

NATURAL SLATE SSQ
RIVERSTONE VERTICAL
SLATNG TRENDEAL VEAN
FARM LADOCK.



REPORT DETAIL

An Introduction to the Riverstone Phyllite rock and the properties that make it unique for natural slate projects in Cornwall.

Natural Slate Performance and specification criteria.

Riverstone NBS project design service.

Random Width diminishing course fixing method.

SSQ RIVERSTONE

SSQ RIVERSTONE NATURAL SPECIFICATION

SSQ have been asked to prepare a Slate Specification Proposal document for The Duchy of Cornwall to provide a roofing solution for weathering the Vertical walls and gables of Tremdeal Vean Farm House, that will be acceptable to the Council Historic and Conservation Officers to provide a turnkey roofing Solution using Riverstone 1st 500 x 250 slate roofing, providing a 75-year guarantee. The objective of using this method of slating is to protect the fabric of historically important buildings where traditional slating using Delabole slate is financially restricted.



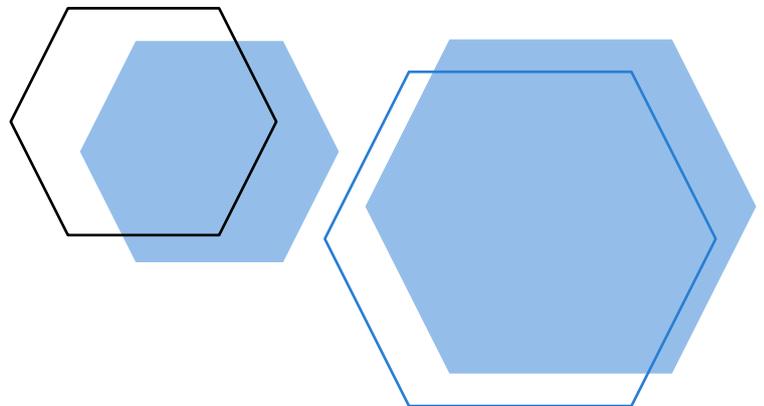
SSQ RIVERSTONE QUARRY

THE ORIGINS OF THE RIVERSTONE QUARRY.

Trendeal Vean Farm listed reference is 1141125 and was listed in 17-Oct-1984. The Farmhouse. Early C19. Shale rubble with granite quoins and dressings, with Delabole slate roof and brick gable chimneys. Symmetrical 2 rooms wide and deep without shut to back on left. The House is two story, 3 windows, central door with open granite ashlar porch with cavetto molded copings to low pitched gable. A 6-panelled door has flush beaded bottom panels with a plain fanlight over Granite plinth. All openings slightly arched with granite voussoirs and projecting keystones. All windows are 12-paned sashes without horns with central rear stair window at half floor level Interior not inspected at the time of its listing

It is anticipated that any re-roofing would have to gain full planning approval using a slate that at least replicates the performance of the original Delabole slate roofs.

Riverstone is phyllite stone. Phyllite marks a culmination: It is what happens when the geological forces that form slate are permitted to continue. With each step- from sediment to shale, from shale to slate and from slate to phyllite - the stone becomes harder, denser and stronger. Phyllite is rare - there are just a handful of quarries worldwide. Of these, only a few produce stone with the cleavage characteristics needed to make roofing slate. The Delabole and Trevillet indigenous slate are both Phyllite. SSQ own and operate the San Luis quarry in La Repressa, deep in central Argentina, between the Pampas and the high Andes. Quarried for centuries, its enormous reserves date back 640 million years to the pre-Cambrian era. Riverstone phyllite offers superior performance for the most demanding Roofing slate applications and is unique as it is geologically identical to the indigenous slates of both the Delabole and Trevillet slate Quarries.





TRUSTED SOURCE

[LISTED BUILDING AND CONSERVATION PROJECTS](#) [CONSERVATION AREA AND WORLD HERITAGE SITES](#)

Riverstone is one of the few slates that have been accepted in the past as a suitable alternative to indigenous slates on buildings of historical significance across the county. An example of this can be found on projects like the Driftwood Public House St Agnes Cornwall, where Riverstone was chosen to replace a 300-year roof supplied from local Random Width diminishing Course Cornish slate. Riverstone slate has also been chosen for the protection of iconic projects like the Kresson Kernow Cornish Records office where there was a minimum design life cycle of 100 years in a severe coastal environment. Riverstone has also been accepted for use in conservation areas to help preserve the character of these parts of the country and has been installed in World Heritage sites to protect the integrity and character of Building for generations.



RIVERSTONE PERFORMANCE

ACD DOCUMENT INCLUDED

Riverstone unique phyletic structure and composition produce a slate that is highly resistant to the physical and chemical processes that age building stone of any type. Riverstone slate is characterized by:

Low Water Absorption

Riverstone Slate has been established as the only realistic alternative to the Cornish Indigenous slate of the Delabole and Trevillet Mill Hill Slate quarries, not only because of its striking similarity in terms of Color, Mica Content and age (Precambrian Phyllite rock) but also for its low water absorption levels that surpass those of both the Delabole and Mill Hill Quarry. Riverstone slate Water absorption rate is far lower at .1% compared to Delabole and Trevillet of .3%.

The life cycle expectancy of Riverstone extends to between 75 -100 years depending on the selection.

Table 1.1 Riverstone Mineral content and Water Absorption compared to Indigenous UK slate types

Geology Performance Slates										
Slate	RU	Montana	Guresa	DCU	Welsh	Glendyne	Trevillet	Delebole	Burl Grey	Burl Green
CMOR T	21	Same	Same	46	41.9	54	20.47	Ave 37N	41	2
CMOR L	44			66	56.3	52	52.39	Ave 37N	42	3
MEAN T	32			54						
MEAN L	54			82						
MEAN T				591			900		1400	150
MEAN L				1043			1377		1600	195
CARBON	1.40%			0.39	2.25	1.8	0.05	Nil	8.5	17.
NON CARBON	0.00%			0.48	0.8	1.3	0.01		0.2	0.
WATER	0.1			0.24	0.12	0.3	0.35	0.3	0.26	0.
Thickness						4-5mm			7-9mm	12-15mm
Guarantee	100Yr	100Yr	100Yr	100yr		75Yr				
ASTM	RU	Montana	Guresa	DCU						
Flexure S1				807						
Water S1	0.11			0.17						
Weath/R S1	0.01			0.00008						

FAR OUT PERFORMING TEST REQUIREMENTS.

Riverstone slate’s exceptional weather resistance makes it nearly impervious to atmospheric pollutants.

Virtual absence of deleterious minerals such as pyrite and calcite (achieves T1 classification) and surpasses all Spanish and non-indigenous imported slates.

Riverstone’s virtual absence of deleterious minerals prevents fading and weakening caused by oxidation and mineral conversion. The low calcium carbonate content prevents the calcification of the slate which has been prevalent amongst the lower cost light-colored Spanish slates and Brazilian slates which are prolific in the Cornwall region. The service life cycle of these slate is lower than 30 years, with developer only requesting the absolute minimum performance standards to achieve an accredited NHBC or LABC insurance standard.

COMPARISON OF WATER ABSORPTIONS

Roofing Slate	Water absorption (typically)		BRAZILIAN SHALE	RIVERSTONE PHYLLITE
Phyllite	0.1-0.2%	00:00 minutes		
Slate	0.25-0.5%	15:00 minutes		
Shale	0.5-1%	30:00 minutes		
Standard	Water absorption threshold	45:00 minutes		
Old BS 680	≤ 0.3%			
EN 12326	≤ 0.6%			
NF 228	≤ 0.4%			



FURTHER ANALYSIS OF WATER ABSORPTION

The table detailed above demonstrates a further comparison between the water absorption between Brazilian slates and Riverstone Phyllite slate. No Brazilian shale slate meets the requirements of the British Standard. All roof slate development has to reach the minimum requirements of BSEN12326 of .6% water absorption. This criterion allows slate to be installed with a service life cycle of 30 years or less. The minimum service life cycle for Riverstone Random slate is 100 years design life and so most slate that are, BSEN12326 would be non – compliant. We consider that the minimum standard for mid – range and top range slate should be formed from Phyllite roofing slate or similarly approved.

WHAT CAN HAPPEN

Severe rusting – from reactive pyrite



THE COSEQUENCES OF UNCONTROLLED ROOFING SLATE SPECIFIATIONS

The slate installation above demonstrates the consequences of installing Spanish slates with high levels of reactive pyrite and high-water absorption slate in a sever exposure coastal Environment.

WHAT CAN HAPPEN

High water absorption levels – moss growth

Moss is also likely to flourish in wet environments



The photo above demonstrates the calcifications failure of light-colored high-water absorption slates in Falmouth Cornwall sourced from the Lugo region of Spain. In this specific example the water absorption rates exceeded .4% where a Spanish slate has been installed with excessive calcium carbonate content. The high levels of salt water exposure and the absorption of that water into the calcium carbonate content of the slate will ultimately lead to the failure of the installation before the minimum life expectancy of the slate in this case the Spanish slate was guaranteed 30 – 40 years.

PRODUCER DETAILS AND GUARANTEE.

NHBC AND LABC

As part of any slate specification, sufficient details are required to identify the source quarry of the slates installed on sites.

In most all cases a developer only receives the Supplier and a rough Location where the Quarry is. Most slates entering the UK market place are re branded and the details of the original source quarry are removed either for commercial reasons or to hide the potential less favorable test results by working with the quarry direct the origins of a low water absorption slate are always known to the investor and the guarantee is always held by the capital investor developer for the entire housing stock. Minimum performance criteria should be set at a **sub .4% or NF228** slate specification to ensure that at least the performance criteria of **Cornish indigenous slate are met, in reality a sub .3% water absorption level. Where Riverstone Ultra slating is proposed the water absorption for Historic Buildings should be .1%, to preserve the fabric and historic features including the origin roof structure for a further 100 years and beyond.**

The document below shows the Ultra Cover specification document for Riverstone slate. SSQ will guarantee slate for a 100year period and provide a system insurance backed guarantee of 10 years if required.



Digital image of Riverstone slate compared to reclaimed Delabole Slate.

CONDITION REPORT

E4189

Trendeal Veian Gable and Walls Farm Ladock Truro Cornwall

Date of survey: 6th September 2021

Prepared By: **Simon Johnson**
Regional Specification Manager

Prepared For: **Alex Manning**
Duchy Surveyors.

Elements Identified: 5 Elements





Ref: E4189

Project: Trenderal Veian Farmhouse, Ladock, Cornwall, TR2 4NW

Date: 3rd December 2021.

'The best way to obtain good quality slates is to specify an SSQ product that has evidence of durability in the prevailing climatic and environmental conditions.'

H62 NATURAL SLATING

To be read with Preliminaries/ General Conditions.
 BS 5534: 2014+A2:2018 Code of Practice for Slating and Tiling.
 BS 8000: part 6: 2013 Code of Practice for Workmanship, Slating & Tiling.
 SSQ, Technical Fixing Guide.
 NHBC Chapter 7.2 Pitched roofs 2012.

TYPES OF SLATING

105 ROOF SLATING

- Substrate: To Architects Details
- Pitch: 90 degree
- **Underlay:**
- Recycled content: None.
- Direction: Parallel to eaves.
- Underlay Head-lap (minimum): 150mm
- **Battens:**
- Size: 50x25mm
- Fixing: 65x3.35mm ring shank galvanised nails. Paslode type air-guns, 63x31mm minimum galvanised nails.
- **Slates:**
- Supplier: SSQ Ltd, 301 Elveden Road, Park Royal, London, NW10 7SS.
- Contact: Simon Johnson simon@ssq.co.uk 07443804537
- Product reference: Riverstone
- Type: 1st Grade
- Size: 500x250mm
- Head-lap 90mm (minimum):
- Fixing: Two nails each slate. 35x3.35mm X 10MM dia, head copper nails.

SLATING GENERALLY

110 SUB CONTRACTORS' INFORMATION

It is the roofing subcontractor's responsibility to check that the background to which he is applying slating is square, plumb and level. If the backgrounds are defective then this should be brought to the attention of the Site Manager and under no circumstances should, felt, battens or slating be applied to defective roof slopes.

205 SUPPLIERS INFORMATION

Check the existing supporting roof structure to be slated is in a suitable state to receive the roof covering. It must be sound and true to its flatness and square. SSQ cannot be held responsible for problems that exist prior to roof slating. Comply with SSQ Natural Roofing Slate Design and Fixing Guide and the following British Standards.

BS 5534:14 code of practice for slating and tiling,

BS 8000:13-part 6 Workmanship, slating and tiling.

Specification and drawings take precedence over SSQ slates data sheets.

210 BASIC WORKMANSHIP

Grading: All slates to be sorted and graded on the ground prior to going on the scaffold, into a minimum of three thicknesses, thin, medium and thick, with the thicker slates at the eaves etc.,

- General: Fix slating and accessories to make the whole sound and weather tight at earliest opportunity.
 - Setting out: To true chalk lines and regular appearance, with neat fit at edges, junctions, and features.
- Vertical Joints: to be no more than 5mm. Do not form tight butt joints.
- Fixings for slating accessories: As recommended by manufacturer.
 - Gutters and pipes: Keep free of debris. Clean out at completion.

240 UNDERLAY

- Handling: Do not tear or puncture.
- Breather Membrane: Dry
- Manufacturer: Permavent (*available via SSQ*)
- Contact: Simon Johnson simon@ssq.co.uk 07443804537
- Laying: Maintain consistent tautness.
- Vertical laps (minimum): 100 mm wide, coinciding with supports and securely fixed.
- Fixing: Galvanized steel, copper, or aluminium 20 x 3 mm extra large clout head nails.
- Eaves: Where exposed, underlay must be BS 8747 Annex B, type 5U, or equivalent UV durable type.
- Penetrations: Use proprietary underlay seals or cut underlay to give a watertight fit around pipes and components.
- Ventilation paths: Do not obstruct.

245 BATTENS/ COUNTERBATTENS - TREATED

- Timber: Sawn softwood
- Supplier; John Brash Ltd., or similar
- Type; PNSY, WPCA, WPCE, or WPNE

- Species: To BS 5534, clause 4.11.1.
 - Permissible characteristics and defects: Not to exceed limits in BS 5534, annex D.
 - Grading: mechanically graded to comply with BS5534 and treated to BS8417:2011 and carry a 60year guarantee and be FSC or PEFC certified.
 - Moisture content at time of fixing and covering (maximum): 22%.
 - Preservative treatment: As section Z12 and Wood Protection Association Commodity Specification C8.
 - Type: Red/Blue
- NB: It is not advisable to use Green Batten (semi graded) as further on site, grading is not always carried out, and could cause problems for the future.
- 265 BATTEN FIXING
- Setting out: Align parallel to ridge in straight horizontal lines to gauge of slates. Align on adjacent areas.
 - Batten length (minimum): Enough to span over three supports.
 - Joints in length: square cut. Butt centrally on supports. Joints must not occur more than once in any group of four battens on one support. All cut ends to be brush treated.
 - Additional battens: Provide where unsupported laps in underlay occur between battens.
 - Fixing: Each batten to each support. Splay fix at joints in length.
 - Top batten to have an additional 25x6mm lath nailed to it to take head bearing of tops slate.
- 270 BATTENS FIXED TO MASONRY
- Setting out: In straight horizontal lines. Align on adjacent areas.
 - Batten length (minimum): 3 m.
 - Fixing centres (maximum): 400 mm.
- 272 TIMBER FOR SLATING SUBSTRATE WORK
- Timber: Sawn softwood, free from wane, pitch pockets, decay and insect attack (ambrosia beetle excepted).
 - Moisture content at time of fixing and covering (maximum): 22%.
 - Preservative treatment: As section Z12 and Wood Protection Association Commodity Specification C8.
 - Type:
- 275 SLATE FIXING
- Setting out: Lay slates with an even overall appearance with slightly open (maximum 5 mm) butt joints. Align tails.
 - Slate thickness: Consistent in any one course. Lay with thicker end as tail.
 - Ends of courses: Use extra wide slates to maintain bond and to ensure that cut slates are as large as possible. Do not use slates less than 150 mm wide.
 - Top course: Head-nail short course to maintain gauge.
 - Fixing: Centre nail each slate twice through countersunk holes 20-25 mm (maximum) from side edges.
 - Nails: SSQ Copper Clout 3.35x35mm.
 - Manufacturer: SSQ
 - Product Reference: CN33535
 - Nail dimensions: Determine in accordance with BS 5534 to suit site exposure, With drawl resistance, and slate supplier's recommendations.
 - Hails: to BS1202-2 copper.
- 280 SLATES - PERFORMANCE SPECIFICATION
- Standards:

- Product specification: To BS EN 12326-1.
- Methods of test: To BS EN 12326-2.
- Slate type: Argentinian Phyllite
- Dimensional tolerances:
- Deviations from declared length, width, edge straightness, rectangularity, and flatness is not to exceed values specified in BS EN 12326-1, clause 5.12.
- Thickness:
- Nominal thickness and individual thickness variation: To BS EN 12326-1, clause, 5.2.
- Strength:
- Characteristic modulus of rupture: (What the minimum requirement is)
Transverse: 25MPa.
Longitudinal: 55MPa.
- Mean MoR:
Transverse: 37MPa.
Longitudinal: 68MPa.
- Water absorption: Code: W1: 0.2%
- Freeze-thaw resistance: Not required.
- Thermal cycle test: Complies: Code: T1.
- Carbonate content: Complies: 0%
- Sulphur dioxide test Code: S1.
- Non-carbonate carbon content: Less than or equal to 2%, Complies: 0.3%
- 75 Year Guarantee,
Guarantee will not fade,
Full Labour Back Guarantee.

290 MORTAR BEDDING/ POINTING

- Mortar: 1:3 cement / sand, with plasticizing admixtures permitted.
- Bond strength providing resistance to uplift: To BS 5534.
Sand: To BS EN1313.
Cement: To BS EN197-1:2011 (Portland cement to class 42.5)
Admixtures: To BS EN 934-3
Pigments: To BS EN12878
- Weather: Do not use in wet or frosty conditions or when imminent.
- Preparation of concrete and clay tile accessories to be bedded: Wet and drain surface water before fixing.
- Appearance: Finish neatly as work proceeds and remove residue.

ROOF SLATING EDGES/ JUNCTIONS/ FEATURE

305 GENERALLY

Ensure that related trades are provided with all relevant information relating to carpentry and other work, etc. Before starting work ensure that previous related work is complete and in accordance with the project documents.

- Form all details using the specified recommended fittings and accessories: do not improvise without prior approval.
- Please be aware that this specification complies with the minimum requirements set out in British Standards to conform to, Building Regulations. For certain projects such as new housing there may be additional non-regulatory technical requirements from third party insurers that have to be satisfied. For example, there is now a requirement for all mortar bedded ridges and hips must be mechanically fixed to comply with the NHBC Technical Standards so as to be eligible for NHBC Buildmark Warranty Cover. It is your responsibility to check.

- Fittings and accessories: As recommended by slate supplier, to match in colour and finish unless specified otherwise. do not improvise.
- Exposed fittings and accessories: To match slate colour and finish.
- Cut slates: Cut only where necessary, to give straight, clean edges.
- Fix edge slates and fittings securely to give neat and true lines. Ensure that all lead flashings are fixed with or immediately after the slating and are neatly dressed down, to the LSA requirements.

445 MORTAR BEDDED VERGES WITH BEDDED UNDERCLOAK

- Underlay: Carry 50 mm onto outer leaf of gable wall and bed on mortar.
- Under cloak: Slates.
- Position: Over underlay, level with underside of slating battens, sloping towards verge.
- Projection beyond face of wall: 38-50 mm.
- Bedding: On mortar identical to that used in gable walling.
- Slating battens: Carry onto under cloak and finish 100 mm from verge edge.
- Verge slates:
- Bedding: Flush with under cloak on 75 mm wide bed of mortar.
- Pointing: Flush profile.
- Fixing: Do not displace or crack mortar.

VERTICAL SLATING EDGES/ JUNCTIONS

905 VERTICAL SLATING

- Substrate: Natural Stone
- Pitch: 90 degrees
- Underlay: Permavent Dry
- Recycled content: None.
- Direction: Parallel to eaves.
- Underlay Head-lap (minimum): 150mm
- Battens:
- Size: 50x25mm
- Fixing: 65x3.35mm ring shank galvanised nails.
- Fixing: 63x3.1mm, (minimum) ring shank galvanised nails for all Air guns.
- Slates: Riverstone 500 X 250 1st Grade Slate.
- Supplier: SSQ Ltd, 301 Elveden Road, Park Royal, London, NW10 7SS.
Contact: Simon Johnson simon@ssq.co.uk 07443804537
- Product reference: Riverstone Phyllite
- Type: Riverstone 1st Grade
- Size: 500x250mm
- Head-lap 90mm (minimum):
- Fixing: Two nails each slate. 35x3.35mm, head copper nails.
- Eaves Slates: Two, 40x3.35mm copper nails.

910 BOTTOM EDGES

- Slating substrate work: Fix timber tilting fillet to support bottom course of slates in correct vertical plane. Fix flashing to tilting fillet.
- Underlay: Dress over flashing.
- Under course and bottom course slates: Fix with tails neatly aligned.

920 TOP EDGES

- Top slate courses: Fix under abutment and make weather tight with flashings dressed down not less than 150 mm.

930 SIDE ABUTMENTS

- Slating substrate work: Chase abutment wall and insert stepped flashing.
- Flashing: Return not less than 75 mm behind slating, overlapping underlay and battens turn back to form a vertical welt.
- Abutment slates: Cut and fix neatly.

950 ANGLES WITH SOAKERS

- Angle slates: Cut extra wide slates and fix to form a straight, close mitred junction.
- Soakers: Interleave with angle slates. Fix by nailing to battens at top edge.

960 JUNCTIONS WITH ROOF VERGES

- Slating substrate work: Fix additional slating batten parallel to and below verges.
- Course end slates: Splay cut slate and a half width slates to angle of verge rake.
Fix to additional slating batten with cut edge parallel to and below verge.

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Riverstone[®] First



Riverstone is the diamond of natural roofing slate. SSQ's signature slate is not actually slate, it is phyllite. Harder, denser and stronger than traditional slate, phyllite is the perfect stone for any design challenge or artistic feature.



EXCLUSIVELY **NATURAL SLATE**

Product information



Product profile

SSQ Riverstone First is a premium-quality roofing slate produced exclusively by SSQ. Riverstone is a phyllite - a rock similar to slate, sharing its essential characteristics but surpassing its qualities - taken from SSQ's own quarry in the San Luis region of central Argentina.

In addition to passing SSQ's own, rigorous quality control tests, SSQ Riverstone First has been tested in accordance with EN 12326, carries the CE marking and is classified as 'W1-S1-T1'.*

SSQ Riverstone has been accepted in the past by Historic England and Historic Scotland as an alternative to indigenous slates for use on restoration projects or within conservation areas.

* Test results are available on request

Minimum headlap for fixing slates with nails or hooks according to BS 5534: 2014+A2:2018 Code of Practice for Slating and Tiling Moderate exposure (< 56.5 l/m² per spell)*

Size (mm)	Rafter pitch								
	20°	22.5°	25°	27.5°	30°	35°	40°	45°	80°
600 x 300	130	120	95	85	80	70	60	55	50
500 x 300	130	120	95	85	80	70	60	66	50
500 x 250	-	150	120	100	80	70	60	55	50
400 x 250	-	-	-	-	80	70	60	55	50
400 x 200	-	-	-	-	80	70	60	55	50
300 x 200	-	-	-	-	80	70	60	55	50

Severe exposure (≥ 56.5 l/m² per spell)*

Size (mm)	Rafter pitch								
	20°	22.5°	25°	27.5°	30°	35°	40°	45°	80°
600 x 300	150	140	130	120	100	90	80	70	65
500 x 300	150	140	130	110	100	90	80	70	65
500 x 250	-	-	-	130	100	90	80	70	65
400 x 250	-	-	-	-	100	90	80	70	65
400 x 200	-	-	-	-	120	110	105	100	65
300 x 200	-	-	-	-	100	90	80	70	65

Size and weight

Size (mm)	Thickness (mm)	Weight per 1000 (kg)
600 x 300	6 - 8	3024
500 x 300	6 - 8	2460
500 x 250	6 - 8	2100
400 x 250	6 - 8	1680
400 x 200	6 - 8	1344
300 x 200	6 - 8	1008

The information, both technical and otherwise contained within this guide, is intended to provide illustrations on some of the ways in which SSQ products may be used and should be read in conjunction with all relevant British Standards, Codes of Practice and Health and Safety Legislation. Nothing contained in this brochure nor any advice or recommendation given by or on behalf of SSQ is intended to be relied upon in substitution for an appropriate technical and design appraisal of the specific use to which SSQ products will be put. SSQ will accept no responsibility for any loss or damage howsoever caused that may arise through the reliance being placed on the content of the brochure.

SSQ reserve the right to change designs and specifications without prior notice. All products are subject to our Terms of Business, available on request. The information and illustrations in this publication were correct at the time of publication.

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Appearance

Riverstone roofing slate has a medium-grey colour and is similar to indigenous slate found in South-West England and Norway. The colour is totally natural and will not fade, even in the strongest sunlight or harshest environments.

Guarantee

SSQ Riverstone First roofing slate is covered by a 75-year guarantee.**

In addition to the above fitness for purpose guarantee, SSQ now also offers a full Rust Free guarantee for Riverstone First slates to ensure total peace of mind and 100% satisfaction.

SSQ is the only company in the industry that provides this, given the confidence it places in its premium range of slates.

For more information on the terms of this industry leading guarantee, please visit www.ssqgroup.com/rustfree

** Guarantees to be requested within 6 months of the date of completion of the roof.

Coverage

Nail fixing method

Size (mm)	Lap (mm)								
	50	65	75	80	90	100	110	115	120
	Number of slates/m ²								
600 x 300	12.1	12.5	12.7	12.8	13.1	13.3	13.6	13.7	13.9
500 x 300	14.8	15.3	15.7	15.9	16.3	16.7	17.1	17.3	17.5
500 x 250	17.8	18.4	18.8	19.0	19.5	20.0	20.5	20.8	21.0
400 x 250	22.9	23.9	24.6	25.0	25.8	26.7	27.6	28.1	28.6
400 x 200	28.6	29.9	30.8	31.3	32.3	33.3	34.5	35.1	35.7
300 x 200	40.0	42.6	44.4	45.5	47.6	50.0	-	-	-

(NB: No allowance has been made for wastage*)

Hook fixing method

Size (mm)	Lap (mm)								
	50	65	75	80	90	100	110	115	120
	Number of slates/m ²								
600 x 300	12.1	12.5	12.7	12.8	13.1	13.3	13.6	13.7	13.9
500 x 300	14.8	15.3	15.7	15.9	16.3	16.7	17.1	17.3	17.5
500 x 250	17.8	18.4	18.8	19.0	19.5	20.0	20.5	20.8	21.0
400 x 250	22.9	23.9	24.6	25.0	25.8	26.7	27.6	28.1	28.6
400 x 200	28.6	29.9	30.8	31.3	32.3	33.3	34.5	35.1	35.7
300 x 200	40.0	42.6	44.4	45.5	47.6	50.0	-	-	-

(NB: No allowance has been made for wastage*)

* Please refer to the SSQ Natural Roofing Slate Design and Fixing Guide for full details (available on www.ssqgroup.com).



EXCLUSIVELY NATURAL SLATE