

▲ CLAY PLAIN TILES

 **Marley**



# HAWKINS

## MACHINE-MADE CLAY PLAIN TILES



The name 'Hawkins' has been synonymous with quality roofs for over 150 years. This heritage, combined with our modern firing techniques, gives a unique colour range.

### TECHNICAL TOOLKIT

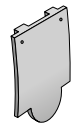
provides a comprehensive technical service and a range of online tools to ensure design performance and compliance to the latest British Standards and NHBC technical guidelines. These services include:

- ▲ Fixing specifications: [marley.co.uk/tilefix](http://marley.co.uk/tilefix)
- ▲ NBS clauses: [marley.co.uk/specrite](http://marley.co.uk/specrite)
- ▲ CAD details: [marley.co.uk/cad](http://marley.co.uk/cad)
- ▲ BIM models: [marley.co.uk/bim](http://marley.co.uk/bim)

For more information on the recent update to the British Standard for Slating and Tiling (BS 5534) and how it might affect your project, please visit [marley.co.uk/BS5534](http://marley.co.uk/BS5534)

### FEATURE TILES

Available in a range of colours. For advice on the use of feature tiles in main roof areas, contact the Technical Advisory Service.



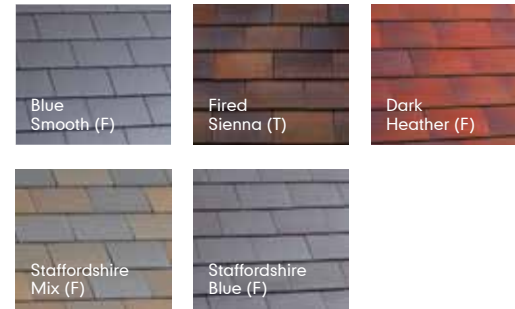
Club



Bullnose

### COLOUR AVAILABILITY

See pages 46-51 for more detailed colour panels.



Key: (F) Fine sanded finish (S) Smooth finish (T) Textured finish

### TECHNICAL DATA

Size of tile	265mm x 165mm	
Minimum pitch*	30°	
Maximum pitch	90°	
Minimum headlap	65mm (roof)	35mm (vertical)
Maximum gauge	100mm (roof)	115mm (vertical)
Cover width	165mm (nominal)	
Tile thickness	11mm (nominal)	
Covering capacity (net)	60 tiles/m <sup>2</sup> at 100mm gauge (roof) 53 tiles/m <sup>2</sup> at 115mm gauge (vertical)	
Weight of tiling (approx.)	64kg/m <sup>2</sup> (0.63 kN/m <sup>2</sup> ) at 100mm gauge (roof) 56kg/m <sup>2</sup> (0.55 kN/m <sup>2</sup> ) at 115mm gauge (vertical)	
Battens required (net)	10.0 lin.m/m <sup>2</sup> at 100mm gauge (roof) 8.7 lin.m/m <sup>2</sup> at 115mm gauge (vertical)	
Batten size recommended	38 x 25mm for rafters/supports not exceeding 600mm centres (fixed to BS 5534)	
Tile nails	38mm x 2.65mm	
Authority	BS EN 1304	

\* The minimum recommended pitch and lap may be influenced by special circumstances, please contact the Technical Advisory Service.

### SUSTAINABILITY

Green guide rating	A <sup>+</sup> (Element ref: 812410006)
BES 6001	Excellent – can achieve 3 credits
Embodied carbon	Carbon footprint of 33 KgCO <sub>2</sub> e/m <sup>2</sup> at 100mm gauge





HAWKINS STAFFORDSHIRE MIX  
SMOOTH FINISH



HAWKINS STAFFORDSHIRE BLUE  
FINE SANDED FINISH

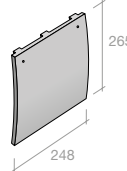
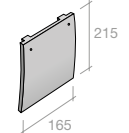
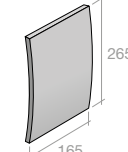
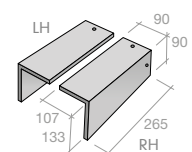
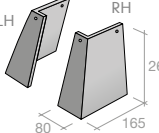


# FITTINGS & ACCESSORIES FOR CLAY PLAIN TILES

Marley manufacture a wide range of clay plain tile fittings, decorative ridges and finials. All products can be installed in line with the latest BS 5534 'Code of Practice for Slating and Tiling' and NHBC Technical Standards.

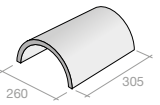
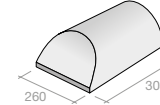
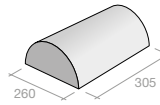
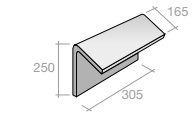
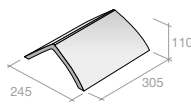
Important note: All the fittings shown on these pages can be used with clay plain tiles, but should not be used on rafter pitches below 35° with Acme double camber or Ashdowne handcrafted clay plain tiles.

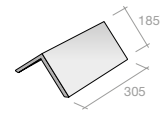
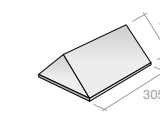
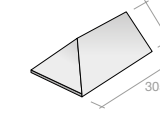
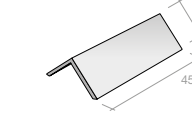
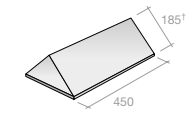
## PLAIN TILE FITTINGS

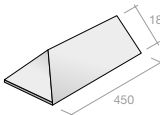
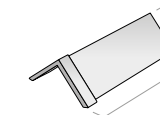
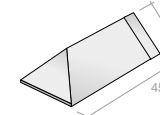
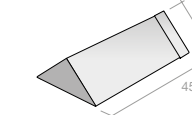
					
Description	Tile-and-a-half	Eaves/top tile	Creasing tiles§	Cloaked verge tiles*	external angle tiles
Angles available	n/a	n/a	n/a	n/a	90°, 135°

## RIDGE TILES

Mortar bedded security ridge kits are available (see page 59)

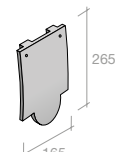
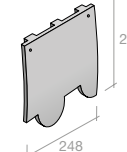
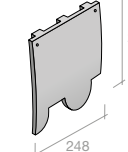
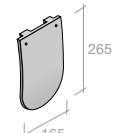
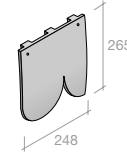
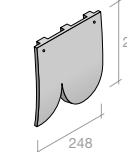
					
Description	Half round ridge	Half round ridge hip end*	Half round ridge stop end*	Mono ridge*	Hogs back ridge**
Angles available	n/a	n/a	130°, 135°, 145°	130°, 135°, 140°, 145°, 150°	n/a
Colours available	All colours	All colours	All colours	All colours	Burnished
Pitch range	30-50°	30-50°	30-50°	30-45°	30-45°

					
Description	305mm Angular ridge**	305mm Angular ridge stop end*	305mm Angular ridge hip end*	450mm Angular ridge	450mm Angular ridge stop end*
Angles available	90°, 105°	90°, 105°	90°, 105°	75°, 90°, 105°, 115°, 125°, 135°	75°, 90°, 105°, 115°, 125°, 135°
Colours available	All colours	All colours	All colours	Red Smooth, Slate Black	Red Smooth, Slate Black
Pitch range	See Tables 1, 3, 4, 5 & 6	See Tables 1, 3, 4, 5 & 6	See Tables 1, 3, 4, 5 & 6	See Tables 1, 3, 4, 5 & 6	See Tables 1, 3, 4, 5 & 6

				
Description	450mm Angular ridge hip end*	450mm Capped angular ridge	450mm Capped angular ridge hip end	450mm Capped angular ridge stop end
Angles available	75°, 90°, 105°, 115°, 125°, 135°	75°, 90°, 105°, 115°, 125°, 135°	75°, 90°, 105°, 115°, 125°, 135°	75°, 90°, 105°, 115°, 125°, 135°
Colours available	Red Smooth, Slate Black	Red Smooth, Slate Black, Staffordshire Blue‡	Red Smooth, Slate Black, Staffordshire Blue‡	Red Smooth, Slate Black, Staffordshire Blue‡
Pitch range	See Tables 1, 3, 4, 5 & 6	See Tables 1, 3, 4, 5 & 6	See Tables 1, 3, 4, 5 & 6	See Tables 1, 3, 4, 5 & 6

## FEATURE TILES

Available in a range of colours, please contact customer services for more information.

						
Description	Club feature tile*	RH club tile-and-a-half*	LH club tile-and-a-half*	Bullnose feature tile*	RH bullnose tile-and-a-half*	LH bullnose tile-and-a-half*

## HIPS AND VALLEYS

Mortar bedded security hip kits are available for third round ridges (see page 59)

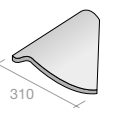
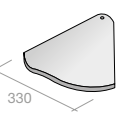
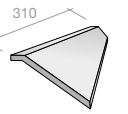
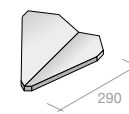
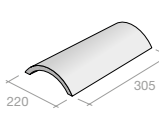
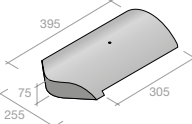
						
Description	Granny hip	Semi bonnet hip	Arris hip**	Valley**	Third round hip**	Third round hip end**
Angles available	n/a	n/a	130°, 135°, 145°	130°, 135°, 140°, 145°, 150°	n/a	n/a
Pitch range	40-60°	30-40°	30-45°	30-50°	30-45°	30-45°

TABLE 1

Relationship of roof pitch to internal angle of hip

Known roof pitch	internal angles of hip tile	
	Plain tile roof	Slate roof
20-25°	-	135°
30°	145°	135°
35°	145°	125°
37.5°	140°	125°
40°	135°	115°
42.5°	135°	115°
45°	130°	115°
47.5°	127°	115°
50°	125°	105°
52.5°	120°	-
55°	120°	-
57.5°	115°	-
60°	115°	-

TABLE 2

Relationship of roof pitch to valley angle

Known roof pitch	internal angles of hip tile	
	Plain tile roof	
30°	150°	
35°	150°	
37.5°	145°	
40°	140°	
42.5°	140°	
45°	135°	
50°	130°	

TABLE 3

Relationship of plain tile roof pitch to internal angle of ridge tiles

Known roof pitch	internal angles of ridge tile	
	Plain tile roof	
30°	115°	
35°	105°	
37.5°	105°	
40°	105°	
42.5°	90°	
45°	90°	
47.5°	90°	
50°	90°	
52.5°	-	
55°	75°	
57.5°	75°	
60°	75°	

TABLE 4

Relationship of slate roof pitch to internal angle of ridge tiles

Known roof pitch	internal angles of ridge tile	
	Slate roof	
20-25°	125°	
30°	115°	
35°	105°	
37.5°	90°	
40°	90°	
42.5°	75°	
45°	75°	
47.5°	75°	
50°	75°	

TABLE 5

Relationship of internal angle of ridge tiles to roof (plain tiles)

Known internal angle of ridge tile	Plain tile roof pitch
75°	52.5-60°
90°	42.5-52.5°
105°	30-42.5°

TABLE 6

Relationship of internal angle of ridge tiles to roof (slates)

Known internal angle of ridge tile	Slate roof pitch
75°	45-50°
90°	35-45°
105°	35°
115°	30°
125°	20-30°

\* Made to order (subject to minimum order quantities)

\*\* Some colours and angles made to order (subject to minimum order quantities)

‡ Staffordshire Blue available to order

† Angle ridge wing length will vary depending on ridge angle

§ Available in Red Smooth



# FITTINGS & ACCESSORIES FOR CLAY PLAIN TILES

Marley manufacture a wide range of clay plain tile fittings, decorative ridges and finials. All products can be installed in line with the latest BS 5534 'Code of Practice for Slating and Tiling' and NHBC Technical Standards.

Important note: All the fittings shown on these pages can be used with clay plain tiles, but should not be used on rafter pitches below 35° with Acme double camber or Ashdowne handcrafted clay plain tiles.

## DECORATIVE RIDGES

Mortar bedded security ridge kits are available (see page 59)

Description	Club crested ridge	Cocks comb crested ridge	Two hole crested ridge	Scroll finial (half round base)	Scroll finial* (plain angle base)
Angles available	90°, 105°	90°, 105°	90°, 105°	n/a	75°, 90°, 105°, 115°, 125°, 135°
Colours available	Red Smooth	Red Smooth	Red Smooth	Red Smooth, Slate Black	Red Smooth, Slate Black
Pitch range	See Tables 1, 3, 4, 5 & 6 (page 57)	See Tables 1, 3, 4, 5 & 6 (page 57)	See Tables 1, 3, 4, 5 & 6 (page 57)	30-50°	See Tables 1, 3, 4, 5 & 6 (page 57)

## FINIALS

Mortar bedded security ridge kits are available (see page 59)

Description	Ball top finial* (half round base)	Ball top finial* (plain angle base)	Fleur-de-Lys gable* (half round base)	Fleur-de-Lys gable* (plain angle base)	Extension piece (for Ball top / Fleur-de-Lys)
Angles available	n/a	75°, 90°, 105°, 115°, 125°, 135°	n/a	75°, 90°, 105°, 115°, 125°, 135°	n/a
Colours available	Red Smooth, Slate Black	Red Smooth, Slate Black	Red Smooth, Slate Black	Red Smooth, Slate Black	Red Smooth, Slate Black
Pitch range	30-50°	See Tables 1, 3, 4, 5 & 6 (page 57)	30-50°	See Tables 1, 3, 4, 5 & 6 (page 57)	n/a

\* Made to order (subject to minimum order quantities)

\*\* Some colours and angles made to order (subject to minimum order quantities)

† Angle ridge wing length will vary depending on ridge angle

## SERVICES

Marley offer a full range of technical and online advice services, including NBS and fixing specifications, which will help you meet the requirements of BS 5534.

- ▲ Fixing specifications [marley.co.uk/tilefix](http://marley.co.uk/tilefix)
- ▲ NBS clauses [marley.co.uk/specrite](http://marley.co.uk/specrite)

## MORTAR BEDDED SECURITY FIXING

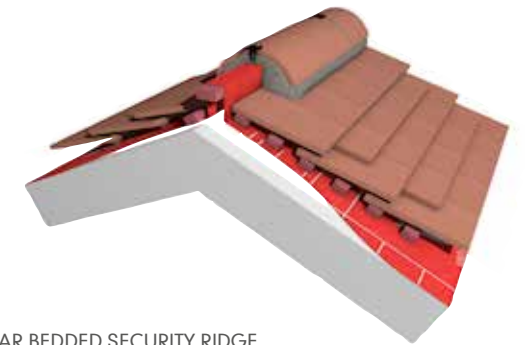
Under BS 5534, the use of mortar as a sole means of fixing roof tiles and fittings is insufficient. Not only should careful consideration be given to the creation of a suitable roof mortar through the correct sand and cement mix, but tiles or fittings bedded with this mortar must also be accompanied by a mechanical fix.



### MORTAR BEDDED SECURITY HIP

Mechanical fixing system for mortar bedded ridge hip, helping house builders and contractors meet British Standards and NHBC guidelines.

Watch a quick video on mortar bedded mechanical fixing at [marley.co.uk/securityhip](http://marley.co.uk/securityhip) or scan the QR code shown



### MORTAR BEDDED SECURITY RIDGE

Mechanical fixing system for mortar bedded ridge ridges, helping house builders and contractors meet British Standards and NHBC guidelines.

Watch a quick video on mortar bedded mechanical fixing at [marley.co.uk/securityridge](http://marley.co.uk/securityridge) or scan the QR code shown

## DRY FIX SOLUTIONS

Avoiding mortar with its associated risks and maintenance will always be best practice, and the changes to BS 5534 should assist in the continued adoption of dry fix.

For a mortar and maintenance free mechanical fix, Marley also offers a range of high performance dry fix solutions, including ridge and hip systems that are able to contribute towards ventilation to meet the requirements of BS 5250.

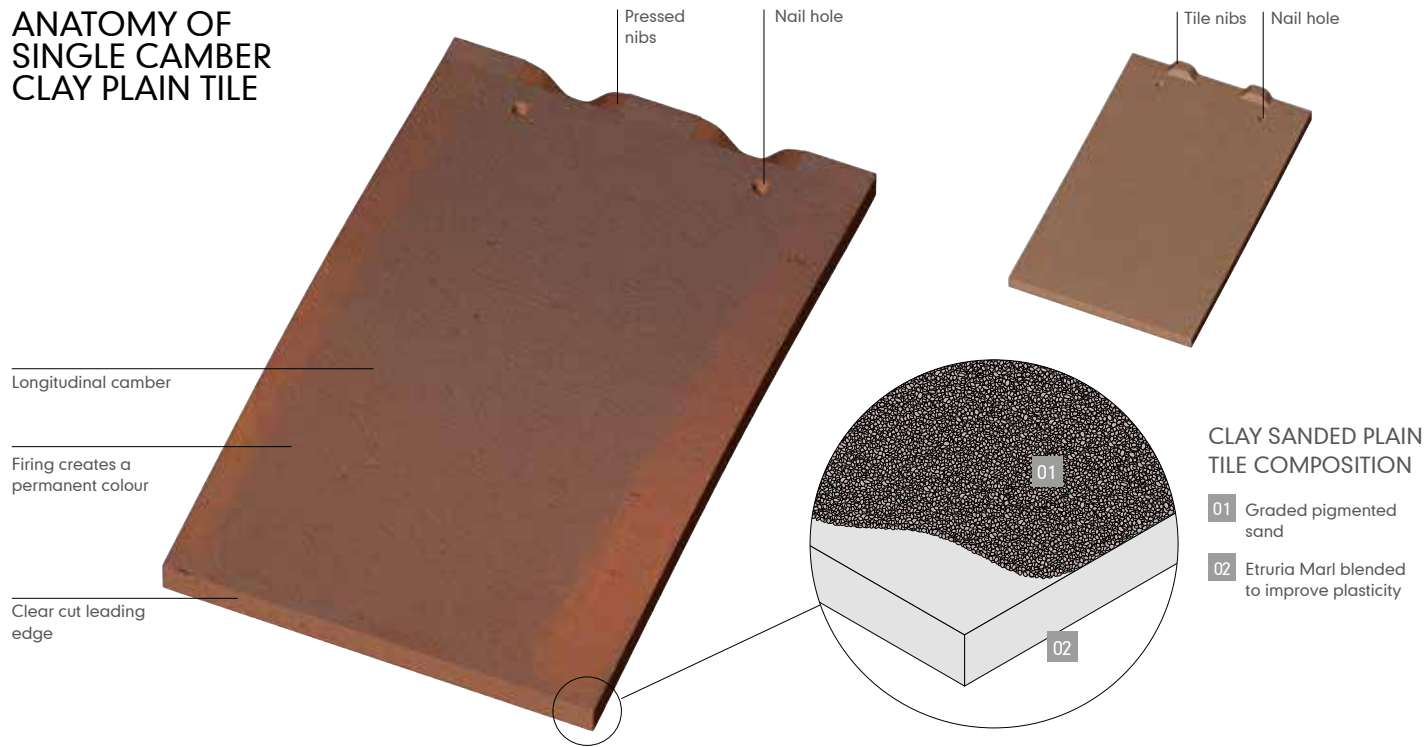


### MORE ABOUT OUR DRY FIX SYSTEMS

Our website contains further information about dry fix and ventilation solutions, including the Universal range, which not only works with our roof tiles but those of other manufacturers too: [www.marley.co.uk/dryfix](http://www.marley.co.uk/dryfix)

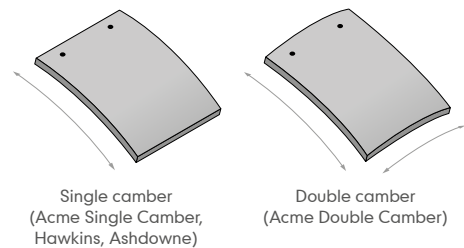
# PROPERTIES & PERFORMANCE

## ANATOMY OF SINGLE CAMBER CLAY PLAIN TILE



## FEATURES OF CLAY PLAIN TILES

- ▲ Low pitch options down to 30°
- ▲ BES 6001 Certified 'Excellent'
- ▲ Can achieve A+ in the BRE Green Guide
- ▲ Suitable for roofing or vertical tiling
- ▲ 100% recyclable



## AUTHORITY

Marley clay roof tiles are manufactured to BS EN 1304 'Clay roofing tiles for discontinuous laying – Product definitions and specifications', operating a quality management system meeting the requirements of BS EN ISO 9001 'Quality Management Systems – requirements'.

Additionally, the manufacturing plant operates an environmental management system, in line with BS EN ISO 14001 'Environmental management systems – Specification with guidance for use' and Health and Safety Standard OHSAS 18001, working towards BS EN ISO 45001 certification.

Marley clay plain tiles are UKCA and CE marked in line with the Construction Product Regulation ([marley.co.uk/ce](http://marley.co.uk/ce)). They are also rated 'Excellent' in the BES 6001 Framework Standard for the Responsible Sourcing of Construction Products.

## CARBON FOOTPRINTING

Clay plain tiles can have a carbon footprint figure as low as 27 CO<sub>2</sub>e/m<sup>2</sup>.

## RECYCLABILITY

At end of life, clay plain tiles can be reused or crushed and used as aggregate without the need for further processing. As a natural product, no special disposal considerations are required.

## COMPOSITION AND MANUFACTURE

All Marley clay plain tiles are manufactured from high quality Staffordshire Etruria Marl, generally accepted as the finest clay for strength and durability.

Clays are carefully blended to improve plasticity and strength. The tiles are machine or hand moulded, dried and fired in gas fired tunnel kilns, using an advanced computer controlled system. This ensures that the products are made to exact tolerances in shape, size, colour and strength.

## PERFORMANCE

Marley clay plain tiles are tested for resistance to wind driven rain and meet the requirements of BS 5534 'Code of practice for slating and tiling (including shingles)' with respect to wind loading, when fixed in accordance with our recommendations.

## STRENGTH AND DURABILITY

Marley clay plain tiles are also extremely strong, with a transverse strength well in excess of the 600N minimum requirement in BS EN 1304.

## FIRE RESISTANCE

Marley clay plain tiles are non-combustible and meet the requirements for external fire performance without the need for further testing in accordance with Class B roof of BS EN 13501-5 using data from external exposure to fire roof tests (BS 476-3) as defined in ENV 1187. There are no restrictions on their use under the Building Regulations and are designated AA in Table A5 of Appendix A, Approved Document B, 'Fire Safety'.

## ENVIRONMENTAL EFFECTS

### THERMAL

Unaffected by extremes of temperature. Tiles should be laid with a slight gap (1-3mm) to accommodate any movement induced by changes in temperature.

The thermal resistance (R) of Marley clay tiles when dry is 0.013m<sup>2</sup>K/W.

For the purpose of thermal transmittance calculations, the preceding 'R' values should be substituted by a figure of 0.12m<sup>2</sup>K/W which includes the roof covering and the airspace behind the tiles or slates. An 'R' value of 0.020m<sup>2</sup>K/W should be added for the roof underlay.

### FROST

Unaffected by frost, and meets the requirements of BS EN 1304 Annex A when tested to EN 539-2 in accordance with national requirements.

### SUNLIGHT

Clay tiles do not fade and are unaffected by prolonged exposure to UV and sunlight.

### ATMOSPHERIC POLLUTION

Suitable for all rural, marine and normal industrial environments. Avoid discharge of gases or liquids from chemical processes onto the surface of the tiles. Resistant to all but the most highly polluted atmospheres, where sulphur dioxide levels exceed 70 micrograms/m<sup>3</sup> of air.

### ELECTRICITY

Marley clay tiles are electronically insulating. Reference should be made to BS 6651 for recommendations on the protection of buildings against lightning strikes.

## BIOLOGICAL EFFECTS

### BIRDS AND RODENTS

Not affected or degraded by birds, rodents or insects.

### MOSSES AND LICHENS

Water absorption of Marley clay plain tiles is very low, making their surface less likely to support growth of mosses and lichens, unless promoted by local environmental factors such as overhanging trees. Removal may only be required if growth is sufficient to restrict the drainage of water from the roof.

## HEALTH AND SAFETY

When cutting tiles using an angle grinder, measures to reduce the effect of dust should be taken in accordance with the HSE Guidance Note EH 40 'Occupational Exposure Limits', EH 44 'Dust in the workplace: general principles of protection' and HSE Guidance Note EH59/2 (Respiratory Crystalline Silica). For a copy of the Marley clay tiles COSHH datasheet, visit [marley.co.uk/about/HealthandSafety](http://marley.co.uk/about/HealthandSafety)

## APPEARANCE

To avoid the risk of colour patching and bands of different shades, tiles should be randomly selected from at least three separate pallets from the same production batch. Ensure there are sufficient quantities of mixed tiles to complete each roof elevation.

## FIXING SPECIFICATION

Tiles should be fixed in accordance with the recommendations of BS 5534. The Marley Technical Advisory Service can provide a fixing specification applicable for every roof design, given the relevant criteria relating to type of roof tile, site location, topography, and building/roof dimensions. Fixing specifications can also be completed online at [marley.co.uk/tilefix](http://marley.co.uk/tilefix)

