



A GUIDE FOR SCOTLAND

FOR USE IN CONJUNCTION WITH
SIGA NATURAL SLATE - A GUIDE

SIGA
Natural Slate

History of Roofing Slate in Scotland

The production of Scottish slates was at its height in Victorian times with over 300 quarries in existence. Smaller quarries serviced local properties and the larger quarries; Ballachulish, Easdale and Aberfoyle provided slates for use on roofs regionally throughout Scotland up to the mid twentieth century.

Due to the different geology of the quarries, the colour and quality of the slates produced varied greatly, and evidence of this can be seen on roofs right across Scotland. From the grey/green Stobo slate from Peeblesshire, to the high quality grey slates from the Ballachulish quarries

which proved to be extremely durable and continue to be stripped and re-laid throughout Scotland.

It is no surprise that the quality of the Ballachulish slate stood the test of time and it was a sad day for Scottish slate production when the quarry closed in the mid 1950s.

The main difficulty with sourcing Scottish slates is that there are no quarries operating today and it is difficult to find reclaimed slates in sufficient quantities and/or of the required quality.

SIGA supporting the Natural Slate market in Scotland

In a report by Scottish Geologist Joan Walsh, who looked at the history of native Scottish slate and loss of local quarries, Joan identified how SIGA 120 can fill the gap in maintaining the historic and heritage roof coverings and practices.

SIGA's slate managers worked with their network of worldwide quarries to identify a slate that had the characteristics of the Ballachulish slate in terms of colour and sizes available, to ensure the blue grey colour and dimensional requirements were matched as closely as possible.

As the world's largest distributor of roofing slate SIG Roofing works hand-in-hand with Scottish specifiers and installers to find acceptable new sources of slate to sympathetically reproduce the variety of Scottish slate.

Through our network of branches and dedicated slate teams in Scotland, SIGA Slate supports you and sets the benchmark for natural slate by which others follow.

Excellence Range

The finest SIGA Slates from the most reputable quarries are selected to provide a long-lasting, beautiful roof with minimal grading and sorting.

SIGA 120

The Excellence range also provides a readily-available alternative to long-discontinued domestic British slates, with a close match for texture, colour and size to Ballachulish Slate, without the slightest compromise on quality:

- **Superlative quality stone**
- **Exceptional selection with very low wastage**
- **Extended warranties and long life expectancy**

SIGA 120 is now widely considered as a credible alternative to some historic Scottish quarries, and as such, has been approved for use by Historic Scotland on many listed buildings. Finally available as a true alternative to, amongst others, the extinct Ballachulish slate, SIGA 120 provides a unique UK indigenous alternative to traditional Scottish slate.

Below is a sample of SIGA 120 side by side with a reclaimed Ballachulish slate of undeterminable age.

The section of the Scotch slate (left) was cleaned for this example to show the colour similarity with SIGA 120 (right).

SIGA 120 is unique in the Scottish market in offering a true random-diminishing slate from indigenous rock rather than an imported random mix of tally slates.

It is supplied blank, in random-width diminishing courses to suit your project and is available from stock. This in turn reduces wasted labour, and unlike second-hand materials, is supported by the SIGA warranty for total peace of mind and provides an authentic roof finish unmatched by imported materials.



Secondhand Scotch Slate

SIGA 120



Commercial Range



Classic Range

Commercial Range

A range of affordable slates of good quality, ideal for New Build projects, refurbishment and the volume developer market. These are recommended for more experienced slaters, as thickness and quality can be more variable than the Excellence range, so careful sorting and grading is strongly recommended for the best aesthetics.

SIGA 35

This range is home to our best-selling SIGA 35 slate. SIGA 35 is a popular choice for new build and refurbishment, with a good blend of workability and durability. As a long-standing favourite, it is often the default choice for the professional slater and has been used on countless projects in all areas of Scotland for many years.

All Commercial slates are W1(\leq 0,6%), T1 S1 to comply with NHBC requirements. Wastage, whilst still very reasonable, is generally a little higher than the Excellence range.



Classic Range

Classic slates require more sorting and grading in order to produce a good roof finish, making them ideal for budget conscious projects.

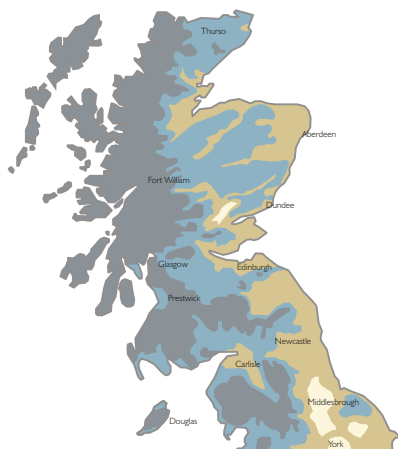
All SIGA Classic slates must meet the same strict testing and certification criteria as the higher grades. The rock used in the Classic range can be the same as the higher ranges, the difference is the selection which can result in slates exhibiting more variation in appearance.

All Classic slates are W1(\leq 0,6%), T1 S1 to comply with NHBC requirements.



Environmental Conditions

Fixing and Headlap Requirements BS 5534



Exposure zones Approximate wind-driven rain* (litres/m² per spell)

- 1. Sheltered less than 33
- 2. Moderate 33 less than 56.5
- 3. Severe 56.5 to less than 100
- 4. Very severe 100 or more

* Maximum wall spell index derived from BS8104

Traditional Scottish slating is not recommended on roof pitches less than 25 degrees but they can be laid up to 90 degrees. However, it should be remembered that at lower pitches sidelap becomes increasingly critical and that sufficiently wide reclaimed slates may not be available. It may be preferable to consider a new SIGA 120 slate to replicate original Scottish slate where sidelap is a concern.

Recommended headlaps table

Less than 56.5 l/m² per spell

| Slate Size mm | Roof Pitch | | | | | | | | |
|------------------|------------|-------|-----|-------|-----|-----|-----|------------|-----|
| | 20° | 22.5° | 25° | 27.5° | 30° | 35° | 40° | 45° to 75° | 85° |
| 600 x 300 | | | | | | | | | |
| 550 x 300 | | 91 | 91 | 83 | 77 | 67 | 60 | 54 | 54 |
| 500 x 300 | 115 | 101 | 91 | 83 | 77 | 67 | 60 | 54 | 54 |
| 500 x 250 | | | 91 | 83 | 77 | 67 | 60 | 54 | 54 |
| 450 x 300 | | | | | 77 | 67 | 60 | 54 | 54 |
| 450 x 250 | | | | | 77 | 67 | 60 | 54 | 54 |
| 450 x 220 | | | | | 77 | 67 | 60 | 54 | 54 |
| 400 x 300 | | | | | 77 | 67 | 60 | 54 | 54 |
| 400 x 250 | | | | | 77 | 67 | 60 | 54 | 54 |
| 400 x 200 | | | | | 77 | 67 | 60 | 54 | 54 |
| 350 x 300 | | | | | 77 | 67 | 60 | 54 | 54 |
| 350 x 250 | | | | | 77 | 67 | 60 | 54 | 54 |
| 350 x 200 | | | | | 77 | 67 | 60 | 54 | 54 |
| 300 x 200 | | | | | 77 | 67 | 60 | 54 | 54 |
| 270 x 180 | | | | | | 67 | 60 | 54 | 54 |

56.5 l/m² or greater per spell

| Slate Size mm | Roof Pitch | | | | | | | | |
|------------------|------------|-------|-----|-------|-----|-----|-----|------------|-----|
| | 20° | 22.5° | 25° | 27.5° | 30° | 35° | 40° | 45° to 75° | 85° |
| 600 x 300 | | | ** | ** | 98 | 86 | 76 | 69 | 69 |
| 550 x 300 | | 128 | 116 | 106 | 98 | 86 | 76 | 69 | 69 |
| 500 x 300 | | 128 | 116 | 106 | 98 | 86 | 76 | 69 | 69 |
| 500 x 250 | | | ** | ** | 98 | 86 | 76 | 69 | 69 |
| 450 x 300 | | | | | 98 | 86 | 76 | 69 | 69 |
| 450 x 250 | | | | | 98 | 86 | 76 | 69 | 69 |
| 450 x 220 | | | | | 115 | 105 | 100 | 95 | 69 |
| 400 x 300 | | | | | 98 | 86 | 76 | 69 | 69 |
| 400 x 250 | | | | | 98 | 86 | 76 | 69 | 69 |
| 400 x 200 | | | | | 98 | 86 | 76 | 69 | 69 |
| 350 x 300 | | | | | 98 | 86 | 76 | 69 | 69 |
| 350 x 250 | | | | | 98 | 86 | 76 | 69 | 69 |
| 350 x 200 | | | | | 98 | 86 | 76 | 69 | 69 |
| 300 x 200 | | | | | 98 | 86 | 76 | 69 | 69 |
| 270 x 180 | | | | | | 86 | 76 | 69 | 69 |

Our recommended headlap tables according to exposure, roof pitch and slate size can be found in the SIGA Slate Guide or online at www.sigaslate.co.uk. Detailed guidance on wind load calculations is given in BS 5534:2014 and BS EN 1991-1-4:2005.



Scottish Slating Practices

For a detailed description of the process of roof slating, reference should be made to BS5534:2014, the code of Practice for Slating and Tiling for pitched roofs and vertical cladding and BS8000 – part 6, Workmanship on Building Sites. In addition the NFRC technical bulletin 43 provides additional guidance on Scottish slating practice.

A short guide to the basic steps in slating to Scottish roofing practices are below;

- Slates should be sorted into at least three groups of equal thickness.
- The size of slate, the head lap and hence the holing gauge should be selected to conform to BS 5534. These should be checked to ensure they provide adequate side lap.
- Where required, slates should be holed with the thicker end as the tail, and in addition from the underside to the topside as laid, to provide a small counter sink in the face of the slate.
- The roof should be covered with square edged sarking boards covered with the underlay (specified by the architect).
- Mark out the roof to the correct gauge.
- Check the actual width of slates and mark out perpendents allowing a maximum of 5mm joint gaps between the slates to accommodate variations in the slate width.
- Load out the slates onto the roof so that the thickest slates are in the lowest courses and the thinnest near the ridge.
- The undereaves course should be laid to give the required overhang to the gutter or tilting fillet and with the dressed edges face down.
- Slates should be laid with the dressed edge face up. Slates of equal thickness should be laid in any one course, with the thicker slates in the lower courses grading down to the thinner slates in the upper course.
- Fix the slates to perpend lines. In order to maintain adequate laps and allow proper fixing, slates must not be cut too narrow. In general no slates should be less than 150mm wide.
- At all verges and abutments, alternate courses must be started either with half width slates or with slate-and-a-half widths to maintain bond. If the half-slate would be less than 150mm, slate-and-a-half widths must be used.
- At valleys, hips and other places where slates must be cut on the rake, it is essential that slates are of an adequate width to accommodate secure fixings.

All slating should be mechanically fixed in accordance with BS 5534.

It should be noted that traditional Scottish slating practice will fall outside the scope of BS 5534 and that regional variations may apply. Where regular-sized slates which are centre nailed or hooked are used, then all calculations and clauses in BS 5534 will apply.

Fixing to Traditional Scottish Practice

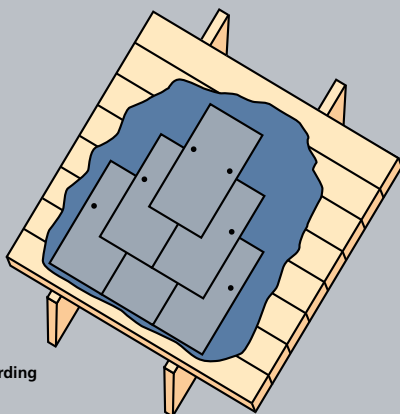
Although BS 5534 recommends fixing with two nails, it is generally recognised that single head nailing is acceptable where slates are small and heavy. It is also recommended that a proportion of the slates (normally every third course) should be double nailed. Guidance should be sought from the specifier as to the appropriateness of your chosen fixing method to the product and local area.

The following is a typical nailing pattern for Scottish slating. Other nailing patterns may be acceptable depending on location and where proven over time.

- **Under eaves: twice head nailed or one head one cheek**
- **Eaves Course: 1 head nail and 1 shoulder (cheek) nail**
- **2nd Course: 1 head nail**
- **3rd Course: 1 head nail**
- **4th Course: 1 head nail and 1 shoulder (cheek) nail**
- **5th Course: 1 head nail**
- **6th Course: 1 head nail**
- **7th Course: 1 head nail and 1 shoulder (cheek) nail**

This pattern should be continued in order until the topper course which should be twice fixed through the mortar bedding, whilst the mortar is still curing (within four hours).

Slating to valleys, abutments, penetrations and perimeters etc. should have no less than two fixings per slate.



**Slating to timber boarding
(cold roof)**

A form of roof construction in Scotland with sarking boards in a cold roof construction showing the underlay and slates laid to the main roof areas.



CPD Seminars

In response to the challenges specifiers must overcome, we offer informative free CPD Seminars.

SIGA Natural Slate emphasizes traceability and coverage from the rock face to the roof. Our CPD is designed to equip you with the knowledge to specify good, durable, slate roofs, and to dispel some myths about natural slate. Covering the origin of slate and how it's produced

will give you an understanding of the manufacturing process, which directly effects what is available to roofers. We cover the qualities of natural slate, common issues and the key legislation to ensure you make informed buying decisions.

To discuss your requirements with one of our slate specialists, or to book a CPD seminar at your practice, please contact info@sigaslate.co.uk.



SIGA & ONE Warranty

SIGA Natural Slate is proud to form part of SIG Roofing's ONE Warranty - a pitched roof product warranty that supports all the key elements required in the build-up of the roof. The products performance is covered for 15 years under one single package warranty, providing a warranty that's easy to understand and even easier to use.

Products included are coverings such as industry leading SIGA Natural Slate, along with a range of market leading accessories including; batten, breather membrane, fixings and ridges.

This unique warranty provides a number of valuable benefits to both primary users of the warranty: the contractor and the property owner;

Contractor Benefits

- Cost effective - Take advantage of the most cost effective solution to cover all of the key elements of the roof.
- Value - Provide a value added service to property owners, whilst increasing the desirability of the contractors offering.
- Simplicity - Enjoy one single package warranty and a full service from one company - with an efficient process and reduced administration.
- Peace of mind - Rest assured whilst using quality products and by working with a well- established FTSE 250 company.

Property Owner Benefits

- Simplicity - Enjoy having just one warranty and set of documentation for the key elements of the roof with the single package warranty.
- Ease of use - Be assured that if something was to go wrong there is just one company to deal with for the roof.
- Peace of mind - With confidence in the products supplied and that the roof is covered for 15 years by a warranty that is backed by an established FTSE 250 company.

Architect and Specifiers Benefits

The key ONE Warranty benefits for you are:

- Quality - Products of the highest specification.
- Legislation - Fully compliant, including BS 5534:2014.
- Longevity - Tried and tested, quality products from leading manufactures that you can trust.
- Full package - For research, specification, purchase, warranty and aftercare.
- Simplicity - For all stakeholders, ensuring the best results for the property owner.
- Reliability - FTSE250 backed warranty.
- Peace of mind - At all stages, for all stakeholders.





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