

# Forticrete roofing

an IBSTOCK plc company



## *Gemini*<sup>®</sup> Interlocking Twin Plain Tile

The roofing tile that has  
caused a revolution





## Double cambered plain tile appeal at pitches down to 22.5°

Gemini® Sunrise Blend at  
Barratt Homes, Waters  
Edge, Stourport on Severn,  
Worcestershire.

Gemini® is a true innovation in roof tile design. With its 'double cambered' design, this interlocking concrete tile, gives the appearance of traditional plain tiles when laid.

### Front cover

Gemini® Mixed Russet at  
Davidsons Homes, Church  
Gresley, Derbyshire.



Because of Gemini's design, fewer tiles are required to cover the same area as a conventional double lapped plain tile. This innovative product assists in reducing the build cost, and helps to reduce the environmental impact by reducing the amount of quarried aggregate used, and haulage movement per laid m<sup>2</sup>.

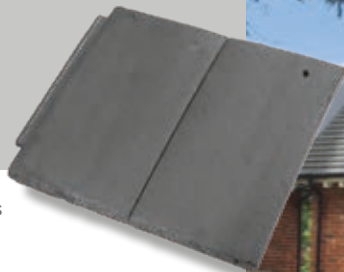


## New build housing

New home builders have discovered the benefits that Gemini® can give them in improving kerb appeal, whilst increasing the flexibility of their design options at much reduced costs compared to plain tiles.

Developers, self-builders and planning authorities recognise Gemini's ability to match local vernaculars and add aesthetic appeal.

For example, the Mixed Russet and Sunrise Blend colours enable builders to achieve a clay plain tile appearance with significant savings on materials and labour, in addition to the considerable environmental benefits.



Gemini® Slate Grey with bonnet hips at Penny Long Lane, Derby.



Gemini® Mixed Russet at David Wilson Homes, Biggleswade, Bedfordshire.



Gemini® Jacobean at Redrow Homes, Calne, Wiltshire



## Commercial

Gemini® suits both modern and traditional building design. DWA Architects looked to the Forticrete Gemini® for a new multi-million pound, 105 bed care home in Kettering, to complement the 19th century architecture of a Grade II Listed Victorian villa which lies on the grounds. As project architects, DWA Architects required a roofing solution that would blend in with the handmade clay plain roof tiles on the 19th Century building. The Rustic colour and characteristics of Forticrete's Gemini® roof tile provided the answer they were looking for.

Gemini® Jacobean at Cloverleaf Restaurants, Willington, Derbyshire.



Gemini® Slate Grey at Acacia Mews Care Home



## Social housing - *New Build*



Gemini® Slate Grey, South Yorkshire Housing Association, Rotherham.

New social housing developments need to achieve a higher standard of build quality, and Gemini® can deliver these requirements in all aspects. Gemini® tiles have been selected for projects to provide

traditional plain tile finishes to complement local area and planning requirements. As the tiles interlock they speed up the roofing program so that scaffolding can be dropped sooner – allowing access for other trades to complete their work.

## Social housing - *Re-roofing*

Gemini® is equally as cost-effective for refurbishment as for new build.

Local Authorities and Housing Associations throughout the country have discovered that their budgets will stretch much further when using Gemini® as the re-roofing solution compared to plain tiles.

Derby City Council, Wansbeck District Council, Harrogate Borough Council, Northampton Borough Council and the London Boroughs of Ealing and Greenwich are just some of the authorities who have worked alongside Forticrete to replace tired and defective roofs with complete, modern Gemini® tile systems.

Wolverhampton City Council re-roofing scheme using Gemini® Red and associated Dry Fix system.



This Decent Homes programme in Gateshead successfully incorporated the Gemini® in Mixed Russet as part of a re-roofing scheme. This enhanced the dwellings' appearance whilst maintaining the character of a plain tiled roof.



Before re-roofing

After re-roofing

# The award winning tile that's helping developers, planners and the environment

- Aesthetic appearance of a traditional plain tile when laid
- Only 16.3 tiles per m<sup>2</sup> (60 for plain tiles)
- 40% CO<sub>2</sub> saving in manufacture compared to concrete plain tiles
- Greater roof area covered per load delivered = reduced CO<sub>2</sub>
- 20% fixing labour savings in comparison to plain tiles
- 30% reduction in weight
- 42% timber savings on roof battens
- 6% timber savings on roof trusses
- Lays to lower pitches – 22.5° (plain tiles 35°)
- Thin leading edge
- Hidden fixings including tile clip
- Full range of dry-fix fittings and ventilation products
- Kitemarked to BS EN 490
- 60 year product integrity guarantee
- Registered design



Gemini®

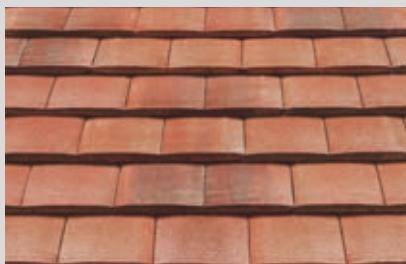


Plain Tile

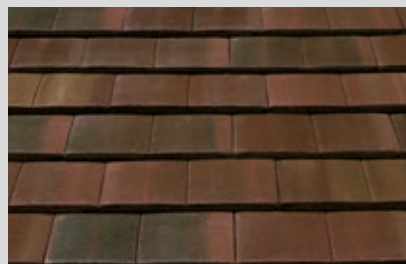
## Accreditations

- Gemini® holds the quality Kitemark BS EN 490
- Forticrete is certified to the International Environmental Standard BS EN ISO 14001
- BES6001 for Responsible Sourcing of Construction Products – all seven factories are rated as either good or very good
- We operate to BS EN ISO 9001 for Quality Management
- A+ BREEAM Rating – assessment method for sustainable buildings
- Building Confidence certified, the standard for supplier excellence

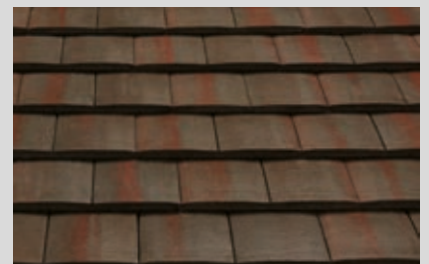
## Available in 6 colours



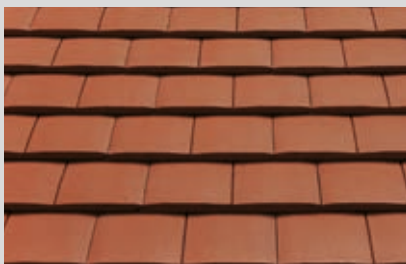
Sunrise Blend (Pre-blended)



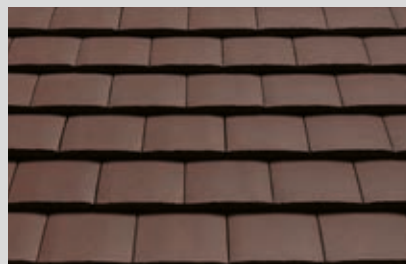
Mixed Russet (Pre-blended)



Jacobean (Made to order)



Red



Brown



Slate Grey

## Guarantee

The integrity of the tile carries a 60 year product Integrity Guarantee from date of supply, subject to the company's normal terms. Forticrete Roofing Products policy is one of continuous improvement and the Company reserves the right to change specifications and designs at any time without notice.

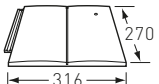
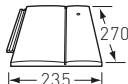
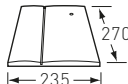

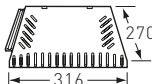
Roof tiles and slates may become scuffed during transportation or installation. This does not affect the performance of the products and the appearance will improve with weathering in due course.

Tile colours may change over time due to weathering. Where an exact colour match is required, you are advised to view several tile samples.



Gemini® qualifies as an ECOTILE® PLUS under Forticrete's unique marking scheme, signifying that it conforms to a specified range of environmental criteria.

# Gemini® tile dimensions and specifications

| Tile thickness                    |  |  |  |  |  |
|-----------------------------------|---|---|---|--|---|
|                                   | <b>Gemini® tile</b>   | <b>RH three quarter tile</b>  | <b>LH three quarter tile</b>  | <b>Universal tile and half</b>   | <b>Lo-vent tile*</b>  |
| Overall Length:                   | 270mm   | 270mm   | 270mm   | 270mm  | 270mm   |
| Hanging Length (l <sub>1</sub> ): | 243mm   | 243mm   | 243mm   | 243mm  | 243mm   |
| Overall Width (w):                | 337mm   | 260mm   | 235mm   | 495mm  | 337mm   |
| Cover Width (Cw):                 | 316mm   | 235mm   | 235mm   | 470mm  | 316mm   |
| Mass (approx):                    | 2.8kg   | 2.2kg   | 2.1kg   | 4.3kg  | 0.6kg   |
| Free Vent Area:                   | —   | —   | —   | —  | 7855mm <sup>2</sup>   |

**Note:** Bonded double tiles may be required for hip and valley details. These tiles are available on request. \* Registered design no. 2096657

Designation:  
T – EN490 – IL – 0 – RF – 316 – / – / – 243 – 2,8

## Fixing specification

The site exposure, geographical location and roof complexity will determine the tile fixing specification. Site specific fixing specifications should be obtained from the technical department prior to installation.

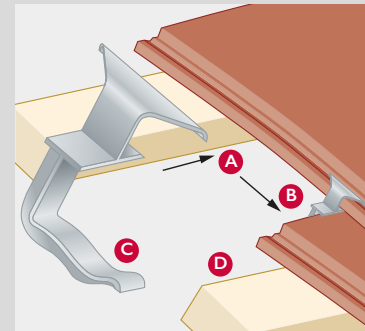
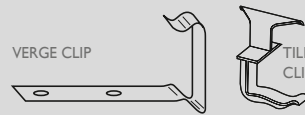
- For rafter lengths over 9m please consult with Forticrete Technical Department.
- All tiles must be nailed
- Nail size: 45mm x 3.35mm smooth or ring shank aluminium clout nails depending on site exposure
- Batten size: 50x25mm for rafter spans up to 600mm
- Clipping requirements do vary, please refer to site specific fixing specification. These can be obtained from [www.myforticreterooft.co.uk](http://www.myforticreterooft.co.uk)

- All verge tiles are to be fixed with a Gemini Verge clip as shown in Fig 2 and Gemini individual dry fixed verge units in accordance with the manufacturers specification.
- Small sections of cut tile, should be replaced with universal tile and a half's
- Forticrete recommends the use of positive ventilation in roof spaces in accordance with the current British Standard BS 5250

Forticrete also recommend the use of high and low level ventilation systems, such as eaves and ridge ventilation, to control condensation above or below the underlay position, depending on insulation position.

**Fig 1:**  
**Fixing of Gemini® tile clip:**

The Gemini® tile clip is not mechanically fixed to the batten; instead it clips onto the tile interlock (A). The clip is then slid down (to point B) and the curved underlock (C) locates onto the underside of the tile below (D).



### Gemini® dry fix and ventilation products available

Dry fixed ventilated 1/2 round ridge system, Dry fixed ventilated monoridge system, Eaves vent system, Abutment vent system, Lo-vent tiles (flush fitting), Ridge vent tiles, Gas vent ridge tiles, Individual dry fixed verge system, Dry fixed 1/3 round hip system, Dry fixed bonnet hip system, Dry fixed mitred hip system, Dry mitred valley, GRP secret gutter, Tile clips, Verge clips, Tile replacement clips, Valley clips.

| Pitch         | Headlap              | Batten spacing         | Batten required  | Tiles required                             | Mass (approx)                              |
|---------------|----------------------|------------------------|--|--|--|
| 22.5° - 29.5° | 80mm min<br>95mm max | 190mm max<br>175mm min | 5.26 lin m/m <sup>2</sup><br>5.70 lin m/m <sup>2</sup> | 16.6/m <sup>2</sup><br>18.1/m <sup>2</sup> | 47kg/m <sup>2</sup><br>51kg/m <sup>2</sup> |
| 30° - 70°     | 75mm min<br>95mm max | 195mm max<br>175mm min | 5.13 lin m/m <sup>2</sup><br>5.70 lin m/m <sup>2</sup> | 16.3/m <sup>2</sup><br>18.1/m <sup>2</sup> | 45kg/m <sup>2</sup><br>51kg/m <sup>2</sup> |

**Note:** All leadwork should be installed in accordance with BS EN 12588 and information supplied by the Lead Sheet Association.

## Working procedures, safety & general precautions

Tiles should be fixed in accordance with the current version of BS:5534. To obtain your site specific fixing specification please visit [www.myforticreterooft.co.uk](http://www.myforticreterooft.co.uk). Forticrete recommend that fixers of all slates and tiles regard the products as fragile as stated in BS8000. During installation of the products, the correct setting out and working procedures should be employed to avoid walking directly on to products which have been fixed or are on any completed area of a roof. Should it be necessary to gain access via the roof where battens of adequate strength cannot be used as footholds, this should not be attempted without the use of adequate protection to the tiles or slates including the required number of crawling boards, ladders and cat ladders.

Please note that where there is a change of pitch, packing may be required between crawling boards, cat ladders and the surface of the tiles or slates to avoid damage to the product. Fixers should note that Forticrete do not recommend the practice of cutting tiles or slates in-situ. Other information can be obtained from the Health and Safety in RoofWork publication HSG33 and in the 'Working on Roofs' publication INDG284. Reference should also be made to the Forticrete Technical Literature and Fixing Instructions.

## Order your Gemini® from:

Approved stockist

### Gemini® Roofing Systems & Technical enquiries:

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