



INDEPENDENT SLATE SUPPLIES

Where quality comes naturally



Natural Roofing Slate



PANADERO

Origin: Spain

Colours: Blue/black

Quality: Prime





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Independent Slate Supplies (ISS) have been established for over 35 years and are specialists in the import and distribution of high quality, competitively priced roofing and flooring products and their associated accessories.

Whether you are a roofing contractor, a developer, a homeowner, a general builder, an architect or a merchant, please do not hesitate to contact us so we can discuss your requirements. We can assist you in selecting the most appropriate product for your planned development, which can be supplied via our network of merchants and stockists throughout the UK.

Natural Roofing Slate: PANADERO



Origin: Spain

Colour: Blue/Black

Texture and Appearance: The Panadero has a textured surface with traditional dressed edges and occasional small inert inclusions, giving this slate a unique character. The quarry where the slate is found produces the highest quality, offering the best test results for the slate performance in the UK environment.

Quality: Prime

Slates Thickness: 5-7mm

Sizes Available:

400x200

500x250

Testing Results and Design Considerations:

At ISS, we test all of our natural slates on a yearly basis as per UK requirements. There are many testing procedures performed on each slate to determine its quality and life expectancy.

This particular slate is regularly tested to the following national standard:

British and European Harmonised Standard
BS EN 12326-1 2014

- Exhibited the top Class A1/W1 for water absorption
- Exhibited the top Class T1 for thermal cycle resistance
- Exhibited the top Class S1 for sulphur dioxide exposure resistance
- Good flexural strength both transversely and longitudinally
- Acceptable non-carbonate content
- Normal texture using the classifications detailed in BS EN 12326

A Declaration of Performance (DOP) and full testing results can be provided upon request.

If slates are laid in accordance with BS5534:2014 Code of Practice for Slating and Tiling and BS8000-6:2013 Code of Practice for Workmanship on Building Sites - Slating and Tiling, this slate meets the strength requirements for the imposed and uniformly distributed wind and snow loads etc. The site exposure rating and the pitch of roof rafters will determine the size, pattern, lap and fixings for the slates and the following map and associated tables set out site exposure ratings and associated fixing guidelines for the UK and Northern Ireland.



Categories of Exposure to Driving Rain



- Cream areas depict driving rain exposures of less than 56 l/m² per spell (moderate)
- Green areas depict driving rain exposures of more than 56 l/m² per spell (severe)

Severe Exposure – more than or equal to 56.5l/m ² per spell					
Pitch Degree	Slate Size mmxmm	Minimum Headlap mm	Slates no/m ²	Batten Gauge mm	Holing Gauge mm
85°	500 x 250	65	18.00	218	293
	450 x 220	65	23.03	193	268
	400 x 250	65	23.40	168	243
	400 x 200	65	29.10	168	243
	350 x 200	65	34.20	143	218
	300 x 200	65	41.50	118	193
45° - 75°	600 x 300	70	12.40	265	345
	500 x 300	70	15.20	215	295
	500 x 250	70	18.20	215	295
	450 x 220	70	23.90	190	270
	400 x 250	70	23.80	165	245
	400 x 200	70	29.60	165	245
	350 x 200	70	34.80	140	220
	300 x 200	70	42.40	115	195
40°	600 x 300	80	12.60	260	350
	500 x 300	80	15.60	210	300
	500 x 250	80	18.70	210	300
	450 x 220	80	24.02	185	275
	400 x 250	80	24.50	160	250
	400 x 200	80	30.50	160	250
	350 x 200	80	36.10	135	225
	300 x 200	80	44.30	110	200
35°	600 x 300	90	12.90	255	355
	500 x 300	90	16.00	205	305
	500 x 250	90	19.10	205	305
	450 x 220	90	24.69	180	280
	400 x 250	90	25.30	155	255
	400 x 200	90	31.50	155	255
	350 x 200	90	37.50	130	230
	300 x 200	90	46.50	105	205
30°	600 x 300	100	13.10	250	360
	500 x 300	100	16.40	200	310
	500 x 250	100	19.60	200	310
	450 x 220	100	25.40	175	285
	400 x 250	100	26.10	150	260
	400 x 200	100	32.50	150	260
	350 x 200	100	39.00	125	235
	300 x 200	100	48.80	100	210
27.5°	500 x 300	110	16.80	195	315
	500 x 250	110	20.10	195	315
	500 x 300	120	17.30	190	320
22.5°	500 x 300	130	17.70	185	325

Moderate Exposure – less than 56.5 l/m ² per spell					
Pitch Degree	Slate Size mmxmm	Minimum Headlap mm	Slates no/m ²	Batten Gauge mm	Holing Gauge mm
85°	500 x 250	50	17.40	225	285
	450 x 220	50	22.20	200	260
	400 x 250	50	22.40	175	235
	400 x 200	50	27.90	175	235
	350 x 200	50	32.50	150	210
	300 x 200	50	39.00	125	185
45° - 75°	600 x 300	55	12.00	273	338
	500 x 300	55	14.70	223	288
	500 x 250	55	17.60	223	288
	450 x 220	55	22.45	198	263
	400 x 250	55	22.70	173	238
	400 x 200	55	28.30	173	238
	350 x 200	55	33.10	148	213
	300 x 200	55	39.80	123	188
40°	600 x 300	60	12.14	270	340
	500 x 300	60	14.90	220	290
	500 x 250	60	17.83	220	290
	450 x 220	60	23.31	195	265
	400 x 250	60	23.07	170	240
	400 x 200	60	29.69	170	240
	350 x 200	60	33.64	145	215
	300 x 200	60	40.65	120	190
35°	600 x 300	70	12.40	265	345
	500 x 300	70	15.20	215	295
	500 x 250	70	18.20	215	295
	450 x 220	70	23.39	190	270
	400 x 250	70	23.80	165	245
	400 x 200	70	29.60	165	245
	350 x 200	70	34.80	140	220
	300 x 200	70	42.40	115	195
30°	600 x 300	80	12.60	260	350
	500 x 300	80	15.60	210	300
	500 x 250	80	18.70	210	300
	450 x 220	80	24.02	185	275
	400 x 250	80	24.50	160	250
	400 x 200	80	30.50	160	250
	350 x 200	80	36.10	135	225
	300 x 200	80	44.30	110	200
27.5°	600 x 300	85	12.70	258	353
	500 x 300	85	15.80	208	303
	500 x 250	85	18.90	208	303
	450 x 220	85	24.02	185	275
	400 x 250	85	24.50	160	250
	400 x 200	85	30.50	160	250
	350 x 200	85	36.10	135	225
	300 x 200	85	44.30	110	200
25°	600 x 300	95	13.00	253	358
	500 x 300	95	16.20	203	308
	500 x 250	95	19.40	203	308
22.5°	500 x 300	105	16.60	198	313
	500 x 250	130	17.70	185	325
20°	500 x 300	115	17.00	193	318

All headlaps have been rounded up to the nearest 5mm increment and in general, the above recommendations apply to rafter lengths of no more than 9m in driving rain exposures of less than 56l/m² and no more than 6m in driving rain exposures greater than 56l/m². Specifiers should take account of any abnormal conditions that might apply and may need to specify greater values than the recommended minimums. If it is necessary to use pitches lower than the lowest recommended minimums, special precautions should be taken. Slate weights can be provided upon request.

Roof Design:

- It should be noted that the minimum batten size for rafter spacing up to 600mm for use with natural slates is 50 x 25mm as per BS5534. The ends of any batten should be fully supported and the length of any batten should be no less than 1.2m.
- Traditional Scottish roofing practice consists of covering the roof using square edge sarking boards (in place of battens), covered with an underlay or membrane (as per the architects specification) prior to installing the slates.
- Buildings have their own unique and individual roof design comprising different elevations and angles to complement the building's architecture. In the interests of aesthetics and to maintain the bond, at all verges, abutments, hips and valleys, alternative slate courses must start with a half width slate or a slate and a half width. Slate and a half widths must be used if the half slate is less than 150mm wide.
- In respect of roof ventilation, the roof space and/or batten cavity must be ventilated in accordance with the latest edition of BS 5250: 2002. ISS can supply in-line ventilation systems to suit most applications including mechanical extraction. Full technical information and support can be provided upon request.

Estimating:

As a natural product, each individual slate may vary slightly in respect of colour and size. As such, it is necessary to add a cutting and wastage allowance in estimating the total number of slates required. For guidance on wastage allowances please contact us.

Preparation:

As with all natural slates, it is necessary to sort and grade the slates into a minimum of three groups of similar thicknesses prior to fixing. The thickest groups should be used nearest to the eaves, progressing to the thinnest selection nearing the ridge. This will ensure the slates are laid as flat as possible on the roof slope to avoid unsightly gaps or 'kicking' and any associated problems that may occur.

Fixing:

ISS advocate that slates are fixed using either copper nails or via stainless steel slate hooks.

- Copper nails: slates should generally be twice centre-nailed to horizontal battens, except in Scotland, where smaller heavier slates can sometimes be singled nailed (provided every third course is twice nailed). The minimum nail head diameter is 10mm (which means a shank diameter of between 3mm – 3.35mm). The nails should penetrate into the batten by a minimum of 15mm after considering the thickness of two slates (being careful not to penetrate the underlay or membrane). Individual slates should be holed so that the thickest end of the slate is at the tail. Slates should be holed from the underside, which creates a countersink to accept the nail head.
- Hook fixing: one stainless steel spike hook to suit common laps should be used per slate. The minimum recommended pitch for hook fixing is 25°. Below 30°, crimped hooks should be used.
- Slates should be vertically aligned and should allow for a small 'perp' gap between slates of approximately 2mm-5mm in accordance with BS 5534.

Supply:

ISS products can be supplied direct to site via our network of merchant stockists throughout the UK. Please contact us with any enquiries you may have.



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