

# Update: Slates & tiles

# Slating & Tiling

## TIPS 18

### Featheredge boarding

Before bituminous underlay became popular, and to save money, it was quite common for builders to use featheredge timber boarding as both the sarking and the battens under clay plain roof tiles.

#### Method

The idea of combining sarking with battens was very clever. Timber boards were tapered across their width (like a fence paling) which was correct for the batten gauge for plain tiles. The boards were laid horizontally like battens with the thick edge (15-22mm) of the board uppermost on the rafter to provide the edge onto which the tiles would be laid. The thin edge of the board (5-10mm) would locate into a rebate in the thick edge of the board below, making setting out of the gauge very simple. Each board was nailed twice to each rafter to stop them curling up. The cross section through a featheredge boarding gave a saw tooth profile.

#### Advantages/disadvantages

Feather edge boards did give some protection from wind driven snow and from wind, provided good lateral bracing of the roof structure was in place, and they gave a reasonably smooth surface on the underside. The timber boarding also provided a small amount of insulation and sound deadening. What it did not do was keep out the water where there was a broken tile. Water entering the roof ran down the board to the thin-edge where it would seep through the horizontal joint and down the underside of the boards to the eaves, rotting the fascia board or tilt fillet. Alternatively, as the water seeped down the underside of the boards it would drip off a protruding nail point.

#### Tile fixings

The boards, being tapered from a nominal 19mm to 8mm, were approximately 17mm thick at the level of the nail hole, making it just possible to achieve the minimum 15mm of penetration needed for the nail. Due to variation in board thickness, the depth at the nail hole position could be as little as 14mm, allowing the nail to penetrate the underside of the board.

#### Re-roofing

Over the years many of the early featheredge

boarded roofs have been re-roofed with small format concrete interlocking tiles with a 306mm maximum gauge, such as Redland 49 or Marley Ludlow Plus. Roofers could strip off the original tiles and, providing the boarding was in good condition, lay new interlocking tiles onto the original featheredge boarding, using every third board to make a gauge of 300mm. Whilst some contractors still use this method of re-roofing it is not considered to be good practice.

#### British Standards

British Standard 5534, *Code of practice for slating and tiling: Part 1. Design*, states: "The use of featheredge boarding as a support for plain tiles is not recommended."

However, due to an oversight, the British Standard does not make the same recommendation for interlocking tiles. It recognises the fact that for a 600mm rafter spacing a timber depth of 25mm is required to ensure a safe grid on which men can work and thin feather edge boards are not easy or safe to walk on. A tile fixed with nails that penetrate the full depth of a 25mm tiling batten will provide approximately 60 percent more frictional resistance than could be achieved with featheredge boarding. Also the featheredge-boarding does not provide a barrier against water, or air pressure especially once the timber has shrunk a little and restricts air movement directly below the tiles, unlike battens with a flexible underlay.

#### Solutions

If a roof constructed with featheredge boarding were to be re-roofed now, there are several solutions that should be considered: - Where the boarding is in good condition and interlocking tiles or slates are to be used, it is possible to fix a vapour permeable underlay under a 50mm counter batten over the featheredge boarding and nail through it into the rafter below using a minimum 110mm long nail. Normal 25mm deep battens are laid to the gauge to suite the tiles or slates to be used. This practice lifts the roof covering up by approximately 75mm, which would require all fascia boards and verge bargeboards to be raised accordingly. It would also affect the position of flashings around chimneys and dormers, which may be more difficult or inadvisable to change.



- If featheredge boards are in good condition it is possible to fix counter battens through into the rafters below. With plain tiles the underlay must be above the counterbatten.

This option has the advantage that it allows space for an over fascia vent to be installed to vent the batten cavity.

- Where the boarding is in good condition and plain tiles are to be used, the same procedure can be carried out with the exception that the underlay must be laid over the counter batten. In this instance it is not possible to install an over fascia vent to vent the batten cavity. However the gaps in the tiles should be adequate to allow water vapour to escape.
- Where a proportion of the boards are damaged or rotten, or where it is not advisable to raise the level of the roof covering, the boards should be removed back down to the rafters and cleared from site. The normal practice of laying underlay and battens can then be undertaken prior to tiles being laid. This will raise the level of the tiles by 6mm but should not affect the weatherability of flashings around chimneys, side or top abutments. Where there is a room in the roof, rigid or semi-rigid insulation can be installed between the rafters to improve the thermal efficiency of the building before underlay and battens are installed.

#### Advice

Unless there is a very good reason to keep or repair it, remove featheredge boarding as it is likely to be untreated timber that is more than 50 years old and if left will need to last another 50 years before there will be another opportunity to remove it.

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