

Del Carmen Slate



SSQ - First choice producers and suppliers of natural slate for roofing, flooring and architectural applications.

SSQ was first established in 1983 as a pioneer importer of Spanish slate to the UK. All SSQ products are taken from long established quarries of proven pedigree using the very latest extraction techniques. Del Carmen is no exception.

The Del Carmen quarry is one of the largest in Spain. It lies in the Leon region, an area featuring geomorphic conditions favourable to the formation of uninterrupted seams of high-quality slate. SSQ's partnership with the owners of the Del Carmen quarry has enabled slate production of an exceptionally high-quality for over a decade.

At source, quality control is exercised on every batch to ensure the

dimensions and composition correctly match product specification. To be doubly sure of the quality, independent, random spot checks are carried out during any given stage of the shipping process.

The Del Carmen product is a traditional riven slate with a distinctive texture, noted for the rare characteristic of a longitudinal grain. Its blue-black hue is totally natural and will not fade even in the harshest sunlight. As well as meeting the BS 680 part 2, Del Carmen Ultra has been tested to the American standard ASTM C406, S1 and is rated class A by the ultimate standard, the French P32/302. It carries a written guarantee of 75 years.



"SSQ Del Carmen provided the high standard of slate – in terms of quality and aesthetics – that was required, at a competitive price."

Community Conservation

Del Carmen natural slates from SSQ have been widely specified for a new housing estate at Stoke-sub-Hamden in Somerset. The housing has been designed to conform to the Prince of Wales's belief that developments of this nature should be sensitive to the local vernacular building styles and the needs of indigenous communities.

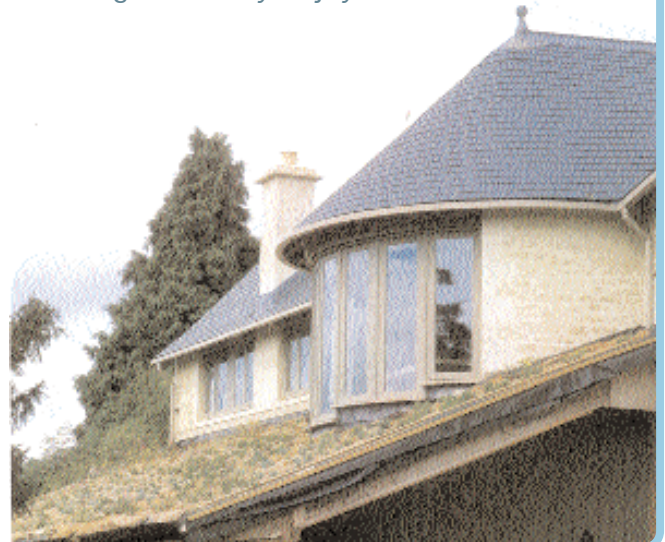
The selection of Del Carmen emphasises their ability to provide quality, tradition and value for money within an environmentally sensitive, village location. Richard Robinson, Managing Surveyor of the developers, Countryside Homes, states: "SSQ Del Carmen provided the high standard of slate – in terms of quality and aesthetics – that was required, at a competitive price."

Hands on Innovation

A fascinating selfbuild in Gloucestershire cleverly combines advanced modern ideas with a traditional look. Despite huge expanses of glass and a section of roof with grass on, the use of Cotswold stone and SSQ Del Carmen give the house a traditional feel which allows it to sit sympathetically right in the heart of a Cotswold village.

Architect David Austin was keen to use Del Carmen because it was a natural product and it was the best material to fit the curve of a pair of rounded towers included in the design. "It's something of a standard technique in Brittany but for us it's real virtuoso slating. Alain Richard from SSQ actually got up on the roof himself and showed us what to do. A real challenge but very enjoyable."

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Georgian re-creation

The splendid Cavendish Lodge is situated in the heart of Georgian Bath's conservation area. Much of its architecture and layout dates from the 18th Century. It took ten years to gain planning permission for the new development which consists of a group of buildings designed to appear as a single classical mansion with its necessary outbuildings.

Cavendish Lodge was built by Beaufort Homes who worked closely with SSQ to ensure that the slate used was in keeping with the classical Palladian architecture of the buildings. "SSQ Del Carmen provided the perfect compliment to the Bath and Cotswold Rubble stone. The building will stand the test of time and will itself become a landmark in this World Heritage city." Beaufort Homes.

Sensitivity and Support

Del Carmen natural slates from SSQ have been specified for the roofs of a sensitive housing development at Steamer Quay Wharf in Totnes, Devon. The durability and aesthetics of the slate, as well as the support and expertise of SSQ, were the main factors in the selection.

A wide range of slates were considered by the designers, R&S Howes Partnership, who specified Del Carmen for a number of key reasons. "Del Carmen slates come with a lifetime guarantee of 75 years, which was important," states Stuart Howes, Project Architect. "Not only that, but the on-site services promised – and delivered – by SSQ enabled a smooth and easy work flow."

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Winning Combination

Over half a million Ultra Del Carmen Slates were supplied to Octagon Developments Ltd. for the massive redevelopment project at Virginia Park, Virginia Water – winner of the special NHBC Housing Management Award. The scheme surrounds Crossland House, considered by many to be one of the architectural masterpieces of the Victorian era. Graham Clark, Chief Buyer for Octagon Developments commented, "We were very impressed with the

distribution, availability and quality of SSQ's Ultra Del Carmen Slates. They're ideally suited to this development and helped to win us the NHBC award."

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Seamless Integration

SSQ's Del Carmen was specified on the recently completed extension of the Cassal Hospital in Richmond, Surrey. The main hospital building is centuries old and Grade II listed. It stands within an English Heritage conservation area. The specification of the roofing material was subject to stringent requirements. Lincoln Barker, of Daryl Jackson Ltd., the architects for the project, explains further: "The new wing adjoins the original brick-built, slated building, so we had to get as close a match as possible to meet the approval of both the local planners and English Heritage." Del Carmen was the perfect match. "We found SSQ Del Carmen slates to be a good, natural product, and excellent value for money; the planners agreed!"



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Inspired choice

A fortuitous sighting of SSQ Del Carmen on another developer’s site led Clancy Developments to place a major order to roof its new project, Misbourne House, near Chalfont St Giles, Bucks. "I was driving past and I saw some lovely blue-black slate going on the roofs", says Clancy’s Building Manager, Keith Wills. "I stopped and had a look at one of the pallets, it was marked 'SSQ Del Carmen'. It was just what I’d been looking for. Ours is a very attractive development and we needed something equally attractive for the roofing material. SSQ Del Carmen is top quality. What’s more it is very good value. I’d have no hesitation in choosing it again."



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Refurbishing Old and New

Cambridgeshire County Council has refurbished and extended Parkside Community College. Parkside occupies two very different sites; one built in the Edwardian era, and the other comprising post-war prefabricated buildings. A major development was proposed resulting in the Edwardian site being fully refurbished with some extensions and new buildings – existing prefabricated buildings were replaced with brand new buildings. With both sites being highly visible, and the Edwardian site period sensitive, the choice of slate was crucial. Del Carmen Ultra was specified as it suits both modern and traditional applications. Project architect, Bob Bowman of Saunders Boston commented, "We have used SSQ Del Carmen on a number of projects over the past seven years. We have found them to quite satisfactory and would specify them again. The technical support service and advice provided by the SSQ team is excellent."

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Testing to International Standards

The stringency of quality standards varies from country to country. In the case of imported slates, experience in the UK has shown that the BS 680 may not always provide a guarantee against poor quality. A product classified as both French Class A and American Grade S1 provides the best assurance of a problem free roof throughout the lifetime of a building.

Guide Pricing

	Material Cost m ² roof	Typical Installed Cost m ² roof <small>(incl. labour, battens, felt etc.)</small>
Fibre Cement	£13.50	£24.00
Interlocking Resin	£19.50	£28.50
Welsh	£32.00	£45.00
Cumbrian	£40.00	£62.00
SSQ Del Carmen	£20.00	£33.00
SSQ Riverstone	£23.00	£36.00

Del Carmen slate is regularly tested in accordance with the BS 680: Part 2: 1971 by a NAMAS accredited testing house. As the Del Carmen slate is exported by SSQ all over the world, including the USA and Europe, it is also tested for compliance with a number of other international standards.

In addition to the British standard, Del Carmen is tested to the American ASTM C406, C121, C217, C120, the German DIN 52201-52206, the Belgian STS 34 and the French P32/302, the latter considered to be the most comprehensive and demanding of all standards for testing natural roofing slate. Del Carmen conforms to the highest criteria of the French standard and is certified Class A. It is also awarded the highest grade by the American C406 - Grade S1, which indicates that the slate will have a life expectancy in excess of 75 years.

A testament to the consistent high quality of Del Carmen slate, is its acceptance by English Heritage and Historic Scotland for the refurbishment of listed buildings. It is also approved by Snowdonia National Park as an alternative to the indigenous slate.

Test certificates for all the mentioned standards as well as an independent geological report on the Del Carmen slate, are available on request.

Modern Extraction Methods

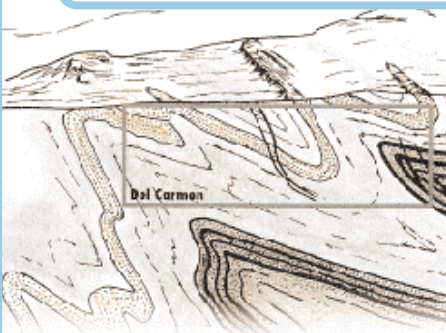
SSQ partnership quarries use the modern, environmentally friendly diamond saw method of extraction. The tool cuts large, measured blocks using a thin diamond coated cable.

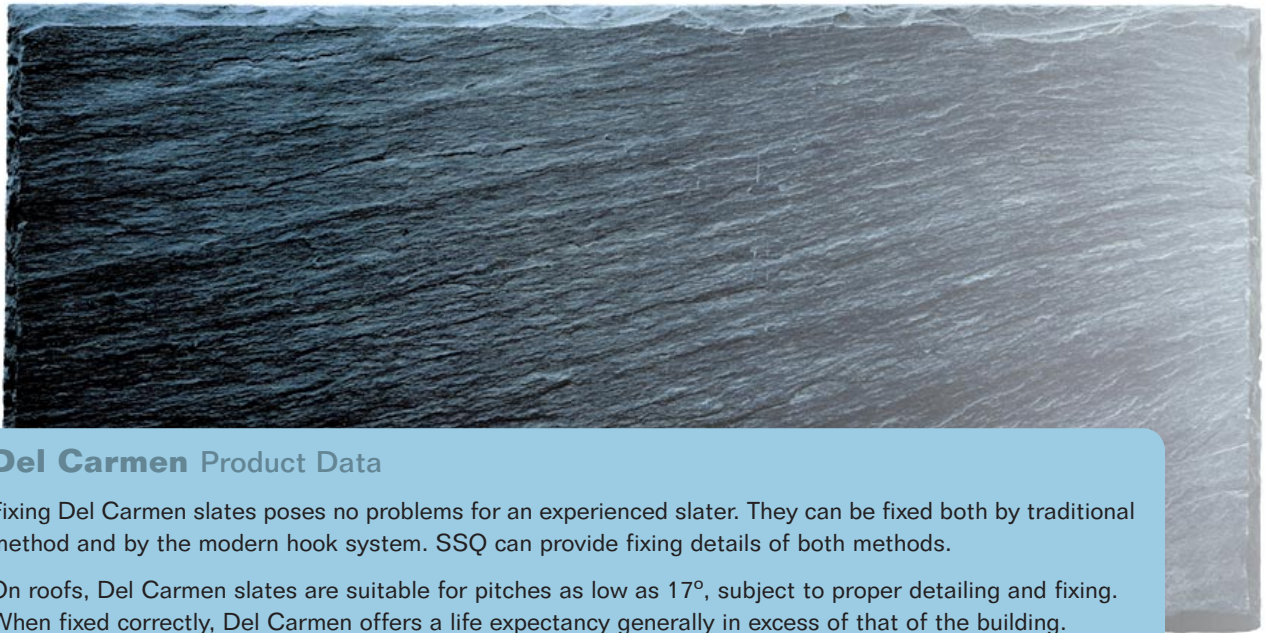
Unrivalled Quality Control

All SSQ's products undergo strict quality control. Each pallet leaving the quarry is subject to inspection. Accepted pallets are issued with a quality control certificate. This remains with the pallet right through to its final destination, to be seen along the way by the company, the distributor and the customer. To be doubly sure of the quality, independent, random spot checks are carried out to ensure the dimensions and composition of any given product properly match its specification.

"The Del Carmen Quarry – Whilst quantity is an important factor, our constant aim is to produce the highest quality slate in Spain."

**Alberto Bayo,
Del Carmen Quarry**





Del Carmen Product Data

Fixing Del Carmen slates poses no problems for an experienced slater. They can be fixed both by traditional method and by the modern hook system. SSQ can provide fixing details of both methods.

On roofs, Del Carmen slates are suitable for pitches as low as 17°, subject to proper detailing and fixing. When fixed correctly, Del Carmen offers a life expectancy generally in excess of that of the building.

Nail Fixing. Minimum Recommended laps in mm for different exposures and roof pitches



Moderate exposure (driving rain index between 3 and 7m²/s)

Roof pitch

Slate size (mm)	85°	45°	40°	35°	30°	25°	22½°	20°
600x300	50	65	75	75	75	95	105	115
500x250	50	65	65	75	75	95	105	115
450x300	50	65	65	75	75	95	105	115
400x250	50	65	65	75	75	100	115	125
400x200	50	65	65	75	75	100	–	–
350x200	50	65	65	75	75	95	–	–
300x200	50	65	65	75	75	–	–	–

Severe exposure (driving rain index greater than 7m²/s)

Roof pitch

Slate size (mm)	85°	45°	40°	35°	30°	25°	22½°	20°
600x300	65	75	75	85	95	105	125	135
500x250	65	65	75	85	95	105	125	–
450x300	65	65	75	85	95	105	125	–
400x250	65	65	75	90	100	105	–	–
400x200	65	65	75	100	100	100	–	–
350x200	65	65	75	90	95	100	–	–
300x200	65	65	75	75	75	–	–	–

Hook Fixing. Minimum Recommended laps in mm for different exposures and roof pitches



Moderate exposure (driving rain index between 3 and 7m²/s)

Roof pitch

Length of roof slope (m)	75°	45°	40°	35°	30°	25°	20°
0 – 5.5	65	80	90	96	110	120	135
5.6 – 10.9	70	85	95	105	120	130	145
11.0 – 16.0	75	95	105	110	125	140	155

Severe exposure (driving rain index greater than 7m²/s)

Roof pitch

Length of roof slope (m)	75°	45°	40°	35°	30°	25°	20°
0 – 5.5	70	90	100	105	120	135	150
5.6 – 10.9	75	95	105	110	130	145	–
11.0 – 16.0	80	100	110	120	140	155	–

N.B. As a general rule, the size of the slate cannot be less than twice the lap in width and 3 times the lap in length.

For further technical support, please contact SSQ's technical department.
 Tel: 0208 961 7725 Fax: 0208 965 7013
 Email: info@ssq.co.uk www.ssq.co.uk

Technical Specifications

Testing: Slate from SSQ is tested in accordance with the relevant sections of;
 BS 680: Part 2:1971;
 German Standard DIN 52201- 52206;
 French Standard P32/302(1989);
 Belgian Standard STS 34; and
 American Standard ASTM C406, C121, C217, C120.

Test certificates are available from SSQ on request.

Testing for the BS 680 is carried out by a NAMAS accredited testing house. Testing for the P32/302 is carried out by Laboratoire National d'Essais.

Fire: The slate is completely non-combustable.

Optical: The colour of Del Carmen slate is totally natural and devoid of artificial pigments. It does not fade in sunlight.

Climate: Del Carmen slate is non-porous and its very low coefficient of expansion means that it is unaffected by changes in temperature.

Compatibility: Del Carmen slate is compatible with virtually all building products.

Chemical and Biological: The slate is almost totally inert with no adverse reaction in polluted environments (e.g. acid rain). Its high purity means it does not rust or crack. The slate is unaffected by insect attack.

Coverage

Number of Del Carmen slates required to cover 1m²
 Overlap (mm)

Slate size (mm)	75	100	115	125	150
600x300	12.7	13.3	13.7	14	14.8
500x250	18.8	20.0	20.8	21.2	22.9
450x250	21.3	22.9	23.9	24.3	
400x250	24.6	26.6	28.1	28.8	
400x200	30.8	33.3	35.1		
350x200	36.4	40.0			
300x200	44.4	50.0			

Size & Weight: Del Carmen Slate

England, Wales and Northern Ireland

Thickness (mm)	Size (cm)	Weight per 1000 (kg)
5 – 6	60 x 30	2995
5 – 6	50 x 25	1675
5 – 6	45 x 30	1740
5 – 6	45 x 25	1635
5 – 6	40 x 25	1235
5 – 6	40 x 20	1255
5 – 6	35 x 25	1010
5 – 6	30 x 20	675

Technical Specification

	SSQ Del Carmen	BS 680	French Norm P32/302
Water Absorption	0.30%	≤ 0.30%	≤ 0.40%
Density (g/cm ³)	2.81	No requirement	≥ 2.75
Calcium Carbonate	0.3%	No requirement	≤ 3%
Thickness (mm)	Graded 5 to 6mm or 7 to 9mm	Graded	>2.6
Resistance to Flexion	Dry	No requirement	≥ 70 mpa
	Wet	No requirement	≥ 40 mpa
Frost Test/Loss of Mass	0.2%	No requirement	≤ 0.3%
Pyrites	Leaching	No requirement	Not permitted
	Non Leaching	No requirement	Permitted if not through
Acid Test	Pass	Required	Required
Wet and Dry Test	Pass	Required	Required
Grain	Longitudinal	Longitudinal	No requirement

Del Carmen slates tested by Laboratoire National d'Essais – Paris for NF P32.302 and TAPRA Technology Ltd – Shrewsbury for BS 680