

BRITMET

LIGHTWEIGHT ROOFING

Product Data Sheet - Liteslate

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RAISING THE STANDARDS IN LIGHTWEIGHT ROOFING

Technical Specification:

Min. pitch: 12°

Max. pitch: 90°

Overall width: 297mm

Overall Height: 445mm

Weight: 0.6kg

Batten gauge: 152mm-191mm

Roof cover per slate: 0.06m²

Slate per m²: 18-22

Weight as laid per m²: 12kg

Ridge: 5.5 per linear metre

Hip: 5.5 to 6.5 per linear metre

Fire Resistance: BS476 Part 3

Chemical resistance: Unaffected by normal pollution

Fixings: The contractor should utilise the roofing manufacturers recommended fixings and sealant

Ventilation: Roof ventilation should meet the recommendations of Building Regulations 1991 (amended '92, '94). Approved Document F2 1995 'Condensation in roofs', BS 5250: 2021 'Control of condensation'.

Materials

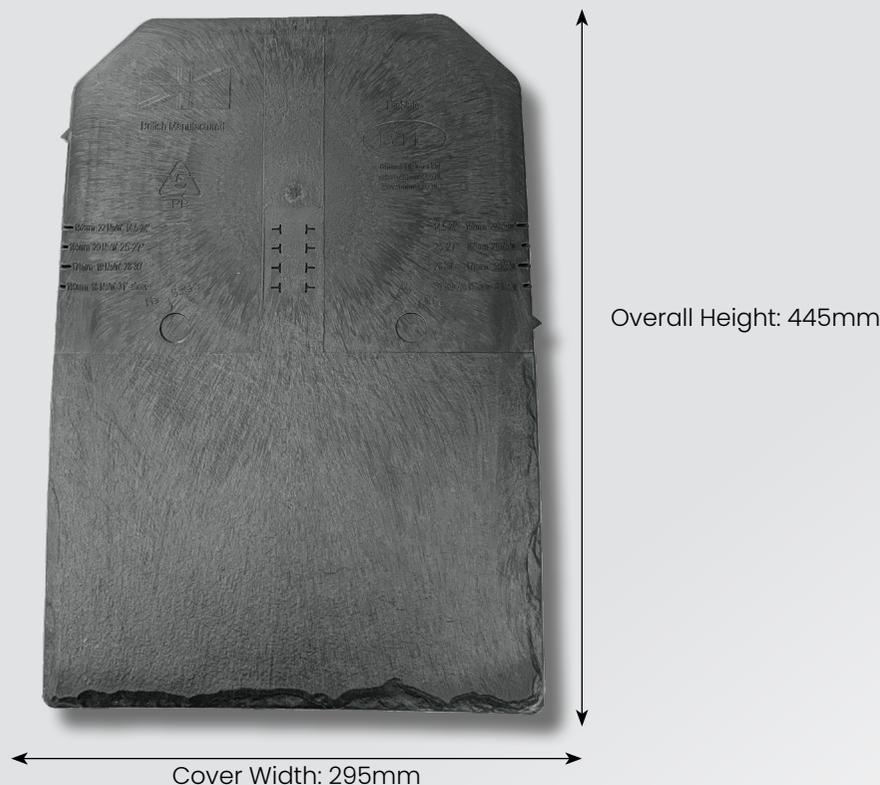
Liteslate is made from a recyclable blend of polypropylene and limestone moulded into multiple natural patterns.

Design

Liteslate is 297mm (width) x 445mm (height). This unique tile is manufactured using 90% recycled polymers as a lightweight composite slate solution.

Approvals

- Manufactured using ISO 9001 approved materials
- ISO 14001
- Fire resistance: BS476 part 3



Complies with:

The Building Regulations 2000 (as amended) England and Wales.

- Requirement B3(4) Internal fire spread (structure)
- Requirement B4(2) External fire spread
- Requirement C2(b) Resistance to moisture
- Regulation 7 moisture and workmanship

The Building (Scotland) Regulations 2004

- Regulation 8 Durability, workmanship and fitness of materials
- Regulation 8(1) Durability, workmanship and fitness of materials
- Regulation 9 Building standards - construction
- Standard 2.1 Compartmentation
- Standard 2.2 Separation
- Standard 2.8 Spread from neighbouring buildings
- Standard 3.10 Precipitation
- Regulation 12 Building standards - conversions

The Building Regulations (Northern Ireland) 2000

- Regulation B2 Fitness of materials and workmanship
- Regulation C4 Resistance to ground moisture and weather
- Regulation E4 Internal fire spread - structure
- Regulation E5 External fire spread
- Ventilation systems comply with Building Regulations 1990(F2) & BS5250 (2021)

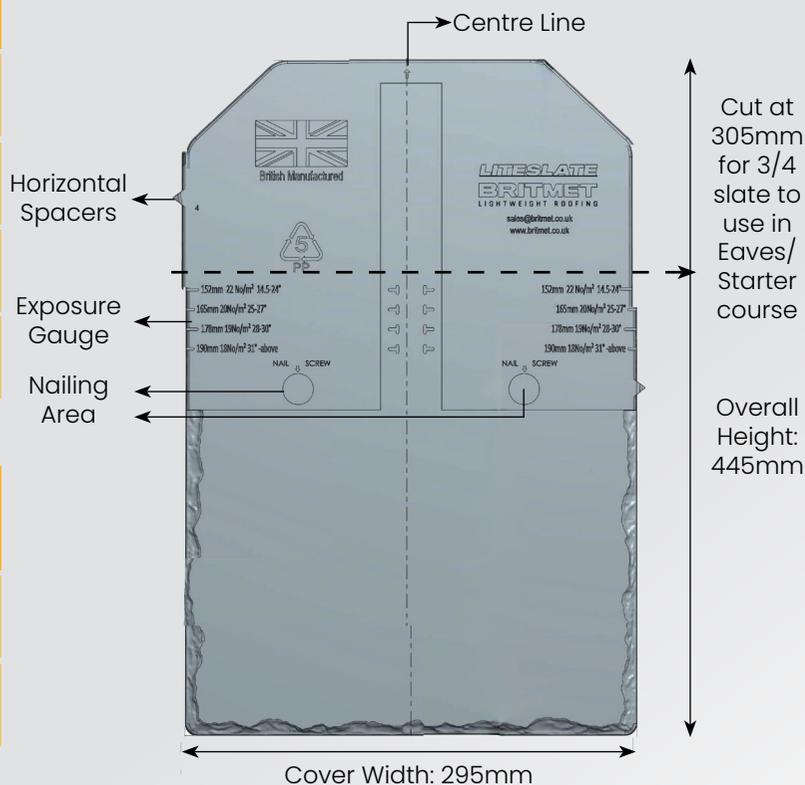
Recommended Slates per m²

Pitch, Gauge and Coverage Roof Pitch	Gauge	Slates per m ²
12-24° (fully boarded or felt and battens)	152mm	22
25-27° (fully boarded or felt and battens)	165mm	20
28-30° (fully boarded or felt and battens)	178mm	19
Above 31° (fully boarded or felt and battens)	190mm	18

Recommended Batten and Board

Fully Boarded or Felt and Batten	Size
Batten Size	50mm x 25mm treated battens
The thickness of the Roofing Board	18mm OSB

*Fixing - Large headed galvenised 30mmx2.5mm steel nails (using hammer or nail-gun). Aluminium or copper nails may also be used, but driving them through the slate may cause bending. Longer 76mm nail required for fixing ridges and hips.



Liteslate Colour Range



Liteslate Accessories



General Specification:

Handling and Storage:

Slates need to be stored on the original pallet on a flat surface. Proper storage of the product at the job site is important. The slates are cambered to ensure that maximum pressure is transferred to the leading edge of the slate during installation. Do not double stack pallets. LiteSlate should not be stored on roof decks in such a manner as to over-stress and/or damage the deck and supporting structure.

Conditions:

Perform work when existing and forecasted weather permits. Work should be performed safely and professionally and when ambient weather conditions are within the limits established by Britmet. LiteSlate should be stored in the original packaging in a storage facility where the temperature meets or exceeds 6°C. Use protective coverage overall pallets while being temporarily stored on-site. LiteSlate must be conditioned at a temperature no lower than 6°C for twenty-four (24) hours before use. LiteSlate may be installed at temperatures as low as 0°C but must be hand fastened, the use of a pneumatic gun below 6°C will result in cracking and webbing in the fastened area. Be sure to follow the manufacturer's installation requirements for all underlay or membrane and any other applications. Comply with all local building regulations.

Note of Caution: *The slates can be slippery under certain conditions and job site safety procedures should be enforced.*

Fastener Recommendations:

Slates should be applied using two (2) galvanised/stainless steel or copper fasteners with a minimum 10mm diameter head and a minimum length of 30mm. Corrosion-resistant fasteners are always recommended, especially in coastal areas. The length of the Hip & Ridge fastener should be a minimum length of 50mm over the slates and 76mm over the ridge vent.

Note: *Caution should always be used to ensure against over/under penetration of the fastener. Do not overdrive the fastener. The fastener head should be contacting the slate within the centre of the nailing target circle.*

Spacing Between the Slates:

5mm spacer tabs are provided on every slate to aid in maintaining consistent spacing. The spacers will allow for any movement of the roof deck and expansion/contraction of the slate.

Starter Course:

A full slate can be cut into $\frac{3}{4}$ size to create an eave or starter slate for the starter course. Start $\frac{3}{4}$ Slate from left/right of the centre line of the hip, ensure 50mm (max) into the gutter and spacing to suit 5mm taps. Using the full Slate, begin the first full course, align the centre of Slate directly over $\frac{3}{4}$ Slate to form a broken bond lap. To create the broken bond from course to course, use the centre mark provided on each slate and cut the slate lengthwise. This ensures that the nail holes are covered with the next course of slates and no through joints are exposed to the deck. Each slate shall be fastened with a minimum of two galvanised roofing fasteners. The fasteners must be a minimum of 30mm long and 3mm in diameter with a 10mm diameter head.

Laying Out $\frac{1}{2}$ Slates or Cut Slates:

When beginning or finishing with a cut piece of slate, the cut edge should be installed inward. The manufactured

edge should be installed on the outside edge of the roof. This is to maintain an acceptable roof appearance along the gable edge of the roof. The centre mark of the slate can be used as a guide to cut $\frac{1}{2}$ -slates. This can also be used as a guide to keeping courses straight and to assist in maintaining the proper 5mm spacing when aligning with intermittent vertical chalk lines.

Note: *Do not install slates smaller than 100mm*

Felt and Batten Roof:

The distance from the first-course batten to the second-course batten, and beyond, is dependent on the roof pitch and subsequent exposure gauge settings. Please see the diagram of the LiteSlate, and the Pitch, Gauge, and Coverage table on the previous page. Ensure that the first course and eaves course are laid "broken bond" so that the joints do not line up and the weatherproofing integrity is maintained.

Ridge Cap Finishing:

Easy Ridge Caps should be finished by cutting a standard LiteSlate at the end of the ridge into a triangle or diamond shape of the right size to cover the end gap. The resulting material should then be nailed in place into the end-battens and/or truss. The material can be sealed by using a good quality silicone sealant.

Step Flashing:

Step flashings are used over or under the roof coverings and are turned up on the vertical surface. Step flashings should extend under the uppermost row of the roof slate the full depth of the roof slate or at least 102mm over the roof slate immediately below the metal. The vertical leg of the metal should be turned up a minimum of 102mm and extend 102mm on the roof slate with a 19mm hem. Flashings should have a minimum length of 229mm and must overlap a minimum of 51mm.

Apron (Roof to Wall) Flashing:

Lead apron flashing is used when a roof terminates to a wall causing a course to be cut and face nailed. It is installed over the slates and behind siding or counter/cap flashing or dressed into brickwork/stonework, etc.

Hip & Ridge Detail on a Boarded Roof:

When pre-formed hip & ridge slates are used, place the nail at fastener guide targets. Fasten hip slates with 2 nails (one on each side). Maintain a (152mm) exposure.

Hip & Ridge Detail on a Felt & Batten Roof:

Felt & batten roofs need the addition of extra tiling battens to secure the hip tiles.

Ridge-to-Hip Intersection:

When a ridge tile meets hip tiles, it is necessary to weatherproof this intersection. A lead saddle should be fitted to cover the intersection between the ridge tile and the mitred hip tiles. LiteSlate hip tiles cut easily without splintering or cracking.

Installation in Exceptionally High Wind Areas:

There are certain areas, particularly on west-facing coasts and exposed islands, where wind speeds can exceed this level, and to reduce the risk of uplift. LiteSlates should be fixed directly to a solid substrate, such as sarking board, OSB or weather-grade ply. The maximum overlap – slates set at the 152mm gauge – should be used. Standard copper roofing rivets should be installed: a hole is drilled in the overlapping or top slate, and a rivet is slid up between the gap in the two bottom slates.

Pitch changes:

LiteSlate can be installed onto roofs with two pitches, using a lead flashing.