

CEMIBRIT

# Fibre cement slates

Cembrit Berona, Cembrit Berona Graphite,  
Cembrit Berona Xxtra, Cembrit Berona Stonedge,  
Cembrit Berona Structured



# Fibre cement slates



The Cembrit group are one of Europe's largest producers of fibre cement products and have been manufacturing and developing fibre cement products, including slates, for over 80 years. Cembrit prides itself on manufacturing fibre cement slates which achieve the highest approvals from local, national and international agencies in the fields of product quality and sustainability. Cembrit fibre cement slates are complemented by a range of fibre cement ridges which can be found on all types of roofs across Ireland.

## **Life-cycle assessment (LCA)**

Cembrit's Czech produced fibre cement slates have been awarded an Environmental Profile Certificate by BRE Global and are listed on the [greenbooklive.com](http://greenbooklive.com) website. Ecopoint scores from cradle to grave for 1m<sup>2</sup> of the Berona range of slates over a 60 year life range from 0.34 to 0.51 depending on the element specified.

## **Quality assurance**

The Berona range of slates are manufactured in accordance with a quality assurance system ISO 9001 and to the requirements of BS EN 492: 2004 product specification for fibre cement slates and their fittings.

## **Environment Environmental Management**

The Berona range of slates are manufactured in a factory which complies with the requirements of ISO 14001: 2004, and has been awarded certificate number E-0394C/14.

# Performance

## Compatibility

The Berona range of slates are compatible with most common building materials, except those vulnerable to alkaline attack. When materials such as aluminium are used as flashings or gutters they should be protected and maintained with bituminous paint if they will be subject to water run-off from the slates.

## Tolerances

The Berona range of slates are made to the following dimensional tolerances in accordance with BS EN 492: 2004. Length or width: +/-3.0 mm. Thickness: 4mm + 1.0mm, - 0.4mm

## Strength

The Berona range of slates exceed the requirements of Class B (the highest) of BS EN 492: 2004 giving an average bending moment greater than 50 Nm/m.

## Density

The Berona range of slates have an average density of 1850 kg/m<sup>3</sup> when tested to BS EN 492: 2004 section 7.3.1.

## Fire

The Berona range of slates achieve the following ratings: BS 476: Part 2: 1989 and BS 476: Part 7: 1987. Fire Propagation Index (I) of 0.9, a Sub index (ii) of 0.3 and a Class 1 surface. Class 0 surface as defined in the various national Building Regulations. BS 476: Part 3 1958 EXT. SAA  
BS 476: Part 3 1975 Class P60

## Frost

The Berona range of slates show satisfactory frost resistance after 100 freeze/thaw cycles and satisfy the requirements of BS EN 492: 2004 section 7.4.1.

## Thermal

The coefficient of linear expansion of the range of Berona slates is approximately  $8 \times 10^{-6}$  mm/°C. This is equivalent to an expansion of 0.08mm/m for a 10°C temperature change. Thermal conductivity (k value) is 0.35W/m°C.

## Effects of chemicals

During tests the range of Berona slates have been found to have a good resistance to chemical attack, however it should be noted that prolonged exposure will cause surface degradation. In areas where this may be excessive please consult Cembrit Ltd. for further advice.

## Biological

The Berona range of slates are vermin and rot proof. The acrylic coating of the slates will reduce the potential growth of moss and lichen.



# Sitework

## Storage and handling

The range of Berona slates should not be allowed to become wet during storage as this may cause efflorescence staining as a result of water accumulating between the slates surfaces. If stored outside for short periods, the polythene hood should be removed and the slates open stacked and covered with a tarpaulin. The slates should be carefully stacked on their longer edges with timber bearers, battens or boards between layers. The lowest layer must be arranged on a firm level base off the ground and care should be taken to ensure this area is free of running water during rain and no ponding can occur.

## Working

The Berona range of slates can be cut using the traditional method of scribing and breaking over a straight edge. Angle grinders are not recommended due to nuisance dust levels. Additional fixing holes should be drilled using a 4.5mm drill bit. Holes should not be less than 20mm from the edge of the slate. After cutting or drilling remove all dust from the slate to avoid possible staining.

## Fixing

The Berona range of slates must be laid in accordance with the latest versions of Code of Practice for Slating and Tiling, BS 5534: and the Irish Code of Practice ICP2. The roof structure should be checked to ensure that it is to a true line and squareness tolerance, and set out to ensure that:

- the minimum cutting of slates is necessary.
- the long edges of the slates are parallel to the direction at which the water will run off the roof. In some instances this may result in raking cuts to all the eaves and the ridges.
- the horizontal lines of the courses are straight and true.
- the perpendicular lines of the slate are to a true alignment and allow for a small 'perp' gap between slates (4mm). The last two items are best achieved using a chalked line. The method of fixing is to centre nail each slate with two 2.65mm x 30mm long copper nails (stainless steel nails should be used if the battens are treated), and secure the tail of the slate with a copper disc rivet of suitable quality (0.45 x Ø 20mm base with a 20 x Ø 2mm pin) correctly bent down-slope through 90°.

Slate and a half and double slate sizes should be drilled to accept three nails and two disc rivets. At all verges and abutments, alternate slate courses must start with slate and half width to maintain bond. Slate and a half widths must be used if the half slate is less than 150mm wide. At valleys and hips where slates need to be cut on the rake, wide slates must be used to maintain an adequate width at the head or tail. At mitred hips on low pitched roofs wide slates should be used beneath the hip capping.





## Ventilation

The roof space and/or batten cavity must be ventilated in accordance with the latest versions of Technical Guidance Document L and Technical Guidance Document F. TGD L gives guidance on the application of design principles. Fibre cement slates should be considered an impermeable external covering. In cold roof construction the loft space must always be ventilated. If an LR “breather” underlay is used the batten space must also be ventilated. In warm roof construction with an HR underlay a ventilated void between the insulation and the underlay must be provided. If an LR “breather” underlay is used the underlay must be laid on the insulation and the batten space above must be ventilated, in addition a VCL (impermeable membrane) must be provided between the insulation and the internal finish.

TGD F gives guidance on the ventilation requirements to prevent excessive condensation in a roof.

Cembrit Ltd offer a comprehensive range of ventilation products to suit most applications and further advice is available on request.

## Identification

A minimum of 25% of the slates are marked on the underside using the following format: BB104208NTB2 where the first character denotes the factory of origin; the second character the Strength Classification from EN 492 section 7.3.2; the next six numbers denote the shift and year of manufacture; NT denotes non-asbestos technology; and the final two characters show the production line and painting line used for manufacture.

# Berona

Berona is an attractive flat, square edged fibre cement slate that is manufactured to the highest European standards. They are lightweight, pre-holed and easy to handle and install. Berona slates are durable and economic an economical choice for all project types. Berona slates are manufactured using Portland cement together with a non-asbestos formulation of superior blended synthetic and cellulose fibres.

Berona slates are pigmented during production and are fully compressed. They are finished with a high quality, semi-matt acrylic black or brown coloured coating to the top face and edges and a tinted, high performance binder to the back face. Berona slates carry a 10 year colour and 30 year structural warranty when fixed in accordance with the latest versions of ICP2 and BS5534.

## Technical Information

Colour availability	2
Dimensions (mm)	600 x 300
Weight (kg/board)	1.53

## Colours



Slate Black



Slate Brown



## Berona Graphite

Berona Graphite is a rectangular, smooth, square edged slate that is suitable for all applications. Berona Graphite is manufactured to the highest European standards. They are lightweight, pre-holed and easy to handle and install. Berona Graphite slates are durable and an economical choice for all project types. They are manufactured using Portland cement together with a non-asbestos formulation of superior blended synthetic and cellulose fibres. Berona Graphite slates are pigmented during production and are fully compressed. They are finished with a high quality, semi-matt acrylic blue-black coloured coating to the top face and edges and a tinted, high performance binder to the back face. Berona Graphite slates carry a 10 year colour and 30 year structural warranty when fixed in accordance with the latest versions of ICP2 and BS5534.

### Technical Information

Colour availability	1
Dimensions (mm)	600 x 300
Weight (kg/board)	1.53

### Colour



Slate Graphite



## Berona Xxtra

Berona Xxtra is a smooth, flat, square edged slate that is manufactured to the highest European standards. They are lightweight, pre-holed and easy to handle and install. Berona Xxtra slates are durable and are an economical alternative to natural roofing materials. They are manufactured using Portland cement together with a non-asbestos formulation of superior blended synthetic and cellulose fibres. Berona Xxtra slates are pigmented during production and are fully compressed. They are finished with a high quality, semi-matt acrylic black or blue-black coloured coating to the top face and edges and a tinted, high performance binder to the back face. Berona Xxtra slates carry an extended 20 year colour and 30 year structural warranty when fixed in accordance with the latest versions of ICP2 and BS5534.

### Technical Information

Colour availability	2
Dimensions (mm)	600 x 300
Weight (kg/board)	1.5

### Colours



Slate Graphite



Slate Black



## Berona Stonedge

Berona Stonedge slates have an appearance close to that of a sawn edge natural slate. Their smooth surface and dressed edges make them an ideal solution for situations where presentation is important. Berona Stonedge slates are manufactured to the highest European standards and are lightweight, pre-holed and easy to handle and install. Berona Stonedge slates are durable and are an economical alternative to natural roofing materials. They are manufactured using Portland cement together with a non-asbestos formulation of superior blended synthetic and cellulose fibres. Berona Stonedge slates are pigmented during production and are fully compressed.

They are finished with a high quality, semi-matt acrylic blue-black coloured coating to the top face and edges and a tinted, high performance binder to the back face. Berona Stonedge slates carry a 20 year colour and 30 year structural warranty when fixed in accordance with the latest versions of ICP2 and BS5534.

### Technical Information

Colour availability	1
Dimensions (mm)	600 x 300
Weight (kg/board)	1.53

### Colour



Slate Graphite

## Berona Structured

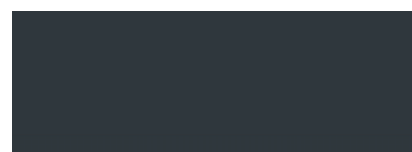
Berona Structured slates have an appearance close to that of a natural slate. Their attractive riven surface and natural dressed edges make them an ideal solution for situations where a traditional appearance is important. Berona Structured slates are manufactured to the highest European standards and are lightweight, pre-holed and easy to handle and install. Berona Structured slates are durable and are an economical alternative to natural roofing materials. They are manufactured using Portland cement together with a non-asbestos formulation of superior blended synthetic and cellulose fibres. Berona Structured slates are pigmented during production and are fully compressed.

They are finished with a high quality, semi-matt acrylic blue-black or welsh blue coloured coating to the top face and edges and a tinted, high performance binder to the back face. These slates carry a 20 year colour and 30 year structural warranty when fixed in accordance with the latest versions of ICP2 and BS5534.

### Technical Information

Colour availability	2
Dimensions (mm)	600 x 300
Weight (kg/board)	1.5

### Colours



Slate Graphite



Slate Welsh Blue

# CEMBRIT

Cembrit Ireland Ltd  
Unit 6 Northwest Business Park  
Ballycoolin, Dublin 15  
Ireland

Tel.: +353 1 9058300  
Fax: +353 1 8991664  
info@cembrit.ie  
www.cembrit.ie

Cembrit is part of one of Europe's leading manufacturers of building materials: Cembrit Holding. The Group's main products are fibre-cement based roofing materials and cladding. To bring out the best in these products a range of specially adapted fittings and supplementary equipment has been developed. This makes it possible to find a architectural solution to any roofing or cladding assignment – whether the building in question is for business, private, farming, industrial or any other purpose. The products are manufactured at technically advanced and professional factories. Our expertise and personal commitment are integral parts of all Cembrit solutions, whether they are concerned with products, service backup or partnership.

The information contained in this publication and otherwise supplied to users of the company's products is based on the company's general experience, best knowledge and belief. However, because of factors beyond the company's knowledge and control, which can affect the use of the products, no warranty is given or implied with respect to such information.

The company's policy is one of continuous improvement. Cembrit Ireland Limited therefore reserves the right to alter specifications at any time and without notice.

As with all manufactured materials, colours and textures of slate may vary according to light and weather conditions. It is advisable to ask for samples of slate prior to specification and purchase. Owing to this and limitations of the printing process, colours of slate in this brochure may only be taken as indicative. To ensure you have the latest version of this brochure please visit our website, [www.cembrit.ie](http://www.cembrit.ie).