



## Using double lapped plain tiles on curved roofs

There is a lack of written information generally available which would be of use to the specifier. This type of detail is generally regarded as an 'on site' detail, ie to be worked out by the roofing contractor.

The nature of a curved roof means that the linear distance of each row of tiles alters course by course.

To successfully tile a curved roof it is therefore necessary to progressively reduce the width of each tile (in the case of a convex face) or increase the width of each tile (in the case of a concave face).

This involves cutting the sides of each tile in order to keep to the curve and maintain bond.

Single lap tiles function by interlocking or overlapping with each other linearly, therefore cutting these to reduce the width will remove or damage the interlocks. So, short of manufacturing lots of different widths of tiles, it is not possible to tile such a roof using single lap tiles.

But double lapped, or plain tiles, lend themselves particularly well to curved roofing because they simply 'butt' together linearly and can therefore be cut to adjust linear coverage and maintain the curve.

All the rules that generally apply to plain tiling (eg regarding bond, lap, pitch, mechanical fixings) still apply to a curved roof, therefore the roofing contractor must ensure that tiling is done in accordance with the relevant British Standards. This means that the headlap should not be less than 65 mm and should not exceed one third of the length of the tile. The sidelap should not be less than one third of the width of the tile (ie 55mm).

**Method 1:** Fix full, uncut tiles in each course until the side joint drifts to a minimum one third of the width of a tile. Then cut a tile or a tile-and-a-half tile along its length and fix to bring the side lap back to within the required area. The perpendicular joints are not kept in line using this method but the amount of cutting required is kept to a minimum.

**Method 2:** Fix tiles in each course ensuring that the side joint occurs over the centre of the tile below. In order to keep the side joints to perpendicular lines far more cutting of individual tiles will be necessary. On tight curves every tile may need to be cut to ensure that gaps at the side joints do not exceed 3 mm.

It is worth remembering that when cutting material from the width of a tile there will remain a cut edge which may not be as aesthetically pleasing as the original manufactured edge. This is particularly significant when tiling to convex roofing areas.



When tiling a conical tower, as the tiling progresses up the curve it will eventually become impossible to achieve a side lap of at least 55 mm, due to the narrow width of the cut tiles. At this point lead soakers should be used to weather beneath the tiling. When it becomes impossible to cut and fix reasonable sized tiles then it would be necessary to provide a lead flashing (ie cap) at the apex.

Eyebrow dormer windows are an attractive roofing feature and plain tiles are the ideal roof covering for such details. When designing such a roof it should be remembered that the minimum recommended roof pitch for plain tiles is 35 degrees (40 degrees for handmade clay plain tiles) therefore the pitch of the main roof must be considerably steeper (50 degrees or more) to allow the crest of the dormer to be at the minimum pitch or more.

The success of this type of work very much depends upon the skill of the roofing contractor. A curved roof is very labour intensive and therefore it is advisable to appoint a competent roofer who is experienced in this form of roofing.

For more information please contact Sandtoft Technical Support on 0870 145 2021.

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