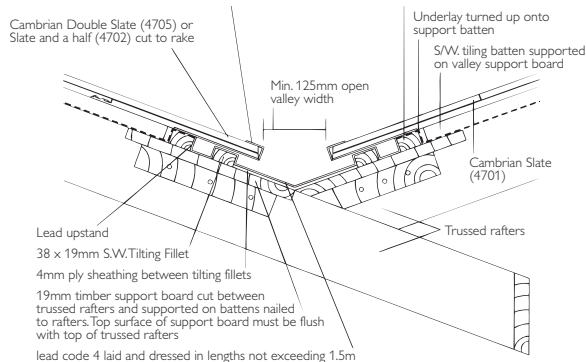


## Cambrian Lead Valley and GRP Valley (9553)

Slates should be neatly cut into the valley using Slate-and-a-half (4702) or Double Slate (4705) to avoid fixing small pieces. All slates should be secured with at least two head fixings. Where necessary, drill an additional 3-3.5mm hole on site.

Use verge clips on each course both sides of the valley at the slate overlap, to prevent the cut edge from lifting. Install clips at right angles to the rake of the valley and twice nail into the clipping batten using the 30mm nails.



### Lead Valley Detail

(For GRP detail, see Guide to Roofing Systems)

## Bedded Hips and Ridges

Hips should be laid using Slate-and-a-half (4702) or Double Slate (4705) to avoid fixing small pieces. All slates should be secured with at least two head fixings. Where necessary, drill an additional 3-3.5mm hole on site.

All mortar bedded hip and ridge tiles must be mechanically fixed. Bed hip and ridge tiles continuously along edges and solidly at butt joints with a BS5534 compliant cement sand mortar. Fix 6mm galvanised hip irons to the foot of each hip rafter.

## Dry Ridge and DryVent Ridge Systems (9059)

Refer to fixing instructions in packs. Each pack contains sufficient product for 2.7m of ridge (excluding ridge tiles).

### Ambi-Dry Verge System (9570)

Refer to fixing instructions in packs. Each pack contains sufficient product to fix 10 verge slates. At the eaves and ridge, use Ambi-Dry Eaves/Ridge Pack (9491).

### ThruVent 4.5k (7705)

Refer to fixing instructions on vent. Use Flexible Pipe 75/100 (9188) for connection to soil vent or mechanical extract outlets.

### Top Edge Abutment Ventilation System (9548)

Refer to fixing instructions in pack. Each pack contains sufficient product for 3m of abutment (excluding lead).

### Dry Hip System (9048)

Refer to fixing instructions in packs. Each pack contains sufficient product for 2.7m of hip (excluding hip tiles).

### Mitred Hip System (9504)

Refer to fixing instructions in packs. Each pack contains sufficient product to complete 10 courses.

### Rooflights and other penetrations

All slates abutting a rooflight or penetration should be twice nailed and clipped with verge clips. Double Slates must be used and small cuts should be avoided around windows.

### Cutting

Cambrian Slates do not contain asbestos fibre. They are easily cut using a disc cutter. It is recommended that sensible precautions are taken to avoid inhalation of dust generated during the cutting process.

If excessive concentrations of dust are generated, the measures as defined in the Health and Safety Executive Guidance Note EH40193 Occupational Exposure Limits 1993 for unlisted substances should be followed.

Cambrian Slates are covered by a 60 year guarantee and BBA Certificate No. 87/1907.

## Technical data

Minimum pitch and headlap	at 75 mm headlap	15°
	at 50 mm headlap	25°

(The minimum pitch is based on a maximum rafter length of 10 metres. For rafter lengths greater than this, please contact the Technical Solutions Hotline on 08708 702595)

Maximum pitch (subject to fire resistance requirements above 69°)	90°
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Maximum headlap	90mm
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Minimum gauge	210mm
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Maximum gauge	below 25°	225mm
	25° and over	250mm

Linear Cover	300mm
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Covering capacity	at 225mm gauge	14.8 slates/m <sup>2</sup>
	at 250mm gauge	13.3 slates/m <sup>2</sup>

Weight (approx.)	per 1,000 slates	1.24 tonnes
	at 225mm gauge	19kg/m <sup>2</sup>
	at 250mm gauge	17kg/m <sup>2</sup>

Battens required	at 225mm gauge	4.44m/m <sup>2</sup>
	at 250mm gauge	4.0m/m <sup>2</sup>

### Batten size and grade recommended

Rafter centres up to 450mm	38 x 25mm
Rafter centres up to 600mm	50 x 25mm

For further technical information and advice, contact Technical Solutions or your local Regional Sales Office.

# Redland

## Redland Technical Solutions

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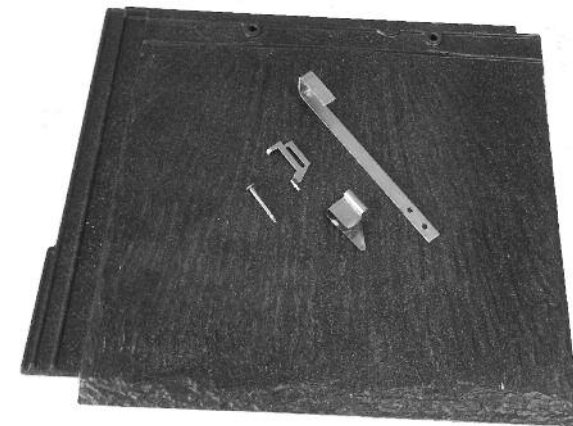
Email: [solutions.redland@monier.com](mailto:solutions.redland@monier.com)

# Cambrian

## Slates

### FIXING INSTRUCTIONS

FIX/INS/001



# Redland

## General

Cambrian Slates must always be fixed with proprietary stainless steel clips and stainless steel ring shanked nails.

### Fixing Packs

Fixing	Quantity Per Pack	Product Code
Slate Clip	100 clips with 210 ring shanked nails (30mm x 2.65mm dia.)	9196
Eave Clip	50 clips with 50 ring shanked nails (55mm x 2.65mm dia.)	9192
Verge Clip	20 clips with 40 ring shanked nails (30mm x 2.65mm dia.)	9193

When fixing Cambrian Slates ensure that nails are fully driven home and clips fit tightly.

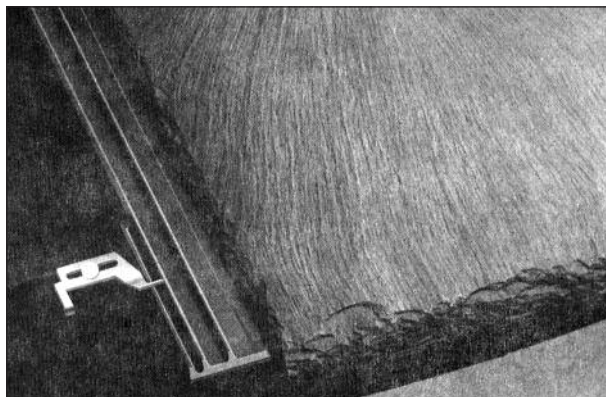
For the best visual effect on the roof, slates must be selected from a minimum of three different pallets.

### Underlay and Battening

Fix underlay and batten out in the traditional manner to BS8000: Part 6. For help setting out the position of the eaves or bottom course batten to provide the required overhang into the gutter, please note the hanging length of the Cambrian Slate is approximately 294mm.

Important: On bedded verges, battens should finish approximately 50mm short of outside edge of the brickwork or barge board, to ensure adequate verge clip fixing.

If using Redland Ambi-Dry Verge, see separate instructions for fixing underlay and battens.



### Eaves Course

Slate to overhang fascia by 50mm.

- (i) Nail head of slate through both nail holes using 30mm ring shanked nails.
- (ii) Fit Eave Clip and nail through the slot into the fascia board using a 55mm ring shanked nail.
- (iii) At a bedded verge, Verge Clips should be nailed into the fascia board and pinched to secure the verge slates at the eaves.

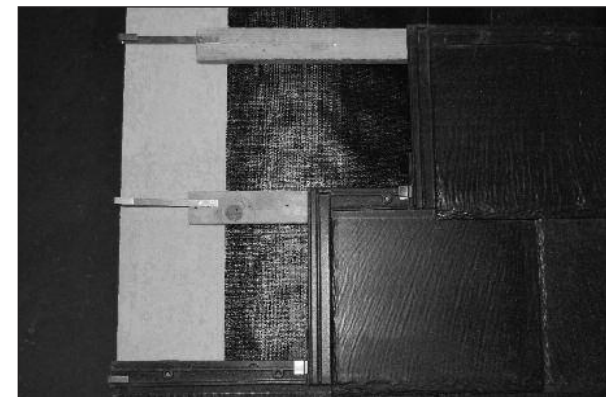
*Note: Eave clips are provided with 55mm nails to ensure adequate fixing with the RedVent Eaves Ventilation System.*



### General Roof Area

Slates are laid broken bond from right to left. The locating arrow on the head of the slate will assist with the positioning of the slate above and help maintain the broken bond.

- (i) Nail head of slate through both nail holes using 30mm ring shanked nails.
- (ii) Fit Slate Clip as shown above and gently tap or press into place.



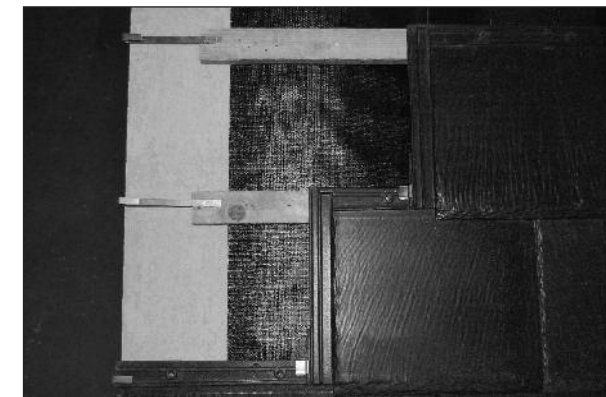
### Bedded Verges

Battens should finish approximately 50mm short of the outside edge of the brickwork or barge board. Undercloak strip should be fixed in the normal manner.

Ensure broken bond is maintained by using Slate/Slate-and-a-half (4701/4702) for the right-hand verge and Left-hand Verge Slate/Left-hand Verge Slate-and-a-half (4703/4704) for the left-hand verge.

- (i) Position the verge clip to ensure overhang of 38mm-50mm.
- (ii) Twice nail verge clip into face of batten using the 30mm ring shanked nails.
- (iii) Every verge slate must be twice nailed. It may be necessary on site to drill an additional hole of 3 - 3.5mm to achieve this requirement.

**IMPORTANT:** Both left-hand and right-hand verges must be clipped using verge clips.



### Top Course

Fix final batten to ensure ridge tiles will cover top course of slates by min. 75mm

### Side Abutments

Construct a 50mm wide x 25mm deep lead secret gutter or fit a GRP Secret Gutter (9596) and cut slates closely to fit abutment. Dress a code 4 lead step and cover flashing down from the abutment and over the slates by not less than 150mm.

In all situations the free edge of the cover flashing should be clipped in accordance with the Lead Sheet Association recommendations. (Tingles should not be used through the sidelock to secure the edge of a lead flashing.)

As a lead free solution consider using Redland Rapid Flashing.