will never be as good as a tail fixing. Lightweight resin and concrete slates tend to require both a head and a tail clip fixing, as their self-weight is so low they rely totally on the fixings for their

~ Single lap lightweight concrete and resin slate need to be tail clipped and head nailed to ensure wind does not suck them off the roof.



ability to stay on the roof.

The design of the tail clips varies from manufacturer to manufacturer. Some clips are nailed into the thin edge of the batten of the course below. Others lock the interlock to the head of the slate below. Some slates rely upon the fixing nail to pass through an extension to the interlock into the head nail hole of the course below. Some clips are plastic, some stainless steel and others aluminium. Each slate clip is unique and will have a different uplift resistance to wind forces. They should always be used as recommended by the manufacturer. Using the clip for one single lap slate design on another could drastically reduce its ability to resist wind uplift.

Perimeter detailing

The difference between the double and single lap method of fixing makes a big difference to the detailing of the perimeters of a roof slope and will make a visual difference to the finished roof.

At side abutments lead soakers should not be used with single lap slates as the lead will not support its own weight and there is no slate surface below to support it. The nearest detail to this is a secret gutter. However, they are prone to blocking and flood water will discharge under the slates onto the underlay and battens. The best option is a combination of a secret gutter and a cover flashing. The cover flashing keeps out the worst of the debris and rainwater, leaving the secret gutter to take any water that blows underneath away safely.

At valleys a double lap slate can be close mitred with

soakers. As with side abutments, soakers should never be used with single lap slates and an open lead or GRP valley should be used. Where people have close mitred slates over an open valley they have found that they cannot prevent debris being washed in and blocking the valley. Once a valley is close mitred it is then almost impossible to remove a blockage without dismantling it. It is better to leave the valley open allowing a greater water flow and less risk of it blocking.

At hips it is possible to use a timber roll and lead cover flashing or bedded hip tile for both types of slate. The use of a mitred hip with lead soakers is restricted to double lap slates. Whilst some single lap resin slate manufacturers do have patent mitred hip systems with special clips that look authentic, they are more difficult to install than lead soakers.

At eaves and ridge/top edge abutment, the arrangement of top and eaves slates and battens is more complicated with double lap slates. However, whilst the detailing is simpler for single lap slates, some designs do need special eaves and top slates to make the system work.

At the verge the difference in thickness of the slates is most noticeable as you can see the edge thickness. Unlike double lap slates where a one-and-a-half slate width is used, most single lap slates only require a half slate width to maintain the half bond at a verge. However some manufacturers do make one-and-a-half slate width for their designs. Single lap slates in locations where wind uplift is very high, and lightweight slates, will need a verge clip on every verge slate to hold them down. These will be visible on each course.

Conclusion

Single lap slates are excellent at covering small, simple, low pitch roofs to a tight budget. Once the shape becomes more complicated, the rafter pitch increases and decoration is used to break up large roof slopes, so double lap slates become more competitive. The point at which the two are in equilibrium will vary from slate to slate and from building to building. Like all products they have their strengths and weaknesses, and each should be considered very carefully before a choice is made. ■

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