MODEL SPECIFICATION

Metrotile Shingle

Open Rafters

Eaves Fascia Tray (optional)

Fit Metroshingle Eaves Fascia Tray into roof overhang and gutter, and fix to rafters using galv. clout-head nails.

When using Eaves Fascia tray it is not necessary for underlay to continue over into gutter, but it should form a headlap over the eaves fascia tray.

Underlay - Wooden Rafters

Min. BS747: type 1F or 5U reinforced sarking felt, laid in accordance with BS5534: Part 1, and fixed to rafters with 20mm galvanised felt nails, not less then 3.0mm dia. shank.

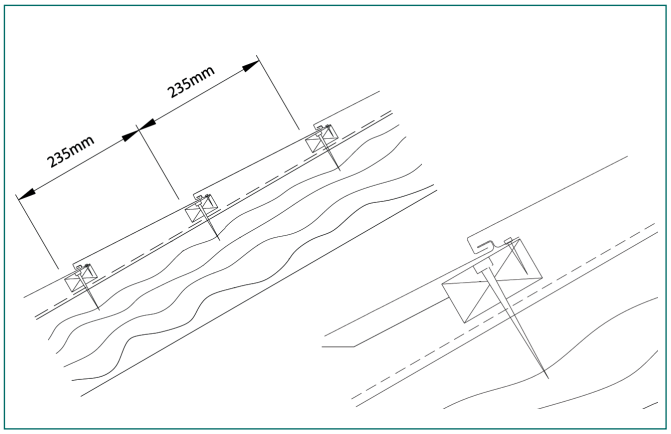
Felt Lap Chart (BS5534)

Pitch	Headlap	Sidelap
Up to 12 Degrees	300mm minimum	100mm minimum
12 - 14 Degrees	225mm minimum	100mm minimum
15 - 34 Degrees	150mm minimum	100mm minimum
Over 35 Degrees	100mm minimum	100mm minimum

Battens - Wooden Rafters

Softwood battens & counterbattens to be in accordance with BS5534 and treated with a non-copper based perservative, cut ends to be treated in situ.

Treated tiling battens, section to suit rafter spacings (see chart), to be laid at 235mm gauge except for eaves batten which should be positioned with front face 195mm from front of fascia, and top course batten which should be 235mm or less to cater for exact rafter length. Battens fixed to rafters using galv. twist or annular ring shank nails (see chart). Joints in battens to be staggered and centred on face of rafters.



Batten Sizes

Rafter Centre	Batten Size	Nail Size
Up to 600mm	50 x 25	75 x 3.35
900 - 1200mm	50 x 50	100 x 4mm

On rafter centres greater than 900mm additional support to the underlay can be provided by stretching polypropylene, or other rotproof, tape horizontally and stapling to the front face of the rafters.

Steel Frame

Battens - Steel frame

Create counterbattens by positioning lengths of 50 x 50mm tiling batten vertically up-pitch at 1200mm cs. and fixing to either purlins or tilt frame, using self drill/self tap screws or (wood to metal screws) in accordance with manufacturers instructions..

Underlay and support tapes can then be fixed to these counterbattens and then 50 x 50mm tiling battens, spaced as for wooden rafters.

Counter battens – Boarded Roof

50 x 25mm treated softwood counterbattens to be fixed over sarking boards immediately above, and at same centres as, the rafters, and fixed with 100 x 4mm galv. twist or annular ring shank nails.

Underlay – Boarded Roof

Min. BS747: type 1F felt to be laid over counterbattens, draped between same without stretching, and fixed with 20mm galv. felt nails.

Felt laps to be in accordance with BS5534:part 1

Felt Lap Chart (BS5534)

Pitch	Headlap	Sidelap
Up to 12 Degrees	225mm minimum	100mm minimum
12 - 14 Degrees	150mm minimum	100mm minimum
15 - 34 Degrees	100mm minimum	100mm minimum
Over 35 Degrees +	75mm minimum	100mm minimum

Battens - Boarded Roof

Treated s/wood battens, section to suit rafter spacings (see chart), to be laid at 235mm gauge and fixed to counterbattens using galv. twist or annular ring shank nails (see chart). Batten joints to be staggered and centred on face of counterbattens.

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MODEL SPECIFICATION

Tiles

Metroshingle lightweight roofing tiles 1257 x 235mm coverage laid onto tiling battens, in a broken bond pattern, and fixed through rear edge of tile into top face of batten, using 4 no. Metroshingle cement coated, galvanised fixing nails per tile strip.

Where necessary, the top course of slates to be cut to size in situ, and cut edge to be bent to form a 25mm upstand against the ridge batten.

Quality

Tiles and accessories must comply with ISO 9001 and possess European Agrement certification.

The core of each tile to be formed from 0.45mm nom. thickness, AZ185 - drawing quality grade 3 steel, with Aluzinc® (55% aluminum/45% zinc) & primer protection applied to both surfaces. The weather side of the tile to have the following additional coatings, consisting of:

- A coloured acrylic base coat
- Natural stone chip granules
- A clear acrylic overglaze

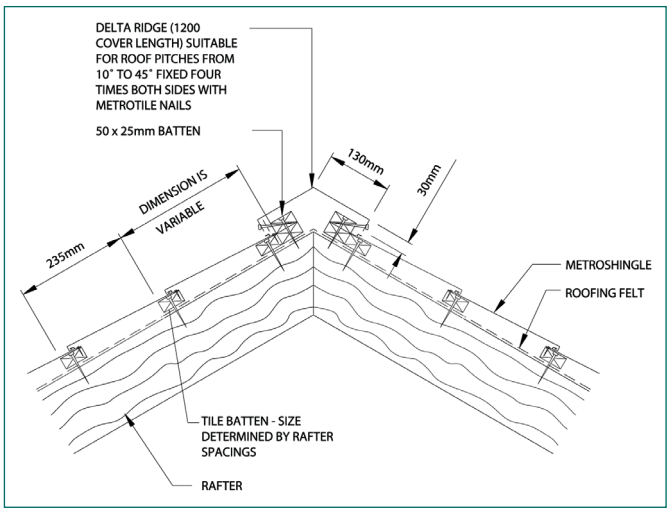
Ridge - Delta Cap (Unventilated)

Two additional tiling battens (one placed atop the other) to be fixed to rafters (either side of ridge) abutting the back face of the topcourse batten.

Top course of tiles to be cut to size and bent in situ to create a 25mm upstand at top edge of tile strip.

Position tile so that the 25mm upstand abuts the double row of battens at ridge.

Place Delta Ridge Cap over double batten and tile upstand and fix through side of cap and upstand, into side of double ridge batten. Use four Metroslate nails for each side of 1200mm long Delta Cap.



Ridge - Delta (Ventilated)

Carefully cut underlay at ridge line to leave 10mm continuous gap (5mm each side of ridge).

Form ridge batten by nailing two additional tiling battens (one placed atop the other) to be fixed to rafters (either side of ridge) abutting back face of topcourse batten.

Cut top course of tiles to size, bend upper edge to form 25mm upstand, and fix in position with upstand against ridge batten.

Fix Metroshingle Universal Ridge Vent on top of tile, against upstand, and position Delta Ridge Cap over batten/vent. Fix with four no. Metroshingle nails, through each side of cap and vent, into side of ridge batten.

Eaves

Underlay should be draped over fascia , into gutter, and fixed in such a manner that moisture can drain over the fascia, into the gutter (use tilting fillets or layboards if necessary).

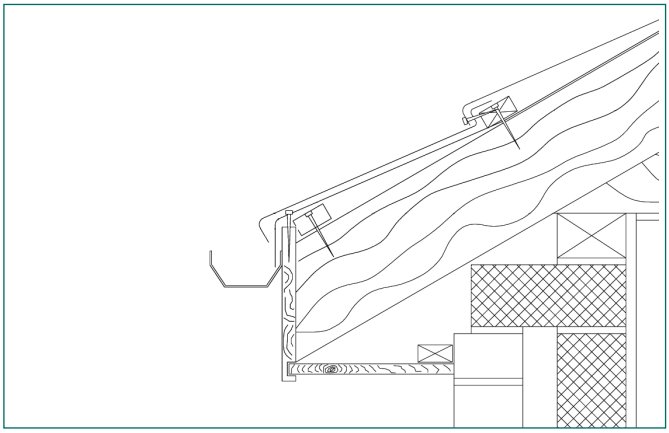
Front edge of eaves batten should be 195mm from front edge of fascia, to allow for eaves overhang into gutter.

Top edge of fascia should be in line with top edge of tiling battens.

The eaves course of tiles should be positioned so that the nose projects 40mm beyond the front face of the fascia board.

The lower edge of the tile strip should be face fixed to upper edge of fascia board using 4 no metrotile nails through higher point of tile profile (at no point should nails penetrate the lower parts of the tile profile). Treat nail heads with Metroshingle paint and grit.

Where the fascia board cannot accept a fixing, a tiling batten should be fixed to the rafters, immediately behind the fascia boards, and the nails fixed into this batten instead.



INFORMATION SHEET

Eaves - Ventilated

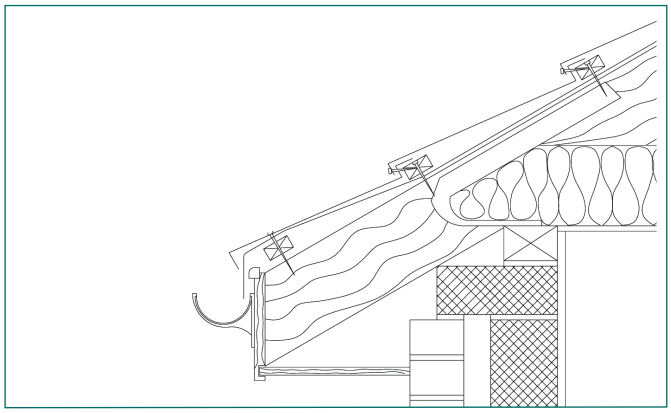
The top of the eaves fascia board should be fixed in line with the top of the tile battens, minus the depth of the appropriate eaves vent.

A continuous eaves vent should be fixed to the top of the fascia board (10mm continuous ventilation for roofs over 15 deg. pitch, 25mm for roofs below 15 deg. pitch, or where the line of insulation/soffit is parallel to the pitch).

An additional tiling batten should now be fixed at the eaves, set back to allow a min 25m gap between it's lower edge and the upper edge of the continuous vent strip.

The underlay should be draped over this batten, and the eaves vent, into the gutter. If necessary fit layboard and/or tilting fillets to ensure moisture drains over this batten and the vent, into the gutter.

Install eaves course of tiles ensuring nose projects 40mm beyond fascia, and face fix into setback eaves batten using four Metroshingle nails per tile strip, ensuring that nails pass through high pont of tile profile. Nail heads to be treated with Metroshingle paint and grit.



Gable End Verge

Fix bargeboard so top edge is 50mm above top edge of tiling battens.

Bend tiles to form 25mm upstand against edge of bargeboard & fix in position on tiling battens.

Position handed barge cap overlapping outer edge of bargeboard, and lapping over tile edge and upstand.

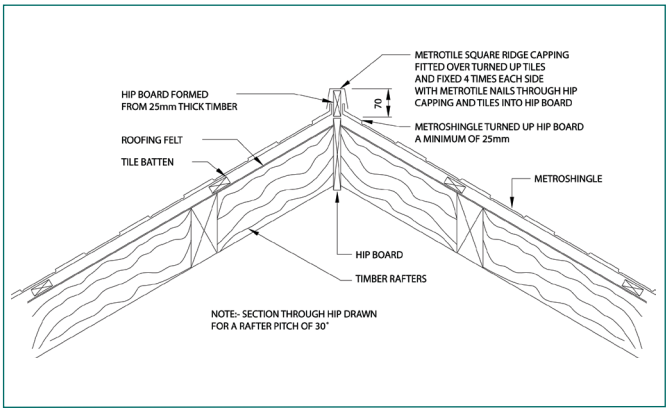
Fix each cap using four Metrotile nails horizontally through outer edge, and three vertically into top edge of bargeboard. Vertical nail heads should be treated with Metrotile paint and grit.

Hip - Delta Cap

Position hip battens parallel, either side of hip line, using Delta Hip Cap as spacing template, and fix in place over tiling battens.

Cut adjacent tiles on rake and bend to form 25mm upstand at rake. Fix tiles onto tiling battens with upstand abutting hip battens, using Metroshingle nails through nose of slate..

Position Delta Hip Caps in place, over hip battens and tile upstands, and fix through side of cap and upstand, into side of hip batten, using four Metroshingle nails per each side of 1200mm cap.



Hip – Delta Cap, ventilated

Fix parallel hip battens , over tiling battens and either side of hip line, using Delta Hip Cap as template.

Carefully cut sarking felt along hip line, leaving a 10mm min cont. gap along hip line.

Cut adjacent tiles on the rake and bend the cut edge to form a 25mm min upstand.

Fix tiles in place with upstand abutting outer face of hip batten, and fit Metroshingle Universal Vent strip (min. 5mm cont. ventilation) in place over slate against the upstand..

Position Delta hip cap in place, over hip battens and universal vents, and nail through side of cap (4 no. Metroshingle nails per each side of 1200mm cap).

MODEL SPECIFICATION

Valley

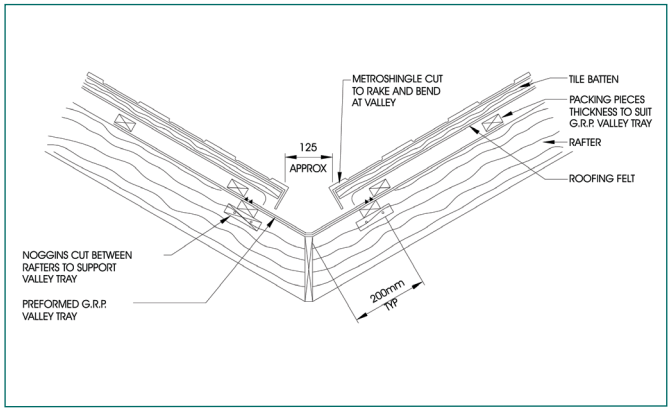
Valley lining to be formed in situ from lead, or pre-formed from metal sheet or GRP, and supported on layboards or noggins.

Terminate tiling battens over valley flashing at a suitable distance to oversail the flashing and with batten ends parallel to the valley line. Valley opening dependent on roof pitch and rainfall, to comply with BS5534:2003 part 6.1.1.

(When using valley battens spring the tile battens over these, using spacers on the adjacent jack rafters if necessary).

Ensure underlaydrapes well into valley, over valley lining and/or valley battens.

Metroshingle tiles adjacent to the valley to be cut on the rake and bent down in situ, to form a min, 25mm downturn into the valley.



Abutments

Tile to be cut and bent in situ to form 75mm upstand against vertical abutment. Lead cover flashing to be installed into abutment, min. 150mm height, and draped over slate upstand.

Roof Penetrations

Tile Vents

Vent weir plate edges should be taped to underlay, and latter cut away at aperture for penetration of the felt sleeve..

Position vent tile on tiling battens, with felt sleeve projecting through weir plate, and ensure that the vent tile nose engages the shaped rear edge of the course below and that, likewise, the rear edge of the vent tile engages the nose of the tile course abov (after fixing). Adjacent Metroshingle tiles should overlap the vent tile edges.

Rising Pipes

Cut undelay and tape around rising pipe. At appropriate point carefully cut an aperture in the tile, large enough to allow the rising pipe to pass through, and install using a traditional lead slate and collar to seal the joint between the pipe and Metroshingle. Ensure the lead slate sits on top of the surrounding tile surface, up under the nose of the course above, and down over the tile course nose immediately below.

Alternatively a proprietary pipe flashing, such as Dektite, can be used in accordance with the manufacturers instructions.

Ridge Gas Vent

Only for use with Delta Ridge Cap.

Install using industry standard R type adaptor, supplied by others

Roof Window

Using wooden noggins, and cutting rafter where necessary, create aperture in roof structure, flush with rafter top and 5mm per side larger then roof window frame. Insert window into aperture so that horizotal groove in outer sides of window frame are 10mm higher then rafter surface, and secure using vertical fixing straps provided.

Install roof window flahing and adjacent slates, cutting the latter in situ to ensure they project over the double cannelure in the flashing sides

Solatube

Carefully cut felt to allow passage of Solatube, creating a felt lap which should be taped to the body of the Solatube when in position.

Place top section of Solatube in position on battens and nail through nose of fitting, as for normal Metroshingle, ensuring that the adjacent Metroslate units overlap the Solatube flange on both sides.