July 2010
Uniclass
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CI/SfB (47) Nh2

SLATE *2000*®

SLATE PANELS
Slate panels, for roof pitches from 12° to 90°.

Britmet Slate 2000 1250mm x 369mm light weight roofing slate panels have been designed to emulate natural slates and MUST be fixed with a broken bond and fixed right to left. Manufactured and supplied by Britmet Tileform Limited.

To secure the 0.45mm Slate panels, 4no. coloured 2.6mm x 50mm galvanised fixing nails per panel should be driven through the downturned face of the slate panel ensuring penetration through the batten is made. (For 0.9mm Slate, a coloured TEX Screw can be used: (Part No. ASF2 – 00E55).

The second course of slate panels and each course thereafter, to be laid with a broken bond to conform with the interlocking design of the slate.

BATTENS
Slating battens of approved treated quality of suitable section, (see table one) to be laid at 369mm centres, except the eaves batten (see eaves), and secured to the rafters using galvanised nails, or 367mm centres for 0.9mm.

Joints in battens to meet half way across top face of rafters and be staggered as per standard code of practice.

UNDERLAY
Approved reinforced felt to BS747 (type 1F) to be laid over rafters and lapped in accordance with current regulations (see tables 2 & 3). Felt must be allowed to exceed into gutters and be secured to the rafters with galvanised clout nails.

ANGLE RIDGE
To be manufactured and coated in identical material to main roof covering.

Two slate battens to be fitted side by side on both sides of the ridge, using galvanised nails. An additional 38mm x 38mm ridge batten to be secured on top of the rearmost of the two slate battens in a position to suit the fitting of the angle ridge.

The top course of slate panels to be bent and cut if necessary, using a bender and guillotine (available from Britmet Tileform Ltd). The back edge of the slate panel to be turned up to form a 25mm to 38mm upstand against the top slate batten. Each slate panel to be secured using four nails driven through the downturn nose of the slate panel into the battens.

The ridge cap to be fitted over the top batten and nailed through the downturn of the ridge cap into the slate panel upstand and face of the batten, using five nails on each side.

ANGLE HIP FLASHING
A 38mm x 38mm batten to be nailed to the slate battens, on each side of the hip, using galvanised nails.

Slate panels to be cut and bent up against the battens, using a guillotine and bender (available from Britmet Tileform Ltd).

The hip caps to be fitted over the battens and nailed through the downturn into the face of the battens, using five nails on each side.

ANGLE RIDGE (VENTILATED) – ROOF PITCHES FROM 12° TO 35°
Felt underlay to be cut back at the top edge allowing a continuous 12.5mm air gap on either side of the centre line of the ridge.

The top course of slate panels to be bent and cut if necessary, using a bender and guillotine (available from Britmet Tileform Ltd).

Each slate panel to be secured using four fixing nails driven through the downturn nose of the slate panel into the battens. A batten, not exceeding 38mm x 38mm to be fitted on the universal vent filler (supplied by Britmet Tileform Ltd) and secured through the slate panel into the battens on the underside, using 75mm galvanised nails.

The ridge caps to be fitted over the batten and nailed through the downturn, into the face of the batten using five nails on each side.

EAVES
The bottom course of slate panels to be secured with four, coloured galvanised 2.6mm x 50mm nails driven vertically through the high point of the slate panel profile, into the fascia board, or through the eaves batten. Eaves batten to be placed approximately 20mm behind the fascia board if the Britmet eaves ventilation system is used. These nail heads to be sealed using the Britmet finishing kit. The top of the fascia board, or eaves vent, if used, to be in line with top of battens. Fit lay board or tilting fillet at the eaves, if appropriate, to ensure any moisture on the underlay drains into gutter.

EAVES VENTILATION
The top of the fascia board to be set 15mm below the top face of the eaves batten for the 10mm eaves vent pack. Britmet over fascia ventilators to be fixed to the fascia board and Britmet over insulation airflow units to be installed between the rafters.

Roof pitch below 15°
The top of the fascia board should be fixed 25mm below the top face of the eaves batten allowing for the Britmet 25mm eaves vent system.

VALLEY
Valley to be formed from metal sheet (lead) or moulded glass fibre or similar approved lining, supported on valley boarding. Adjacent slate panels to be measured and cut, allowing sufficient downturn, as detailed in the manufacturers instructions. Battens to project over valley to provide fixing for slate panels.

BARGE BOARD COVER
The timber barge board should project 25mm above the top of the slate battens. A 25mm x 38mm timber batten to run parallel to the fascia board. Slate 2000 panels should be cut and bent up against the timber barge batten.

The Slate 2000 scribed barge board cover to be secured using five fixing nails driven through the downturned edge into the barge board and five nails to be driven vertically into the barge batten (the heads of the vertically fixed nails to be sealed, using slate 2000 finishing kit).

SIDEWALL FLASHING
Britmet side-wall flashing to be secured with fixing nails, one driven vertically into each batten (these nail heads to be covered, using Britmet finishing kit). Britmet cover flashing to be dressed over edge of side flashing abutting wall and let into brickwork.

SLATE 2000 INLINE SOIL AND INLINE SLATE VENT
To provide additional ventilation, the Britmet inline slate vents are available providing an airflow of 7,500mm^2. The slate underlay must be cut to allow the spigot of the slate vent to pass through and 100mm above this penetration point, an opening protector (included with the slate vent) must be installed to provide full weather security.

The slate vent is secured by overlapping a Britmet Slate panel on either side and nailing through the nose of the slate panel. Nails must not penetrate the vent slate.

The Britmet inline vent slate can also be used as a weather protected exit point for soil pipes or extractor fan ducts by means of a separately available flexi hose and pipe adapter that connects the vent to 100mm stacks or duct work.

SLATE 2000 GAS FLUE RIDGE TERMINAL
Available to suit angle ridge only. Type (R) adapter and extension piece supplied by others.

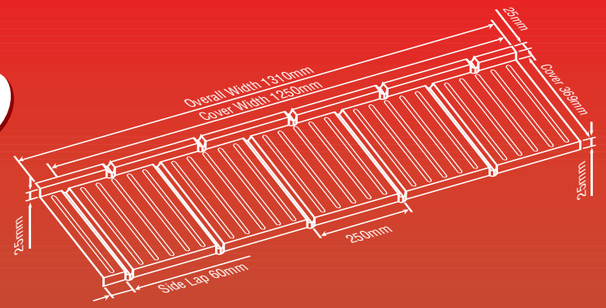
Please note: This information is to be used as a guide only. It assumes that the structure of the existing building is in accordance with the building practice.

At your request a custom specification can be written for your individual project. Please contact our technical department at the address shown below.

SLATE *2000*

BRITMET TILEFORM LIMITED

SLATE 2000

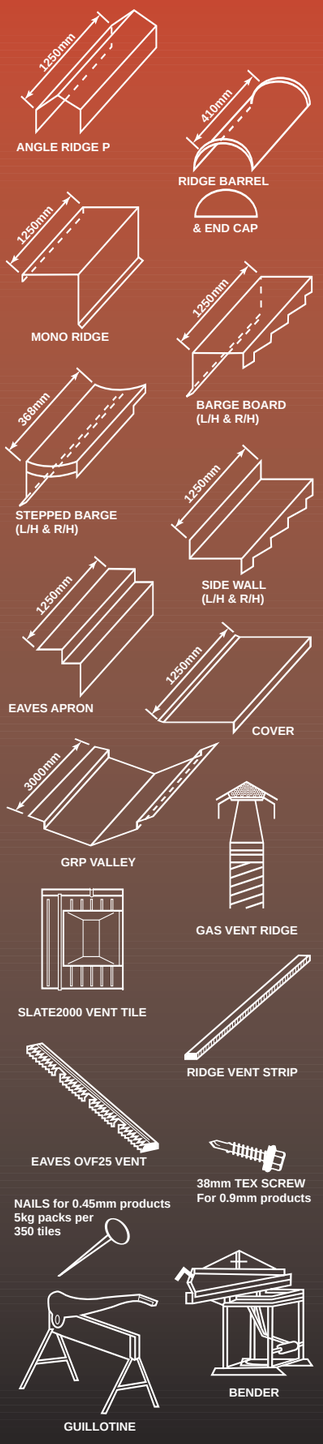


SUITABLE FOR THE FOLLOWING TYPES OF PROJECTS

- Converting flat roofs to pitched.
- Non traditional/traditional housing.
- Pre-fabricated buildings.
- Holiday centre accommodation.
- Community Centres.
- Re-roofing of schools/prisons.
- Over-roofing of asbestos/felt/industrial sheeting.

APPROVALS
British Board of Agrément certificate number. 89/2272.
Manufactured using ISO 9001 approved materials.

Complies with:
The Building Regulations 2000 (as amended) England & 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 (1989)



ADVANTAGES

- Designed to give a traditional slate appearance.
- Lightweight.
- Minimum pitch 12°.
- Good vandal resistance (0.9mm steel base).
- Easy to handle.
- Offers reduced structure.
- Quick installation.
- Less labour intensive.
- Cost effective
- Virtually maintenance free.
- Extensive range of accessories and flashings available.
- Designed to be laid broken bond.
- Fully dry-fixed.
- Guaranteed for 30-years against weather penetration.
- Full technical support available.

This school project used the 0.9mm thick Slate 2000 because of the high vandalism.

Slate 2000 used on various sites across the country for affordable houing.

Unlike traditional Slate, the Slate 2000 can be used on roof pitches as low as 12°.

The Slate 2000 can be fixed to timber/steel sub-structures as in this flat to pitch roof conversion.

TECHNICAL DATA

Min. pitch:	12°
Max. pitch:	90°
Overall width:	1310mm
Cover width:	1250mm
Side lap:	60mm
Step:	22mm
Batten gauge (0.45mm):	369mm
Batten gauge (0.9mm):	367mm
Individual slate width:	250mm
Roof cover per slate panel:	0.46m2
Slate panels per m²:	2.17
Steel base:	0.45mm & 0.9mm
Weight as laid per m²:	7kg & 11kg
Base coat:	Acrylic resin.
Top coat:	Stone granules with clear acrylic overglaze.
Colours available:	Titanium Grey (special colours on availability). Brindle available on request.
Chemical resistance:	Unaffected by normal pollution.
Biological resistance:	Non toxic fungicide incorporated.
Fire resistance:	AA classification equal to traditional roof tiles and slates.
Fixings:	The contractor shall utilise the roofing manufacturers recommended fixings and sealant.
Ventilation:	Roof ventilation should meet recommendations of Building Regulations 1991 (amended '92, '94). Approved Document F2 1995 'Condensation in roofs', BS 5250: 1989 'Control of condensation'.

Re-roofing on traditional houses in Slate 2000.

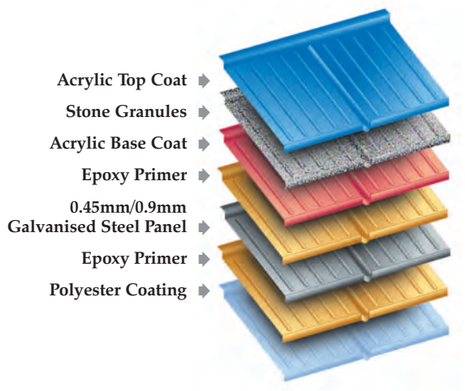


TABLE 1

RECOMMENDED TIMBER BATTEN SIZES (roofing & vertical applications)

Rafter or truss spacing (mm)	Minimum nailing requirements	Batten Width mm	Batten Depth mm
450	1 no 75mm x 3.35mm	38	38
600	1 no 75mm x 3.35mm	50	38
900*	1 no 100mm x 4.00mm	50	50
1200*	1 no 100mm x 4.00mm	50	50
1500*	1 no 125mm x 12g screw	50	75

*underlay supports between rafters/truss to be used, (wire support or nylon tape).

TABLE 2

RECOMMENDED ROOFING UNDERLAY

Roofing underlay is required & should comply with recommendation's of BS 5534: Part 1: 1997 & BS 8000	
Unsupported (roofing underlay draped over rafters or counter-battens)	Roofing underlay should comply with BS747 type 1F or 5U
Fully supported (roofing underlay laid directly to boarding or sarking)	Roofing underlay should comply with recommendation's of BS5534: Part 1: 1997 section 2.10.2 and vapour transmission tested in accordance with BS 3177 (n.b. good quality BS 747 type 1F underlay comply with this test)

TABLE 3

RECOMMENDED LAPS FOR UNDERLAY

Pitch	Minimum headlap		Minimum Sidelap
	Not fully Supported	Fully Supported	
12°	300mm	200mm	100 - 150mm
12½° to 14°	225mm	150mm	100 - 150mm
15° to 34°	150mm	100mm	100 -150mm
35° & above	100mm	75mm	100 - 150mm

NB. Any penetrations to the underlay should be suitably sealed to prevent water ingress. Roofing underlay laps to valleys should comply with recommendations of BS 5534: Part 1:1997 section 4.2.1.6

TABLE 4

CALCULATION CHART (estimating guide for 0.45 only)

Chart below allows for a 25mm fascia and 20mm to the first batten.

Overall Roof Length (m)	N° of Tile Panels	Rafter Length to suit full courses of tile inc. fascia	Number of Tiles Required
1.250	1	0.294	1
2.500	2	0.663	2
3.750	3	1.032	3
5.000	4	1.401	4
6.250	5	1.770	5
7.500	6	2.139	6
8.750	7	2.508	7
10.000	8	2.877	8
11.250	9	3.246	9
12.500	10	3.615	10
13.750	11	3.984	11
15.000	12	4.353	12
16.250	13	4.722	13
17.500	14	5.091	14

For wastage on Hips & Valleys, allow an additional 1.32 slates per lm