

In a series of articles on interlocking concrete roof tiles, experts from the **Concrete Tile Manufacturers Association** have pooled their knowledge. This Construction Note discusses party wall junctions.

### Party wall junction

A party wall junction occurs where the party wall between two adjoining properties meets the roof covering at right angles to the ridge or eaves. This normally found with terraced or semi-detached houses where the roof covering continues over the party wall. The party wall junction is only needed when different roof coverings meet, a phased/day work joint in the construction occurs or a movement joint to cope with differential settlement is needed. The Building Regulations require the fire resistance of the party wall to be maintained. BRE *Defects Action Sheets 7 & 8* and the *Lead Sheet Manual Volume 1* provide some guidance.

### The building structure

The party wall should be built up to within 50mm of the top surface of the rafter to allow the contraction and movement of the timber rafters or counterbattens to take place without the line of tiles being disturbed. If a phased/day work joint or movement joint is required there may not be a wall beneath and therefore a support board fixed on noggins between the rafters will be needed. Where a timber is required to be fixed to the top of the party wall it should be done as close to the centre line of the wall as possible. To maintain the fire resistance of the party wall fire resistant mineral wool insulation batt (A) should be laid over the party wall to finish flush with the top of the rafters/counterbattens. The construction is dependent upon which design of party wall junction is to be used.

### Underlay and battens

The underlay (B) should be lapped by a minimum of 150mm across the party wall for the bonding gutter and bedded hip tile solutions (see below). For the other solutions the underlay should be turned back onto the top of the batten by 50mm to prevent any water on the underlay draining onto the party wall. Where the fire resistance above the party wall needs to be maintained a 25mm thick layer of fire resistant mineral wool insulation should be laid

between the tile battens.

### Party wall junction options

#### Bedded hip tile junction

The bedding of third round or segmental hip tiles across the junction is very common as a short term solution when profiled tiles are used on both sides of the party wall. This allows the edges of the hip tiles to be bedded into the trough of the corrugations. This method is mostly used in re-roofing where adjacent properties are not tiled/re-tiled at the same time. The hip tiles should be mechanically fixed with stainless steel screws to the party wall via a vertical batten, approximately 75 x 50mm, which is anchored to the party wall with angle brackets. To accommodate the vertical batten the tile battens will need to be cut back accordingly.

It is not advisable to use this solution with flat tiles or slates as the hip tiles stands very proud of the roof covering, requiring a large amount of mortar at the cross bed joint. Also, water does not shed away from the party wall junction, unlike a hip or ridge.

Between the top of the party wall, either side of the vertical batten, and the underside of the underlay a 50mm thick fire resistant mineral wool insulation batt should be inserted to prevent fire spreading across the party wall. At the head where it meets a ridge or top edge abutment a saddle will be required.

At the eaves the end of the hip tile will need to be filled with mortar and tile slips.

#### Bonding gutter

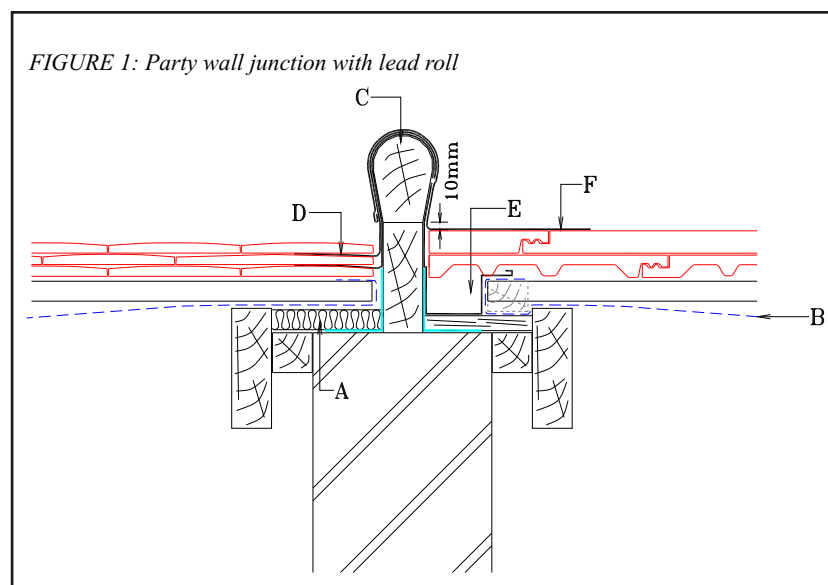
A bonding gutter is a shaped piece of GRP plastic or metal laid on the batten ends directly above the party wall. Mortar is placed on the centre section of the bonding gutter prior to the edges of the two roof coverings being butted together and bedded onto the mortar.

This solution causes the edges of flat tiles and slates to kick up by the thickness of the bonding gutter and the mortar. Also, where the edge tiles need to be clipped it is impossible to install a standard tile clip to the tiles on the right hand side of the bonding gutter. Although a verge clip could be used it will increase the kick up because of its shape and thickness.

Between the top of the party wall and the underside of the underlay a 50mm thick fire resistant mineral wool insulation batt should be inserted to prevent fire spreading across the party wall. At the head a saddle will be required as the ridge line may follow the kick-up in the tiles or have a level change. At the eaves the bonding gutter should finish flush with the eaves course of tiles.

#### Lead roll

The lead roll method can be formed by fixing a timber core roll (C) onto a



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vertical batten, size approximately 50 by 100mm, ensuring the mop stick top section starts at least 10mm above the top of the highest section of tile.

Where the lead soakers (**D**) for double lap tiles are used they should lap the tile by a minimum of 100mm and turn up onto the top of the lead roll this should be formed first.

With flat interlocking tiles a secret gutter (**E**) should be installed between the lead roll and the tiles prior to the lead cover flashing being installed. To support the secret gutter a board fixed to the party wall, along with short sections of battens between the tile battens, will be required. The lead cover flashing should lap the tiles by a minimum 150mm.

With profiled single lapped tiles only the cover flashing (**F**) is required and should cover over one complete corrugation. Depending upon the design of the tile this is likely to be more than 150mm.

The cover flashing should be dressed tightly and nailed to the timber core roll in sections no longer than 2 metres and lapped to comply with the Lead Sheet Association's recommended pitch/lap table. The tile batten ends will need to be cut back to allow for the vertical batten under the lead roll and the secret gutter to run through. The lead cover flashing will act as a continuous clip where the edge tiles need to be clipped.

Where the head of the lead roll meets a ridge, or top edge abutment, a saddle will be needed. At the eaves the end of the lead roll will need to be capped off and the secret gutter fantailed out to discharge over the fascia board (see abutment detail). Between the top

of the party wall and the underside of the underlay a 50mm thick fire resistant mineral wool insulation batt should be inserted to prevent fire spreading across the party wall.

## Lead open gutter

The lead secret gutter method is the neatest party wall junction as it does not protrude above the top surface of the roof covering. The open gutter can also be used to form a movement joint between the adjacent roof slopes by securing the support board for the lead construction to one side of the gutter only.

A support board (**G**), positioned 50mm below the top of the rafters on noggins, protected on the underside by a fire resistant mineral wool insulation batt, is needed to support the lead open gutter. Battens of 50 x 25mm should be laid parallel with the rafters prior to the lead sheet being dressed to turn up the sides of the rafters on either side. A 150mm wide undercloak (**H**) should be placed on the underlay and rafter and span across to the finished edge of the open valley, which should not be less than 75mm wide.

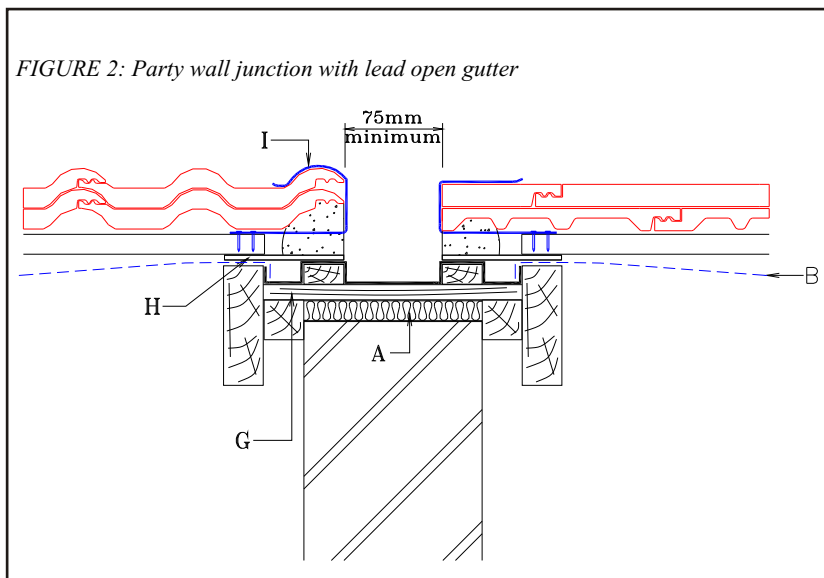
The battens should be cut to finish clear of the bedding mortar, 75 to 100mm back from the finished edge of the open gutter and nailed through the undercloak into the rafter. Where the tiles need to be clipped the verge clip (**I**) should be nailed to the batten prior to the mortar and tiles being fixed.

Where the head of the lead open gutter meets a ridge or top edge abutment, a saddle will be needed. A timber block, the width of the open gutter and the height of the adjacent tiles over which the lead is dressed will prevent wind-driven rain and

birds, etc getting into the roof construction. At the eaves the end of the lead open gutter should be allowed to run directly into the eaves gutter by recessing the fascia by 25mm for the width of the open gutter.

## Summary

- Lead soakers should not be used with single lap interlocking tiles.
- With flat single lap interlocking tiles an additional secret gutter should be installed below the cover flashing.
- The perimeter tiles must be fixed with clips or nails to comply with BS 5534.
- Water running down a roof must not be able to drain into the batten cavity or onto the party wall.
- The fire resistance of the party wall must be maintained using fire resistant mineral wool batts.



CTMA members are:

- Cemex
- Forticrete
- Lafarge
- Marley Eternit
- Sandtoft