

## Pre-Holed Slates

Following exhaustive trials, Cembrit Blunn Ltd is now marketing a range of slates with a “universal” holing gauge which, for a 500x250mm sized slate, will enable the slates to be fixed with a headlap from 72mm to 116mm (although in practice this is more commonly 76mm to 98mm). This range of headlaps allows for the more commonly specified roof pitches and takes account of the changes to slate sizes and headlaps recommended in BS5534-2003.

It is essential that graded battens with a minimum size of 50x25mm are used when fixing any natural slates, regardless of the rafter span (BS5534-2003 Table 1).

By carefully fixing the battens to the gauges shown in the table below it is possible to lay the pre-holed slates to the respective headlaps by positioning the head of the slate and the slate fixings at different positions on the batten.

### Headlaps and Batten Gauges for 500x250 slates holed to 311mm gauge

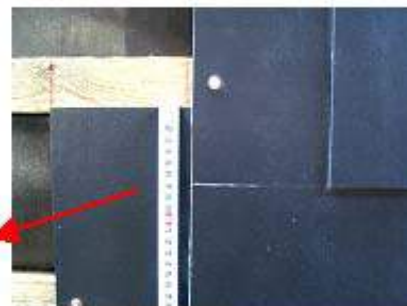
Slate Headlap mm	Batten Gauge mm	Recommended Application
76	212.0	Severe Exposure Site with a roof pitch of 40 degrees, or steeper.
77	211.5	Moderate Exposure Site with a roof pitch of 30 degrees.
83	208.5	Moderate Exposure Site with a roof pitch of 27.5 degrees.
86	207.0	Severe Exposure Site with a roof pitch of 35 degrees.
91	204.5	Moderate Exposure Site with a roof pitch of 25 degrees.
98	201.0	Severe Exposure Site with a roof pitch of 30 degrees.

The positioning of the head and fixing is dependant on the required headlap, but generally, the greater the headlap the nearer both the head of the slate and the fixing of the slate above will be to the centre of the batten (see pictures below).

Slates fixed to 116mm headlap



Slates fixed to 72mm headlap



## BS5534-2003

### Tables for 500 x 250mm Pre-Holed slates (with 311mm holing gauge)

#### Severe Exposure

$\geq 56.5 \text{ l/m}^2$  per spell

- These tables are based on a nail hole positioned 25mm in from the side of the slate. It may be possible to use certain slates at lower pitches by holing the slates nearer to the edge under factory conditions.  
- In general, the recommendations below apply to rafter lengths of not more than 6m. The specifier should also take account of any abnormal local conditions that might apply.  
- For further details and assistance please contact our Technical Department.

Pitch	Slate Size	Minimum Headlap	Slates	Batten gauge	Holing gauge	Average Weight	Comments
deg	mm x mm	mm	no/m <sup>2</sup>	mm	mm	kg/m <sup>2</sup>	
45°	500 x 250	69	18.56	216	295	28.71	Pitch and headlap achievable using slates pre-holed to 311mm. Batten out the roof as per table.
40°	500 x 250	76	18.87	212.0	311	29.19	
35°	500 x 250	86	19.32	207.0	311	29.89	
30°	500 x 250	98	19.90	201.0	311	30.78	
< 30°	500 x 250	Please phone your local Distribution Centre for advice.					

#### Moderate Exposure

$< 56.5 \text{ l/m}^2$  per spell

- These tables are based on a nail hole positioned 25mm in from the side of the slate. It may be possible to use certain slates at lower pitches by holing the slates nearer to the edge under factory conditions.  
- In general, the recommendations below apply to rafter lengths of not more than 9m. The specifier should also take account of any abnormal local conditions that might apply.  
- For further details and assistance please contact our Technical Department.

Pitch	Slate Size	Minimum Headlap	Slates	Batten gauge	Holing gauge	Average Weight	Comments
deg	mm x mm	mm	no/m <sup>2</sup>	mm	mm	kg/m <sup>2</sup>	
45°	500 x 250	54	17.94	223	287	27.75	Pitch and headlap achievable using slates pre-holed to 311mm. Batten out the roof as per table.
40°	500 x 250	60	18.18	220	290	28.13	
35°	500 x 250	67	18.48	217	294	28.58	
30°	500 x 250	77	18.91	211.5	311	29.26	
27.5°	500 x 250	83	19.18	208.5	311	29.68	Pitch and headlap achievable using slates pre-holed to 311mm. Batten out the roof as per table.
25°	500 x 250	91	19.56	204.5	311	30.26	
< 25°	500 x 250	Please phone your local Distribution Centre for advice.					

#### GENERAL RECOMMENDATIONS:

1. Slates must be sorted into at least three grades prior to fixing - regardless of whether they are pre-holed. This will ensure that the slates on any one course are of the same thickness and will prevent 'kicking' slates or unsightly gaps between subsequent courses.
2. It is vital that the roof is marked out prior to any slates being fixed in place. The roof should be checked for squareness and set out so that the long side of the slates are parallel to the direction at which any water will run off the roof. The battens will give the line of the horizontal courses and the perps should be marked with a chalked string allowing for a small (5mm) gap between adjacent slates.
3. Slates should not be cut narrower than 150mm. At the ends of each alternate course 'slate-and-a-half' sizes should be used to provide a half-bond between courses. It may be necessary to use slate-and-a-half sizes on every course for valleys and hips.
4. The thickest grade of slate should be used for the courses nearest the eaves, and as work progresses up towards the ridge the thinner grades can be used, finishing at the ridge with the thinnest grade of slates. This will give an even appearance to the roof and ensure that the slates lie flat when fixed.
5. The nails should have a head diameter of 10mm and be of sufficient length to penetrate into the batten by a minimum of 15mm plus the point of the nail. They should not penetrate into the underlay beneath the batten. Nails should be to BS5534-2003.

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