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CAMBRIAN SLATE

for lasting looks

Redland



MONIER





Client: Ystradgynlais Community Hospital, Powys Local Health Board
Architect: Peter Barnes & Associates
Roofing Contractor: M Camilleri & Sons Roofing Ltd
Contractor: Anthony Davies Ltd
Product: Cambrian Slate Grey



CAMBRIAN SLATE

A minimum of 60% recycled Welsh Slate means Cambrian weathers like natural slate



The first projects using Cambrian Slate were completed back in 1985. At the time, the introduction of Cambrian was heralded as a major step forward for embracing the principles of recycling natural slate and a new fixing method for roofing, leading to a coveted Queens Award for Technological Achievement in 1991. The success of Cambrian since proves that the early adopters were right in using a modern and revolutionary approach to roofing products.

Cambrian Slates combine the beauty of natural slate, with a robust manufacturing process, which provides enhanced performance, and a product that weathers naturally to deliver an aesthetic equalled only by its natural counterpart. Made in Wales using a minimum of 60% recycled Ffestiniog slate, and with a comprehensive 15 year Redland Roof System Guarantee, its attractiveness and lightweight benefits translate in many ways, across a wide number of contrasting building types. On the succeeding pages we showcase flagship projects, that highlight how Cambrian Slate contributes across the built environment from public sector re-roofing of existing housing stock to private new build, schools, retail and hospitals. Many of the accompanying examples incorporate specific elements that make up the whole roofing package, including ridge and hip systems that allow a finer roofing aesthetic.

WEATHERING WELL

Cambrian now has a 25 year history of installation in a wide variety of applications from office buildings, to re-roofing of public sector housing stock, to high end private housing and MOD sites across the UK. Due to its high natural slate content in manufacture, it has aged in the same way as its natural counterpart to deliver an aesthetic that has improved with time. The example to the right, in Chessington, Surrey, shows Cambrian fixed approximately 10 years ago on a self build refurbishment. Easy to fix, the Cambrian roof has weathered just like its natural slate counterpart on the front porch and adjacent property.

LOW PITCH, GUARANTEED PERFORMANCE

Cambrian was developed to overcome some very specific problems that natural slate products cannot. The interlocking design and unique three point fixing allows application to the lowest angle of roof pitch and is guaranteed to perform on roofs as low as 15°.

Extensive wind tunnel and durability testing during development also provides numerous security features such as protected nail holes, allowing use on even the most exposed sites. In addition, Redland's dry-fix accessories range provides further security, and the added benefit of a 15 Year Guarantee applicable to the complete roof system.

A fine example was completed at Ystradgynlais Community Hospital in Powys, where 6,500 square metres of Cambrian Slate Grey was used to re-roof the whole of the complex. Natural Welsh slate was dismissed as it couldn't be guaranteed to perform at the hospital roof's lowest 17.5° angle of pitch, whereas Cambrian, produced locally at Redland's plant in Rassau, offered both the looks and performance required. Redland's dry-fix Rapid Vented Ridge and Rapid Hip systems were used as part of the specification, reducing the re-roofing time by 20%.

"This was not a straightforward replacement of the roof, the solution requiring widespread changes to the details in design. The Redland guarantee ensures the specification met all Building Regulations and covered our design liability for the roof."

Mike Graham – Peter Barnes & Associates Chartered Architects



Chessington self-build refurbishment highlighting naturally weathered tiles

SIR JOHN WESLEY SCHOOL

Using the most eco friendly A-rated resin slates available



Heather 28

A shining example of roofing for the education marketplace is the new nursery and classroom buildings at a voluntary-aided primary school in Ashford, Kent. Diocesan Architectural Services specified the subtle Heather coloured slates to provide a bold and sympathetic roof. Heather is just one of three colours in the Cambrian range, the others being Langdale Green and Slate Grey, designed to reflect the regional colours associated with indigenous, quarried slate. As with all new education buildings, the decision to use the product was helped by its 'A' rating in the BRE Green Guide to Specification 2008. The signature part of the design is the nursery roof, which has a central turreted feature interfacing traditional design within a modern structure.

To maintain the clean and uncluttered lines of the design, the turret was completed using the bespoke Cambrian Mitred Hip system, just one of the many



fittings and accessories complementing Cambrian and ensuring the overall performance of the roof system isn't compromised in any way.

"Cambrian is well regarded in the industry, not only for its appearance and the way it weathers, but also because it is quick and easy to install. The fixing system provides all the performance we expect from a lightweight slate."

David Clarke – Charles Bates Roofing (Kent) Ltd



Architect: Diocesan Architectural Services Limited
Roofing Contractor: Charles Bates Roofing
Builder: Jenner Contractors Ltd
Product: Cambrian Heather





CATTERICK GARRISON

Re-roofing against the elements

Catterick Garrison has served the armed forces for nearly one hundred years and much of its housing stock was built in the inter and post war period. As part of its long term refurbishment programme, MODern Housing Solutions, a consortium of Carillion plc and Enterprise plc contracted by Defence Estates Operations Housing (DE), chose Cambrian slates to re-roof 120 dwellings within the town. MHS are committed to ensuring a better service through improved quality of workmanship and execution, along with an eye on the importance of good quality housing.

The interlocking Cambrian Slates combine the authentic natural appearance of a traditional slate roof with guaranteed performance that comes from precision manufacturing techniques. They replaced the original fibre-cement slates, upgrading the roofs in the process by offering a combination of dressed edges, random riven surfaces and a thin leading edge. Cambrian's light weight was a major factor in the specification, meaning no modifications were required to the existing roof structure.

Cambrian, and Redland's associated roof system, was therefore specified to enhance the roof aesthetics but also to ensure potential maintenance issues were reduced, and form part of an improvement to living conditions generally. The dry-fix specification gives the ageing housing stock a new lease of life and is covered by the Redland 15 year Roof System Guarantee. The solution incorporates the Rapid Range, which provides maintenance free weather-tight high-level ventilation, alongside a breathing roof system using Spirtech 250 vapour permeable membrane, rather than conventional underlay.

The finished site bears testament to Cambrian delivering a traditional roof upgraded to meet all of the latest building regulations and extends the useful life of well built housing stock.

Client: Ministry of Defence (Defence Estates Operations Housing)
Management: MODern Housing Solutions
Roofing Supplier: SIG Middlesborough
Roofing Contractor: Jennings Roofing Ltd, Leeds

"The roofing has helped to inject a new lease of life into our forces' family homes."

Robert Corrigan – Project Manager, MODern Housing Solutions









Slate Grey 30

SALFORD REGENERATION

Award winning Pathfinder Scheme



Slate Grey 30

Affordable housing in inner city areas has been one of the main drivers for new public and private projects over the past few years. Many areas have experienced severe population loss, housing market decline and failure, contributing to deprivation, poor quality housing and low levels of owner occupation. As part of the wider Manchester Salford Pathfinder, and receiving funding from the Housing Market Renewal Programme, one of the largest schemes to help reverse this trend is the Higher Broughton/Broughton Green regeneration scheme completed over a period of seven years in 2009.

The phased project, covering over 30 acres, includes around 700 units of mixed style affordable housing, using innovative construction methods, high quality materials and architecturally led design by Church Lukas Limited. This is exemplified by the widespread use of Redland's Cambrian slates, with dry-fix solutions for verge and ridge junctions, including the Redland Ambi-Dry Verge System and Universal Angle Ridge Tiles on a DryVent Ridge along with visually discreet Cambrian ThruVent tiles. The high performance specification meets all of the latest Building Regulations and British Standards and the whole roof is backed by the Redland 15 Year Roof System Guarantee.

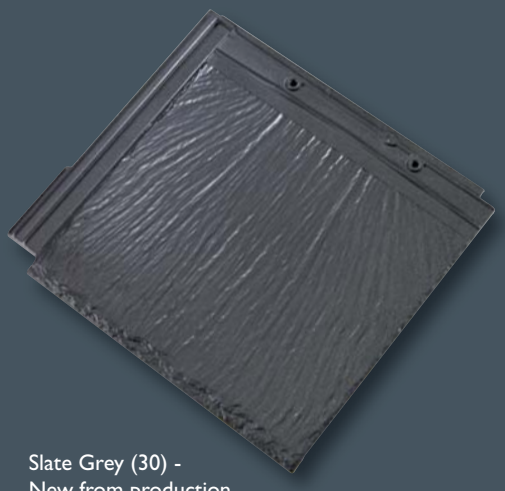
The overall quality ensured that elements of the scheme picked up the prestigious Manchester Evening News Residential Property Awards and led to acclaimed designer Kevin McCloud describing the scheme as the "best of the best".





Developer: Higher Broughton Partnership LP (Salford City Council, Royal Bank of Scotland, Inpartnership, City Spirit, Taylor Woodrow)
Architect: Church Lukas Limited
Main contractor: Taylor Woodrow
Roofing Contractor: Cobsen Davies Roofing Ltd





Slate Grey (30) -
New from production

TECHNICAL DATA

Size (overall)	300 x 336mm
Minimum Pitch and Headlap	
at 75mm headlap	15°
at 50mm 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 +44(0)8708 702595)	
Maximum Pitch	90°
(subject to fire resistance requirements above 69°)	
Maximum Headlap	90mm
Minimum Gauge	210mm
Maximum Gauge	
below 25°	225mm
25° and over	250mm
Linear Cover	300mm
Covering Capacity	
at max gauge	13.3 slates/m^2
Weight * (approx.)	
per 1,000 slates	1.24 tonnes
at max gauge	17kg/m^2
Battens Required	
at max gauge	4.0m/m^2
Batten Size	
Rafter centres up to 450mm	38 x 25mm
Rafter centres up to 600mm	50 x 25mm
Nail Size #	30 x 2.65mm
Number of Slates/Pallet	600

* All weights nominal
\# Annular ring-shanked nail

PERFORMANCE

COLOUR RANGE

Cambrian is available in three colour options, Slate Grey (30), Langdale Green (29) and Heather (28) giving the three most popular and common slate colour options in the UK. Pre-weathered during manufacture, a slight lightening occurs with use, bringing an appearance even closer to its natural slate counterpart. Always request a tile sample for an exact colour reference.

Email: sales.redland@monier.com
Telephone our Customer Service Hotline: 08705 601000



Slate Grey (30)



Langdale Green (29)



Heather (28)

FIXING

For lasting security against wind uplift, all Cambrian slates should be twice nailed and clipped with our specially designed stainless steel ring-shanked nails plus slate, eaves and verge clips. All are supplied in packs containing the correct type and number of nails.

FITTINGS

Cambrian Slates are complemented by matching left-hand verge slates, slate-and-a-halves and double slates. See accessories for the range of systems to complement Cambrian roof slates.

COMPOSITION

A minimum of 60% of Cambrian slate manufacture is from quarried Welsh slate spoil heap waste, with a further 20% of the content from ISO 14001 Certified manufacturers. The crushed slate is mixed with stone, resin and glass fibre reinforcement and pressed to form a strong durable slate.

SUSTAINABILITY

Redland Cambrian Slates are the most eco-friendly resin slates available. The 2008 Green Guide to Specification awards generic resin slates an "A" rating when part of standard roof constructions.

THIRD PARTY ACCREDITATION

Cambrian Slates have a life expectancy of at least 60 years and have been awarded BBA certification No 87/1907

REDLAND ROOFING SYSTEM GUARANTEE

Cambrian Slates, fittings and accessories are designed and tested to work together. This guarantees that every Redland product is weathertight, and all junctions are similarly guaranteed. If any element fails during its first 15 years, we will replace it and pay for the associated labour and material costs.

Redland
15 YEAR ROOF SYSTEM GUARANTEE

ACCESSORIES

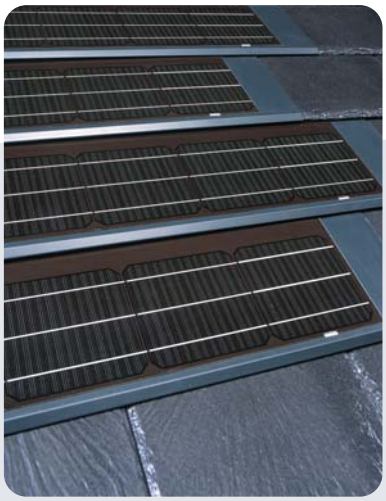
To ensure optimum performance of a Cambrian roof, Redland has developed a comprehensive range of attractive, cost-effective and maintenance-free solutions. For the full range, please refer to the Redland Guide to Roofing Systems or visit www.redland.co.uk/accessories

REDLAND SOLAR PV

Harnessing solar energy is one of the most attractive and sustainable means of generating zero carbon, renewable energy for use in buildings. A pitched roof is the ideal surface for solar energy, collection for heat and electricity generation.

Redland Solar PV, our second generation of PV roof tiles, encompasses five new roof tile-specific PV systems – each developed to match one of our five most popular tile ranges – used by house builders, including a system specifically for Cambrian Slate.

Designed for performance, ease of installation and good looks, Redland Solar PV offers significant benefits in all three areas over "above the roof" panel systems, where poor installation can compromise the roof structure.



With a 25 year Power Output Guarantee, Redland Solar PV is MCS certified and eligible for use on Feed-in-Tariff Schemes. It has also been extensively tested for wind-uplift and fire resistance and is covered by Redland's 15 year Roof Guarantee which assures the durability and weathertightness of the whole roof.

DRY-FIX & VENTILATION

Dry-Fix systems eliminate the need for mortar bedding at key junctions on the roof and have a number of significant advantages:

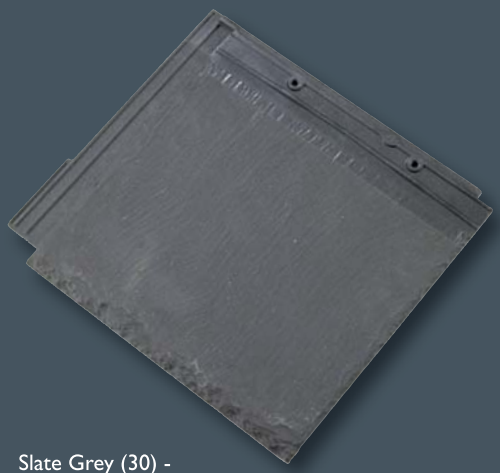
1. Secures the roof in severe weather conditions.
2. Eliminates mortar failure due to poor workmanship.
3. Quick and easy to fix, maintenance-free.
4. Can be laid even when bad weather is expected.
5. Ventilation can be incorporated at the ridge.
6. Complies with BS 5534 for mechanical fixing and BS 5250 for ventilation.

Good roof design does not just mean choosing the right slate. The protection of the supporting structure from the harmful effects of condensation is equally important. The proven method for preventing condensation is through the use of effective roof ventilation to comply with



BS 5250. Redland's range of Breathing Roof Solutions, using vapour permeable underlay with the reliability and security of a dry-fix ventilated ridge provides specifiers with simple, robust and guaranteed BS 5250-compliant specifications, designed to meet changes in building standards.

For full details of our dry-fix and ventilation solutions, visit www.redland.co.uk/accessories



Slate Grey (30) - approximately 18 months natural weathering

REDLAND TECHNICAL SOLUTIONS

SPECMASTER

A complete guaranteed roof specification service designed for your peace of mind. Features include tailored specification clauses in NBS-based format, fully compliant with all British standards, and a 15 year design liability for all new build or re-roofing projects designed in accordance with SpecMaster. To obtain a SpecMaster go to www.redland.co.uk/specmaster

CAD DESIGNMASTER

A comprehensive CAD library of over 5,000 quality roofing drawings, all available in DWG and DXF format with a complementary NBS based specification clause. Available for download at www.redland.co.uk/designmaster

QUANTMASTER

A roof materials quantity estimating service including tiling battens and leadwork to eliminate over-ordering and under-ordering. Available by sending drawings to Redland Technical Solutions

FIXMASTER

Redland's fixing specification service removes the potential for roof failure by offering a choice of either a fixing specification tailored to a specific roof design and location, or a generic version. Complete an online datasheet at www.redland.co.uk/fixmaster

ECOMASTER

A complete guaranteed specification service for projects involving Redland Renewable Energy Systems including calculations of estimated energy benefits and approved installer networks. Go to www.redland.co.uk/ecomaster

VIEWMASTER

ViewMaster is a quick and easy way to show how Cambrian looks when laid on a roof. To access ViewMaster visit: www.redland.co.uk/viewmaster

NEW WORKMANSHIP WARRANTY

Independently insured cover for the workmanship element of your SpecMaster project.

FURTHER INFORMATION

Redland

WEBSITES
Further information on Cambrian Slates and the full range of Redland products can be found on our website.

www.redland.co.uk

CUSTOMER SERVICE HOTLINE
For all sales enquiries/orders call, fax or email the Redland Customer Service Hotline*

Tel: 08705 601000
Fax: 08705 642742
Email: sales.redland@monier.com

*Please be aware that calls to the customer service hotline may be recorded for training purposes

TECHNICAL SOLUTIONS HOTLINE
For technical enquiries and all information relating to DesignMaster, QuantMaster, FixMaster, SpecMaster, EcoMaster, ViewMaster and the Workmanship Warranty please contact:

Redland Technical Solutions,
Monier Ltd,
Broadway Lane,
South Cerney, Cirencester
Gloucestershire GL7 5UH
Tel: 08708 702595
Fax: 08708 702596
Email: technical.redland@monier.com

Further printed technical information on Cambrian Slates can be found in the following guides
Redland Guide to Roofing Systems

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