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# CLAY

## plain tiles

Clay is a natural, beautiful and durable roofing material with an elegance that improves with time.



Project: The Turner Home  
Location: Liverpool  
Application: Commercial  
Product: Acme Double Camber clay plain tiles  
Specifier: Andrew Smith



# Why choose clay plain tiles?

Beautiful, durable, natural material <

BES 6001 'Very Good' <

A<sup>+</sup> rated in the BRE Green Guide\* <

Comprehensive range of colours and finishes <

30° low pitch options <

Traditional range of fittings and accessories <

Carbon footprint certification <

Market-leading brands <

Responsibly sourced <

\* Element ref: 812410006

# Clay plain tiles

Plain tiles made from clay have been used to cover roofs in Britain for over eight hundred years. They form much of the character of the roofs seen in the South East of England and the Midlands, where the largest deposits of clay are located.

Our extensive range contains colour, texture and camber options which meet the aesthetic and performance demands of all types of roofing applications.









Canterbury handmade clay plain tiles  
True to tradition, a range of three distinctive  
colours in a sandfaced finish suitable for  
roofing and vertical tiling.

Product shown: Canterbury handmade clay plain tile in Loxleigh



# Canterbury

Size of tile	265mm x 165mm
Minimum pitch*	40°
Maximum pitch	90°
Minimum headlap	
Roof	65mm
Vertical	35mm
Maximum gauge	
Roof	100mm
Vertical	115mm
Tile thickness	13mm (nominal)
Cover width	165mm (nominal)
Covering capacity (net)	
Roof	60 tiles/m <sup>2</sup> at 100mm gauge
Vertical	53 tiles/m <sup>2</sup> at 115mm gauge
Weight of tiling (approx.)	
Roof	74kg/m <sup>2</sup> (0.73 kN/m <sup>2</sup> ) at 100mm gauge
Vertical	66kg/m <sup>2</sup> (0.64 kN/m <sup>2</sup> ) at 115mm gauge
Battens required (net)	
Roof	10.0 lin.m/m <sup>2</sup> at 100mm gauge
Vertical	8.7 lin.m/m <sup>2</sup> at 115mm gauge
Batten size recommended (fixed to BS 5534)	38 x 25mm for rafters/supports not exceeding 600mm centres
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 for further information.

## Sustainability

Green guide rating	A <sup>+</sup> (Element Ref: 812410006)
BES 6001	Very good – can achieve 3 credits

## Clay handmade feature tiles

Available in a range of colours.




Bullnose



Club

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






Loxleigh (fine sanded finish)



Chailey (fine sanded finish)



Burford (fine sanded finish)





## Ashdowne clay plain tiles

Handcrafted clay plain tiles offer a warm, mellow appearance, with a granular texture and slight random irregularities that make each tile unique.

Project: Private house Location: Stanmore Application: Residential Product: Ashdowne clay plain tiles in Aylesham Mix Specifier: Signia Homes



# Ashdownne

Size of tile	265mm x 165mm
Minimum pitch*	35°
Maximum pitch	90°
Minimum headlap	
Roof	65mm
Vertical	35mm
Maximum gauge	
Roof	100mm
Vertical	115mm
Tile thickness	11mm (nominal)
Cover width	165mm (nominal)
Covering capacity (net)	
Roof	60 tiles/m <sup>2</sup> at 100mm gauge
Vertical	53 tiles/m <sup>2</sup> at 115mm gauge
Weight of tiling (approx.)	
Roof	65kg/m <sup>2</sup> (0.64 kN/m <sup>2</sup> ) at 100mm gauge
Vertical	57kg/m <sup>2</sup> (0.56 kN/m <sup>2</sup> ) at 115mm gauge
Battens required (net)	
Roof	10.0 lin.m/m <sup>2</sup> at 100mm gauge
Vertical	8.7 lin.m/m <sup>2</sup> at 115mm gauge
Batten size recommended (fixed to BS 5534)	38 x 25mm for rafters/supports not exceeding 600mm centres
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 for further information.

## Sustainability

Green guide rating	A+ (Element Ref: 812410006)
BES 6001	Very good – can achieve 3 credits

## Clay plain feature tiles

Available in a range of colours.



Bullnose

Club

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



A close-up photograph of a roof covered in Ashurst roof tiles. The tiles are rectangular and laid in a staggered pattern. They have a rich, reddish-brown color with a mottled, aged appearance, showing darker spots and variations in tone. The lighting is bright, highlighting the texture and the slight shadows between the tiles.

Ashurst (sanded finish)

A close-up photograph of a roof covered in Aylesham Mix roof tiles. The tiles are rectangular and laid in a staggered pattern. They have a warm, orange-brown color with a mottled, aged appearance, showing darker spots and variations in tone. The lighting is bright, highlighting the texture and the slight shadows between the tiles.

Aylesham Mix (sanded finish)





## Hawkins clay plain tiles

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

Project: Beacon Hotel Location: Burton-upon-Trent Application: Commercial Product: Hawkins clay plain tiles in Staffordshire Mix Specifier: Simon Gaskin



# Hawkins

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

## Sustainability

Green guide rating	A+ (Element Ref: 812410006)
BES 6001	Very good – can achieve 3 credits

## Clay plain feature tiles

Available in a range of colours.



Bullnose

Club

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



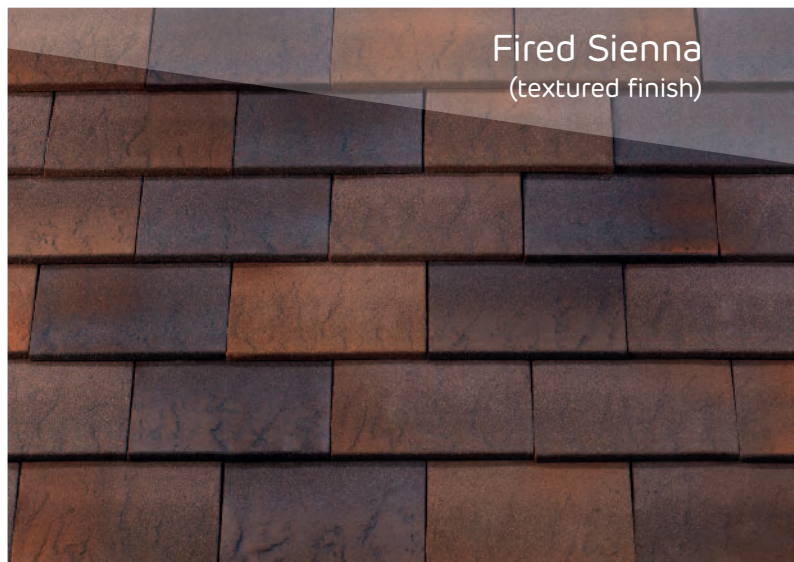
Staffordshire Mix (fine sanded finish)



Staffordshire Blue  
(fine sanded finish)



Fired Sienna  
(textured finish)



Blue Smooth  
(smooth finish)







Acme double camber clay plain tiles  
Acme double camber clay plain tiles have both a longitudinal and latitudinal camber, which accentuates light and shade and creates highly textured roofscapes.

Project: Private housing Location: Essex Application: Residential Product: Acme Double Camber clay plain tiles in Antique Specifier: Kier Living Eastern



# Acme double camber

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

## Sustainability

Green guide rating A+ (Element Ref: 812410006)

BES 6001 Very good – can achieve 3 credits

## Clay plain feature tiles

Available in a range of colours.



Bullnose



Club

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



Burnt Flame (smooth finish)

Antique (semi-sanded finish)



Smooth Brindle (smooth finish)



Dark Brindle (smooth finish)







## Acme single camber clay plain tiles

The Acme single camber clay plain tile allows the creation of traditional and contemporary low pitch roof designs with the warmth and character of clay.

Project: Private House Location: Swansea Application: Residential Product: Acme Single Camber clay plain tiles in Grey Sandfaced Specifier: Huw Griffiths Architects



# Acme single camber

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

## Sustainability

Green guide rating A+ (Element Ref: 812410006)

BES 6001 Very good – can achieve 3 credits

## Clay plain feature tiles

Available in a range of colours.



Bullnose



Club

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



## Grey Sandfaced (fine sanded finish)



Heather Sandfaced (fine sanded finish)



Red Smooth (smooth finish)



Red Sandfaced (fine sanded finish)



Century (smooth finish)



Farmhouse Brown Sandfaced (fine sanded finish)



Heather Blend (fine sanded finish)



Mixed Brindle (smooth finish)





# Zero carbon house

## case study

“In this striking family home, the roof has become the facade. The blend of Acme and Hawkins clay plain tiles was a perfect alternative to the brick facade originally dictated by planning, adding warmth and character to the minimalistic design.”



### Project information

Location: Sint-Amendsberg (Belgium)

Application: Residential

Product: Acme and Hawkins clay plain tiles

Specifier: BLAF Architects (Lochristi)

Award-winning low carbon architects BLAF specified Marley Eternit's Acme and Hawkins single camber plain clay tiles in grey blue and red for this self build, zero carbon family home in Sint-Amendsberg, Belgium.

The timber framed passive house had to meet strict planning requirements which dictated that facades should be made of brick. After discussions, Marley Eternit clay tiles were approved with local planners. These gave a similar appearance but also met technical and sustainability requirements, including the provision of additional space from a thinner wall, allowing for improved insulation and a greater living area.

Using the same material gave a consistent finish for the roof and facade, and simplified the build process.

The result is a striking, contemporary, zero carbon property, clad entirely in natural clay plain tiles to give added texture and character to the clean lines of the design.

Looking for inspiration?

To see more projects, visit [marleyeternit.co.uk/casestudies](https://marleyeternit.co.uk/casestudies)

# Fittings and accessories for clay plain tiles

Marley Eternit 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

### Creasing tiles

Available in Red Smooth.

### Feature tiles

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

### Hips and valleys

Mortar bedded security hip kits are available for third round ridges (see page 150).

Description	Granny bonnet hip <sup>§</sup>	Semi bonnet hip <sup>§</sup>	Arris hip <sup>**§</sup>	Valley <sup>**§</sup>	Third round hip <sup>**</sup>	Third round hip end <sup>**</sup>
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°

### Marley Eternit dry fix and ventilation systems

Marley Eternit has developed a range of dry fix and ventilation accessories that combine discreet and aesthetic solutions with the highly efficient removal of moisture-laden air and gases, and improve the speed and economy of roof construction by providing easy to fix alternatives to traditional mortar bedding.

These systems are fully compatible with Marley Eternit products, and Universal systems can be used with other manufacturers' products too.

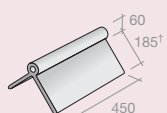
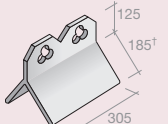
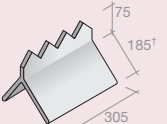
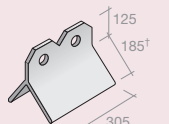
When correctly installed, our systems are designed to satisfy the requirements of BS 5534, BS 5250 and those of the Building Regulations. **See pages 126-131 for more information.**

\* 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  
 § Handmade available

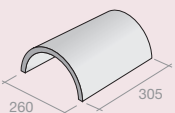
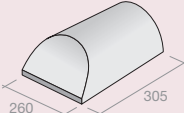
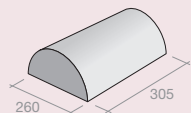
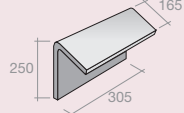
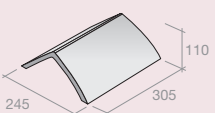
## Decorative ridges

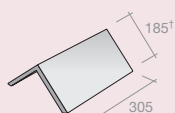
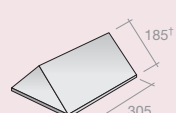
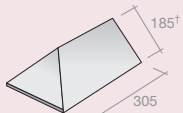
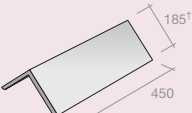
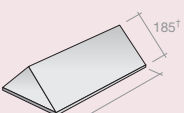
Mortar bedded security ridge kits are available (see page 150).

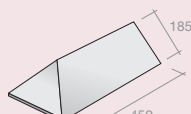
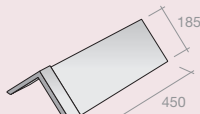
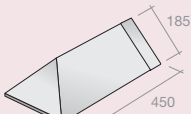
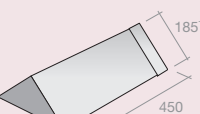
				
Description	Plain roll top**	Club crested ridge	Cocks comb crested ridge	Two hole crested ridge
Angles available	75°, 90°, 105°, 115°, 125°, 135°	90°, 105°	90°, 105°	90°, 105°
Colours available	Red Smooth, Slate Black	Red Smooth	Red Smooth	Red Smooth
Pitch range	See page 191	See page 191	See page 191	See page 191

## Ridge tiles

Mortar bedded security ridge kits are available (see page 150).

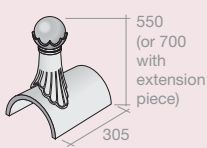
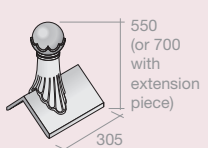
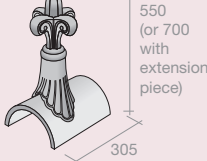
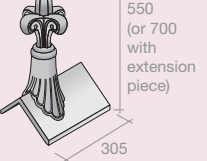

					
Description	Half round ridge <sup>§</sup>	Half round ridge hip end*	Half round ridge stop end* <sup>§</sup>	Mono ridge* <sup>§</sup>	Hogs back ridge** <sup>§</sup>
Angles available	n/a	n/a	n/a	n/a	n/a
Colours available	All colours	All colours	All colours	All colours	All colours
Pitch range	30-50°	30-50°	30-50°	30-45°	30-45°

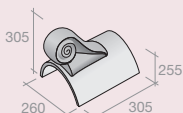
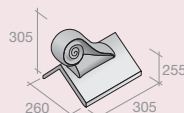



					
Description	305mm Angular ridge**	305mm Angular ridge stop end*	305mm Angular ridge hip end*	450mm Angular ridge	450mm Angular ridge* stop end*
Angles available	90°, 105°	90°, 105°	90°, 105°	75°, 90°, 105°, 115°, 125°, 135°	75°, 90°, 105°, 115°, 125°, 135°
Colours available	All colours	All colours	All colours	Red Smooth, Slate Black	Red Smooth, Slate Black
Pitch range	See page 191	See page 191	See page 191	See page 191	See page 191

				
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 page 191	See page 191	See page 191	See page 191

## Finials

Mortar bedded security ridge kits are available (see page 150).

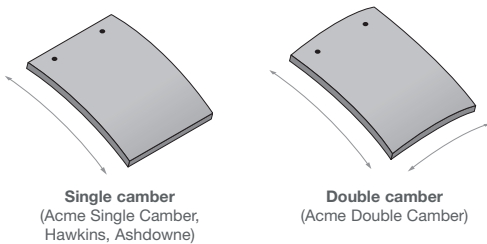
					
Description	Ball top finial* <sup>§</sup> (half round base)	Ball top finial* (plain angle base)	Fleur-de-Lys finial* <sup>§</sup> (half round base)	Fleur-de-Lys finial* (plain angle base)	Extension piece for Ball top and Fleur-de-Lys <sup>§</sup>
Angles available	n/a	75°, 90°, 105°, 115°, 125°, 135°	n/a	75°, 90°, 105°, 115°, 125°, 135°	n/a
Colours available	All colours	Red Smooth/Slate Black (all angles) Other colours (90°, 105° angles only)	All colours	Red Smooth/Slate Black (all angles) Other colours (90°, 105° angles only)	All colours
Pitch range	30°-50°	See page 191	30°-50°	See page 191	n/a

					
Description	Scroll finial* <sup>§</sup> (half round base)	Scroll finial* (plain angle base)	Falcon finial* <sup>§</sup> (half round base)	Falcon finial* (plain angle base)	Dragon finial* <sup>§</sup> (plain angle base)
Angles available	n/a	75°, 90°, 105°, 115°, 125°, 135°	n/a	75°, 90°	75°, 90°
Colours available	All colours	Red Smooth/Slate Black (all angles) Other colours (90°, 105° angles only)	All colours	All colours	All colours
Pitch range	30°-50°	See page 191	30°-50°	See page 191	See page 191

# Properties and performance for clay plain tiles

## Features of clay plain tiles

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



## Authority

Marley Eternit 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.

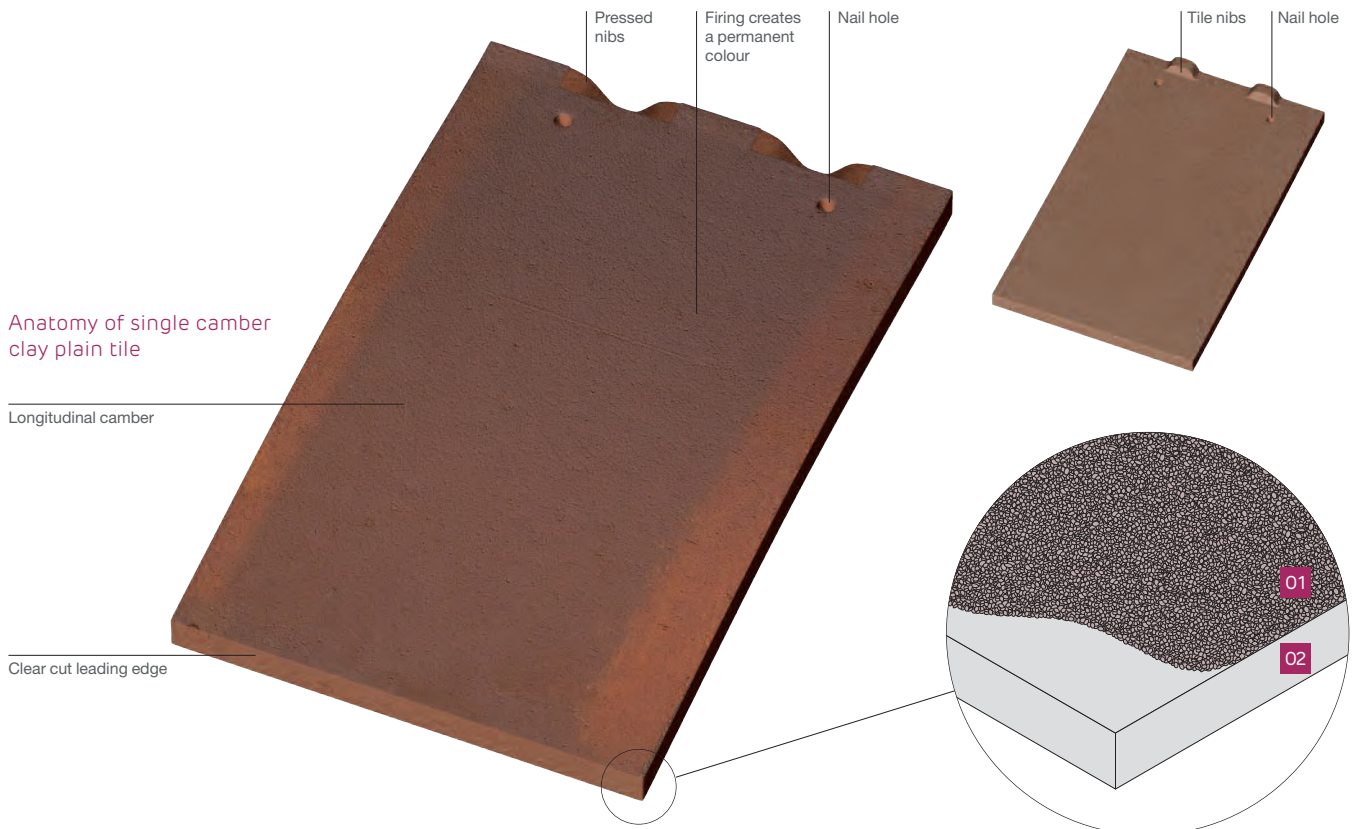
Marley Eternit clay plain tiles are CE marked in line with the Construction Product Regulation ([marleyeternit.co.uk/ce](http://marleyeternit.co.uk/ce)). They are also rated 'Very Good' in the BES 6001 Framework Standard for the Responsible Sourcing of Construction Products.

## Carbon footprinting

Clay plain tiles can have a carbon footprint figure of 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.



### Anatomy of single camber clay plain tile

Longitudinal camber

Clear cut leading edge

### Clay sanded plain tile composition

- 01 Graded pigmented sand
- 02 Etruria Marl blended to improve plasticity





## Composition and manufacture

All Marley Eternit 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 Eternit 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 Eternit clay plain tiles are well vitrified and do not delaminate on weathering. They are also extremely strong, with a transverse strength well in excess of the 600N minimum requirement in BS EN 1304.

## Fire resistance

Marley Eternit 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 Eternit clay tiles when dry is  $0.013\text{m}^2\text{K/W}$ .

For the purpose of thermal transmittance calculations, the preceding 'R' values should be substituted by a figure of  $0.12\text{m}^2\text{K/W}$  which includes the roof covering and the airspace behind the tiles or slates. An 'R' value of  $0.020\text{m}^2\text{K/W}$  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  $70\text{ micrograms/m}^3$  of air.

## Electricity

Marley Eternit 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 Eternit 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 Eternit clay tiles COSHH datasheet, visit [www.marleyeternit.co.uk/about/HealthandSafety](http://www.marleyeternit.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 Eternit 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 on line at [www.marleyeternit.co.uk/tilefix](http://www.marleyeternit.co.uk/tilefix)