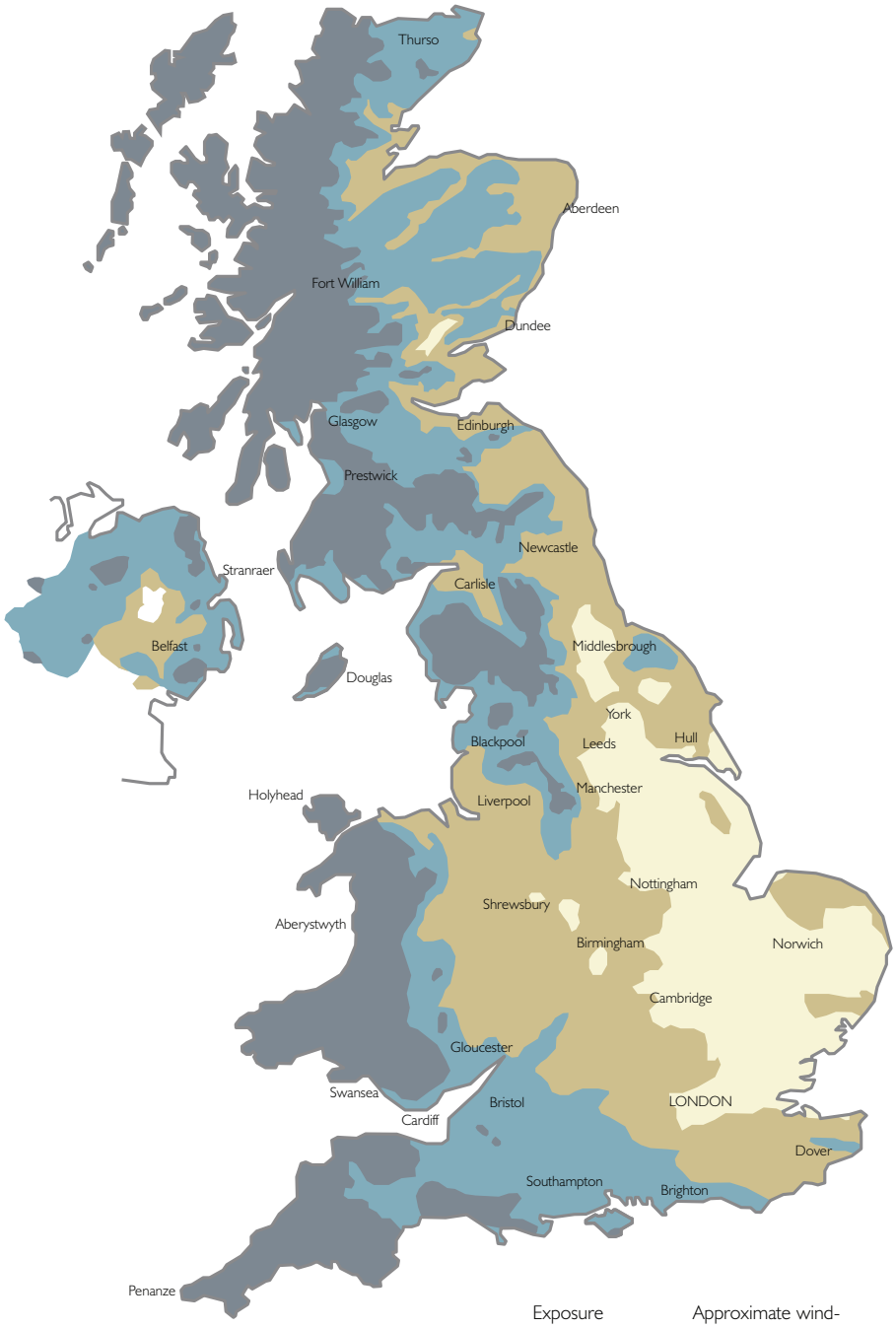
SIGA
Natural Slate

Headlap Requirements



This map shows the annual driving rain index. Exposure gradings and local knowledge should be referred to when discussing design requirements.

For further information, please contact us direct.

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

Environmental Conditions

Rain exposure

The degree of exposure of a building to driving rain determines the minimum lap which should be specified.
The anticipated degree of exposure is given in the adjacent image.
Localised factors such as high buildings, buildings on the slopes or tops of hills and coastal sites, can increase the exposure grading which should be applied in a specific project.
The table on page 21 shows the minimum recommended headlap for moderate and severe exposure sites.

Pitch of roof

In general, the lower the pitch of the roof, the greater should be the lap. This longer lap will help to resist both capillary action and wind uplift.
On steeper pitches with free-flowing drainage, smaller slates may be used.
For exposed sites, wide slates with a greater lap should be used, whereas in sheltered areas, roof pitches as low as 20 degrees can be achieved.

Lap

The lap is calculated by taking account of wind uplift, exposure to driving rain and the roof pitch. The table on page 21 gives the recommended minimum laps for various roof pitches and building exposures.

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Recommended Headlaps Table

Less than 56.5 l/m² per spell

Slate Size	Roof Pitch								
mm	20⁰	22.5⁰	25⁰	27.5⁰	30⁰	35⁰	40⁰	45⁰ to 75⁰	85⁰
600 x 300			91	83	77	67	60	54	54
550 x 300		101	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	Roof Pitch								
mm	20⁰	22.5⁰	25⁰	27.5⁰	30⁰	35⁰	40⁰	45⁰ to 75⁰	85⁰
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

These tables give minimum recommended headlaps according to exposure, roof pitch and slate size. Detailed guidance on wind load calculations is given in BS 5534:2014 and BS EN 1991-1-4:2005.

**Refer to BDM or Technical Dept. Specific fixing calculations can be carried-out for projects. For further details please contact us for advice.

Table to be used for buildings with rafter lengths not exceeding 6 metres for severe and very severe exposure and not longer than 9 metres in sheltered or moderate exposed areas. Specifiers should take account of any abnormal conditions such as elevated sites, near to the coast, heavy snowfall areas and the height and design of the building as the calculations for pitches and laps will not always ensure full protection from the weather. In such conditions the specifier should seek advice from a competent person who is conversent with local conditions and special precautions should be taken into account in designing the roof covering. The latest version of these tables are available in our SIGA Slate Guide or at www.sigaslate.co.uk