

The statement that you see on drawings and specifications to the effect that 'lead flashing to lap tiles by 150mm minimum' is, as statements go, correct but very misleading, as it means different

200mm at 22°, 250mm at 17.5°, 290mm at 15° and 390mm at 11°.

Tiling tips: No 4

Flashing laps

things to different people and does not provide any guidelines.

Capillary reaction

The capillary between two smooth and parallel surfaces can suck water up a vertical distance of 75mm regardless of the type of material. To overcome this mode of leakage the roof flashing needs to lap no less than 150mm at any true surface pitch above 30°.

The Lead Sheet Association states in its manual: 'for secret gutters and pitched valley gutters the laps should conform to a vertical weathering height of not less than 75mm'. To comply with this recommendation the resulting simple laps for pitches below 30° will increase from 150mm to

water flows are at their highest, the need to achieve the same laps over roof tiles and other sections of metal flashing is equally as important. Whilst all laps with tiles should be measured from the head of the tile, the true effective head lap with interlocking tiles is not to the head of the tile but the nail hole. For plain tiles it is from the head of the tile on the course of tiles below, which is a distance of 65mm above the leading edge of the tile.

True pitch

The true pitch a roof tile is always less than the rafter pitch by between 3 and 10°, depending upon the hanging length, the thick-

Effective head lap

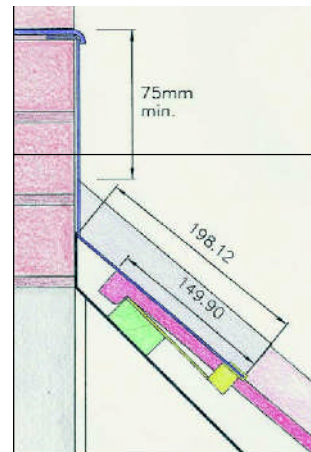
Whilst the requirement for laps in lead relate to secret valleys and pitched valleys, where the concentration of

Top edge abutment

At a top edge abutment the head of the tile will always be a short distance from the face of the wall. ness and the head lap of the tiles. A simple rule of thumb is a plain tile is 10° less than the rafter pitch, a standard concrete interlocking tile is 5° less, a thin leading edge interlocking tile is 3° less, and inclined valleys are about 5° less than the rafter pitch.

The amount will vary with rafter pitch and profile height above the batten. The gap between the wall and the head of the tile needs to be added to the head lap, upstand and turn in, when calculating the width of lead sheet needed to fabricate the flashing.

A plain tile roof at 35° rafter pitch will have a true tile pitch of 30°. With the 150mm lap measured down from the head of the tile would result in the effective head lap being less than the gauge of the tiles. The common practice is to lap the flashing by the same amount as another plain tile, a distance of 165mm, leaving 100mm of tile surface visible.



~ At steep rafter pitches and with thick tiles the distance from the head of the tile to the wall can be more than 50 mm. Greater than 50mm and the lead flashing should be supported on a timber fillet. Note the use of a copper clip fitted through the interlock/side lap to hold down the leading edge of the flashing in exposed locations.

For an interlocking tile at 22° rafter pitch the true tile pitch is 17° requiring a 250mm lap down from the head of the tile. As most concrete interlocking tiles are 420mm long, this is more than half the length of the tile. Whilst 250mm may seem excessive for a top edge abutment or apron flashing it may not be. Where an inclined valley from a roof dormer discharges back onto a roof, or a roof window secret gutter discharges over the apron flashing, the volume of water can be as great as that flowing down the valley or secret gutter and needs to have the same flashing laps. Also the lap has to stop capillary reaching the head of the tile.

Maximum head lap

With some small interlocking slates at rafter pitches as low as 15° the flashing length may be greater than the length of the tile. In this situation the lead should not extend further than the leading edge of the top tile. It is for this reason that vent tiles should never be positioned on the top course of tiles.

Proprietary flashing

Where a proprietary flashing material is used that has an adhesive bead or capillary break introduced into its design, the amount of flashing lap may not need to be as great as for a simple flashing lap, and the manufacturer's recommendations should be followed.

Remember, below a true pitch of 30° the length of the flashing laps needs to be greater than 150mm and can be as great as 390mm at a true pitch of 11°. The effective lap is not the head of the tile, but from the nail hole in the tile if it has one. No simple flashing lap should be less than 150mm.

Next month: shunts and tolerances.

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