

## Installation Recommendations

### Installation

1. When using preformed open GRP valley trough units, BS 5534, 'Slating and tiling for pitched roofs and vertical cladding. Code of Practice', recommends that the detailing and installation should be in accordance with the manufacturers recommendations and further guidance is given in NFRC Technical Bulletin 28, 'Inclined Preformed GRP Valley Troughs'.

2. The valley troughs should always be fitted over timber valley boards (or sarking boards). Valley boards should be either 6mm continuous ply boards laid over the rafters or 12mm ply (or 18mm softwood) layboards set between the rafters. These should be supported on timber noggins or bearers and be sufficient width to support the ends of the tiling battens.

These boards are not designed to support foot traffic, which should always be avoided. A single strip of roofing underlay, the full width of the valley boards, should be laid directly on top and up the centre of the valley boards.

3. Counter battens of the same depth as the tiling battens should be fitted onto the valley boards over the underlay at the appropriate distance from the valley centre to accommodate the GRP valley trough and nailed through into the main rafters/trusses below.

4. The main roofing underlay should then be laid and dressed over the counter batten. Roofing battens should be fitted with the ends firmly located onto the valley boards, positioned close to the counter batten with care taken to avoid damaging the underlay.

5. The GRP valley trough should then be fitted, with care taken to ensure it is located centrally on the valley boards, before nailing the sides into the counter battens at 500mm centres maximum.

6. The main roofing underlay is dressed over the counter batten and can be laid either under or over the GRP valley trough. If laid over the valley trough, it should not extend beyond the outer water channel.

7. The fascia board may be cut to allow the GRP valley trough to pass through and discharge into the gutter without flattening out. The end of the valley trough should be trimmed using a fine toothed hacksaw or angle grinder to the approximate centre line of the gutter. This normally entails a 'V' shaped cut, alternatively a lead or lead replacement type soaker may be used if required to avoid cutting the fascia and valley trough.

8. Where tiles are to be bedded, they should be laid dry, the cut line marked and the tiles removed for cutting. The tiles can then be re-laid in position and bedded onto the mortar bonding strip, with care taken to ensure that blockage of water channels behind the bedding line does not occur. When using a high profile tile, dentil slips are recommended to reduce the mortar mass and minimize shrinking and cracking.

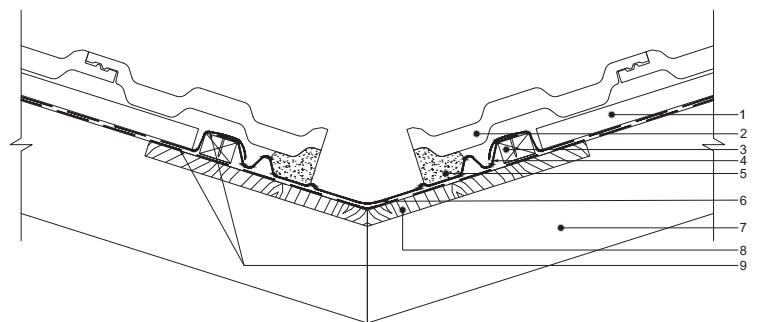
9. At the head of the valley a lead saddle (minimum Code 4), or suitable lead replacement flashing product, of sufficient length to lap over the valley trough by the same length of lap required between two valley trough units should be fitted. This may be reduced if the product is fully adhesive.

10. When a valley discharges onto a roof slope (e.g. at dormers), a lead or lead replacement type soaker will be required at the base of the valley to be dressed onto the adjacent tiling.

11. At any significant change in pitch (e.g. at sprocketed eaves or mansards), separate lengths of GRP valley trough should be fitted above and below with a lead or lead replacement type soaker of sufficient lap length used to link the two parts.

**Note:** Where the differential between rafters pitches either side of the valley is less than 10° and the roof area is less than 25m<sup>2</sup> the narrow section valley trough can be used. For pitch differentials between 10° and 15° the wider section valley trough should always be used. Roofs intersecting at 90° are regarded as a standard intersection, for roofs of a non-standard intersection advice from our Technical Department should be sought.

### Typical Cold Roof Detail



- |   |   |
|---|---|
| 1 Tiling Batten                                 | 6 GRP Valley Trough (HDL 361 / HDL 362) |
| 2 Typical Tile Roof Covering bedded into mortar | 7 Rafter                                |
| 3 Counter Batten                                | 8 Valley Boards                         |
| 4 Water Bar                                     | 9 Roofing Underlay                      |
| 5 Mortar  |   |

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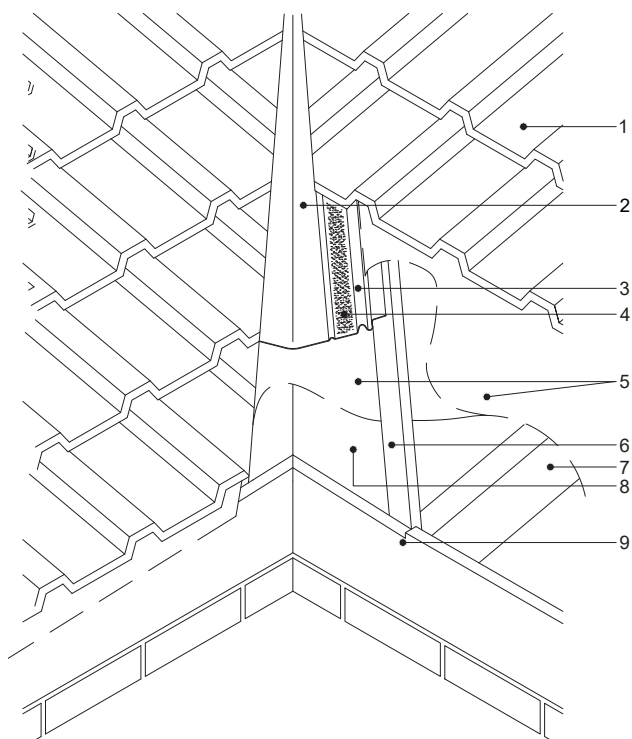
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### Warm Roof Construction

GRP valley troughs are suitable for pitched warm roofs and roof constructions where the insulation follows the line of the rafter.

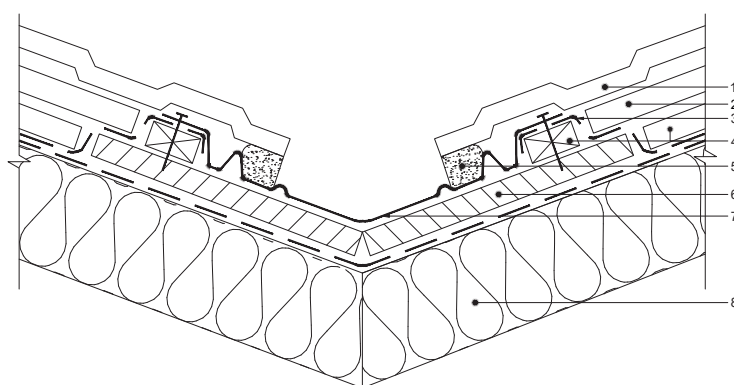
There are many different ways of constructing these roofs, most of which include a requirement for counter battens below the tiling battens. It is therefore recommended, whether using a traditional or vapour permeable underlay, that provision for ventilation is made to suit the application in accordance with the requirements of BS 5250.

Typical Cold Roof Construction



- |   |                        |                        |
|---|------------------------|------------------------|
| 1 Typical Tile Roof Covering bedded into mortar on Tile Valley Trough | 4 Mortar Bonding Strip | 7 Rafter               |
| 2 GRP Valley Trough   | 5 Roofing Underlay     | 8 Valley Boards        |
| 3 Water Bar   | 6 Counter Batten       | 9 Notched Fascia Board |

Typical Warm Roof Installation Detail



- |   |                     |
|---|---------------------|
| 1 Typical Tile Roof Covering bedded into mortar | 6 Valley Boards     |
| 2 Tiling Batten                                 | 7 GRP Valley Trough |
| 3 Roofing Underlay                              | 8 Insulation        |
| 4 Counter Batten (to suit valley board height)  |                     |
| 5 Mortar  |                     |