

Slating & Tiling

TIPS 39

verge construction: part 2

Part 2 of verge construction deals with the under-cloak, fixings, and mortar-bedding of the tiles or slates.

Under-cloak

The under-cloak is a permanent support for the mortar bedding. Without mortar there would be no reason to have an under-cloak.

Traditionally steep pitch slate roofs have never been mortar bedded and therefore an under-cloak is not needed, but the height of the barge board is increased to finish flush with the top of the slate battens. With plain tile roofs a plain tile is often used to form the under-cloak by removing the nibs and wedging it under the ends of the battens laid face down, with the nail holes at the lowest point. With clay tiles the straighter ones should be sorted for this purpose.

Plain tile under-cloaks should never be used with tiles or slates with a gauge greater than 250mm, as it is essential that the inner edge of the tile is wedged under at least one batten end. Because plain tiles will have some form of camber, in either direction, water can track back towards the wall or barge board; therefore they should never be used on rafter pitches below 35°.

An undercloak of fibre cement board or natural slates, when slid into position under the tile battens, should not cause the end of the tile batten to kick up, unlike with plain tiles. Where they are installed on a gable rafter V cuts may be required at batten positions to allow the batten end to be nailed to the rafter, yet still be wedged under the batten. There is a risk that if the batten is nailed through the fibre cement board or slate it will break it.

All under-cloaks should be laid horizontally, or with a slight fall away from the building to discourage water tracking back to the wall or barge board. All butt joints should be as tight as possible to prevent small birds, bats or large insects from entering the roof system, especially at the

apex. At the eaves, between the first batten and the top of the fascia/tilt fillet, the line of the under-cloak should change to a shallower pitch to allow the underlay to exit the roof over the fascia board. This will require a small wedge of timber to be inserted above the barge board to support it and avoid a hole.

Fixings

All perimeter tiles and slates must be mechanically fixed. This means that if the tiles are nailed, such as with plain tiles and slates, the edge tile must be fully nailed.

For tiles with one nail hole, that means one nail. Those with two nail holes, this means two nails; with one exception. At a plain tile verge the tile-and-a-half can be twice-nailed, but the tile can only be once-nailed as the second nail-hole misses the end of the batten.

Interlocking tiles that need to be clipped, and those with half tiles where the single nail hole misses the end of the batten, must be clipped using verge clips. Each verge clip must be nailed or attached to the batten in compliance with the manufacturer's recommendation. This needs to be done to a predetermined string line before mortar is placed. Pushing the clip into the mortar after the tiles have been installed is not acceptable.

Mortar

The mortar that is used for bedding verges should be a 1:3 cement:sand mortar mix. The sand should not be soft sand, as used in bricklaying, but sharp sand – not to be confused with screeding sand. Sharp sand has an even proportion of a range of aggregate sizes from the finest up to 5mm, while screeding sand is all 3mm-5mm aggregate.

The under-cloak and verge tiles should be damp, so that when the mortar is placed the under-cloak and tiles do not suck all the moisture out of the mortar before it has had an opportunity to complete its chemical reaction. The verge tiles should be pushed into



There is nothing right about this verge. The verge clip is not nailed to the batten, the battens finish in the mortar, and the underlay is laid above the undercloak and sinking down into the cavity wal.

the mortar to make it spread out on the underside of the tile and compact into the surface of the tile.

The mortar should not be too wet that it slumps, or too dry that it is too rigid. The tiles should be nailed as soon as possible and the surface trowelled up to remove any excess and leave as a smooth surface.

Laying the tiles and pushing the mortar into the gap between the tile and under-cloak is not acceptable, as unchecked the mortar will push through into the batten cavity and not bond onto the underside of the tile or under-cloak. Mortar that comes into contact with the batten ends will allow an alkaline solution to soak into the end grain of the timber. The timber will swell and remain wet for long periods. This will both crack the mortar and eventually cause the timber to rot away, preventing the nail or clip fixings from being secure.

Dentil slips

With some profiled interlocking tiles the verge edge of the tiles can be high above the under-cloak leaving a large space for the mortar bedding to fill. Traditionally plain tile are cut to 50mm widths for use as dentil slips to reinforce and thin out the mortar. In some instances two courses of dentil slips may be needed and if used, the joints should be staggered to give it strength.

There should always be a bed of wet mortar between each dentil slip, the under-cloak, and the tile – ideally 10mm-15mm thick. This needs to be placed before the verge tile is laid and nailed into position.

General

Once a mortar-bedded verge has been finished, it should be left for as long as possible without being disturbed to allow the mortar to cure. Sun and heat will prevent the mortar from curing by drying it out, so it should be kept damp if possible. Frosty weather can freeze the moisture in the mortar before it has had time to cure, causing it to expand and break up. A mortar-bedded verge that is done correctly should last as long as the roof tiles or slates.

Tips

- The under-cloak should have a fall away from the wall to prevent water running back to the wall and leaving a stain, or soaking in.
- Never use a plain tile under-cloak with interlocking tiles.
- All mortar-bedding should be placed on the under-cloak before the verge tile or slate is placed and fixed.
- Interlocking tiles, with a half tile on the verge, should be clipped where the nail misses the batten end.

Next month: Part 3

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