BORAL ROOFING
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Roof Tiling Standards Guide


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Contents

1.0 Introduction

Boral Montoro Pty. Ltd. trades as Boral Roofing.

Roof tiling is the fixing of roof tiles to the exterior surface of a roof. Roof tiling work includes installation of battens, sarking, anti-ponding board, associated flashing, bedding and pointing of tiles. It also includes the installation of skylights, ventilators and the like, not involving structural alteration of roof members/components, to tiled roofs.

This guide has been prepared to assist roof tilers in undertaking roof tiling work in conformance with Australian Standards.

In addition to following the recommendation provided in this guide, roof tilers should determine to their own satisfaction that the roof tiling work has been completed to an acceptable standard.

Important

This document is a guide only and in no way infers any liability or responsibility on the part of Boral Roofing.

The standards and codes referred to in this document are updated from time to time. Boral Roofing recommends that roof tilers independently verify that the roof tiling work has been undertaken in accordance with the current standards and codes.

Unless noted, the contents of this guide refer to both concrete and terracotta roof tiles.

1.1 Standards

- The “Building Code of Australia”
- Australian Standard “Roof Tiles” AS 2049
- Australian Standard “Installation of Roof Tiles” AS 2050
- Australian Standard “Pliable Building Membranes and Underlays” Part 2, Installation Requirements, AS 4200.2:
- Australian Standard “Wind Loads” AS 1170.2
- Australian Standard “Wind Loads for Domestic Housing” AS 4055
- Australian Standard “Construction of building in bushfire-prone areas” AS 3959
- Other local regulations that may apply.

2.0 Fixing Recommendations

2.1 First Course

- The first course of tiles should be positioned to provide adequate projection over the fascia and into the gutter. This projection is normally 50mm for terracotta and concrete tiles ±15mm according to profile.
- To allow for any distortion in the fascia line the first course should be set out using a string line.

2.1.1 First Course Set Out

The first course set out will vary from state to state dependant on batten size and methodology used.

2.1.2 Concrete Tiles - NSW

Measured from outside edge of fascia to the bottom edge of the 38mm wide batten.

- Contour, Macquarie, Slimline, Linea and Vogue: 315mm set out.

2.1.3 Terracotta Tiles - NSW

- French: 310mm set out
- Shingle: 300mm set out
- Swiss: 295mm set out

Note: Failure to use correct set out will negate the bird bar on tile.

2.1.4 Concrete Tiles - VIC

Measured from outside edge of fascia to the top edge of the tile batten.

- Contour, Macquarie, Slimline, Linea, Striata and Uno: 355mm set out.

2.1.5 Terracotta Tiles - VIC

- French: 340mm set out
- Shingle: 330mm set out
- Swiss: 325mm set out

Note: Failure to use correct set out will negate the bird bar on tile.

2.2 Standard Set Out - Concrete Tiles, NSW & VIC

- 75mm lap on tiles – maximum set out 355mm.
- 100mm lap on tiles – maximum set out 330mm.

2.3 Standard Set Out - Terracotta Tiles

- Set out of French, Shingle and Swiss tiles should be determined by the tiler on site at the time of installation.
  (As a guide only this would be: French and Swiss, 356mm, Shingle, 308mm. However, to allow for variances in all clay products, such as terracotta tiles, the tiles should be measured on site.)
- To avoid terracotta tiles overriding on the main pitch of the roof when a change of pitch occurs, care must be taken to ensure correct set out is used at the roof break.

3.0 Battening

3.1 General

- String line first course set out, parallel to the fascia.
- Set out/batten spacing should be equal through out the roof planes. The tolerance shall not be greater than ± 5 mm.
- Concrete tile head lap shall not be less than 75 mm.
- Battens shall be aligned to within a tolerance of ±20mm in 4m. (AS2050)
- Battens must be nailed on every rafter / truss intersection including multi ply trusses.
- Nails are to penetrate the rafter / truss to a depth of at least 10 times the diameter of the nail used.
- All battens, cut off on hip boards should be nailed.
- All joins in battens should be nailed.
- All batten joints should be staggered so there are at least two (2) clear battens between each butt joint on any rafter.
- Battens should not be joined within the triangular area formed by the gable end and the steel bracing.
- All battens fixed into valley battens or boards to be cut and nailed.
- Ridge Batten: The top side of the Top Batten should not exceed 20mm from the face of the ridge board or the apex of a truss roof. This is to ensure the ridge is not bedded over nail hole of the tile.

3.2 Counter Battens

- Counter battens are required regardless of the pitch on any roof where the ceiling lining is on top of the rafters
- Counter battens are to be supplied and fixed by the builder.

3.3 Bellcast Battens/Tilting Batten

- These are supplied and fixed by the builder.

3.4 Recommended Batten Sizes and Types

- Batten sizes and types vary by region, depending on local practice, rafter spacing, timber availability, etc. The following table summarises suitable batten types and current practices. It is recommended that local authorities be consulted before final specification of battens as requirements may vary.
- Battens that are warped, twisted, of uneven dimension, or excessively knotty, should not be used.
- Where steel battens are to be used, refer to the batten supplier's technical information.

3.5 Batten Sizes and Rafter Spacing

3.5.1 Batten Sizes and Rafter Spacing Table

Rafter Spacing	State	Up to 450mm	Up to 450mm	450mm to 600mm	450mm to 600mm	900mm	900mm
Batten Type		Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood
Batten Size	NSW	38mm x 25mm	38mm x 28mm	38mm x 25mm	38mm x 38mm	50mm x 38mm	63mm x 38mm
	ACT	40mm x 25mm	38mm x 28mm	38mm x 25mm 50mm x 25mm	38mm x 38mm	50mm x 38mm	63mm x 38mm
	VIC	50mm x 25mm	38mm x 38mm	50mm x 25mm	38mm x 38mm	50mm x 38mm	N/A

3.5.2 Metal Battens

Metal Top Span (T/S) 20: Rafter centres to 600mm
Metal Top Span (T/S) 40: Rafter centres 600mm to 1200mm

3.5.3 Acceptable Batten Nails

Acceptable Batten Nails Table: Unseasoned Hardwood Rafters (J2)

Rafter or truss spacing (mm)	Batten depth (mm)	Wind Classification											
		N 1		N 2		N 3		N 4/C 1		C 2		C 3	
		Field of roof	Edge of roof	Field of roof	Edge of roof	Field of roof	Edge of roof	Field of roof	Edge of roof	Field of roof	Edge of roof	Field of roof	Edge of roof
450	28	A	A	A	A	A	B	A	B	B	D	D	E
	38	B	B	B	B	B	B	B	D	B	D	D	F
600	38	B	B	B	B	B	B	C	D	D	D	D	G
900	38	B	B	B	B	B	D	D	F	D	G	G	F

Legend:
A = 1/50 x 2.8 diameter plain shank
B = 1/65 x 2.8 diameter plain shank
C = 1/65 x 3.05 diameter plain shank
D = 1/75 x 3.05 diameter plain shank
E = 1/65 x 3.05 diameter deformed shank
F = 1/75 x 3.05 diameter deformed shank
G = 2/75 x 3.05 diameter plain shank
H = 2/75 x 3.05 diameter deformed shank

Acceptable Batten Nails Table: Seasoned Softwood Trusses/Rafters (JD4)

Rafter or truss spacing (mm)	Batten depth (mm)	Wind Classification											
		N 1		N 2		N 3		N 4/C 1		C 2		C 3	
		Field of roof	Edge of roof	Field of roof	Edge of roof	Field of roof	Edge of roof	Field of roof	Edge of roof	Field of roof	Edge of roof	Field of roof	Edge of roof
450	28	A	A	A	A	A	C	A	E	D	F	F	G
	38	B	B	B	B	B	D	C	F	E	G	G	H
600	38	B	B	B	C	B	F	D	G	F	H	H	I
900	38	B	B	B	E	D	G	F	H	G	I	I	J

Legend:
A = 1/50 x 2.8 diameter plain shank
B = 1/65 x 2.8 diameter plain shank
C = 1/65 x 3.05 diameter plain shank
D = 1/75 x 3.05 diameter plain shank
E = 1/65 x 3.05 diameter deformed shank
F = 1/75 x 3.05 diameter deformed shank
G = 2/75 x 3.05 diameter plain shank
H = 2/75 x 3.05 diameter deformed shank
I = 2/75 x 3.75 diameter deformed shank
J = 1/75 No 14 Type 17 Screw

4.0 Sarking

4.1 General

- Sarking should be installed according to the sarking manufacturer's published specifications and in accordance with Australian Standards AS 4200.2: Installation Requirements.
- Always check whether a job has to be sarked. Question any unsarked low pitched roofs between 15º (degrees) - 20º (degrees).

4.2 Bushfire Attack Levels (BAL)

BAL - LOW	Normal fixing requirements for nominated wind classification.
BAL - 12.5	Normal fixing requirements for wind classification N1 and N2, plus an approved sarking* and anti-ponding boards.
BAL - 19	Normal fixing requirements for wind classification N3 and C1, plus an approved sarking* and anti-ponding boards.
BAL - 29	Normal fixing requirements for wind classification N4 and C2/ C3, plus an approved sarking* and anti-ponding boards.
BAL - 40	Normal fixing requirements for wind classification N4 and C2/ C3, plus an approved sarking* and anti-ponding boards.

*Approved sarking shall be rated Low having a flammability index less than 5. when tested in accordance with AS1530.2

Sarking to be located directly below the roof tile battens; cover the entire roof area including the top ridge; and be installed so that there are no gaps that would allow entry of embers where the sarking meets fascias, gutters, valleys and the like.

Anti-ponding board should be installed to prevent ponding behind the fascia.

4.3 Typical roofing details requiring sarking:

- Where the design wind classification is greater than N3.
- Where rafter lengths exceed 6.00 lineal metres.
- Valleys spreading onto lower roofs.
- Under spreaders (at the builders request)
- Sarking to be installed at any change of roof pitch and extending from the eaves gutter to a point at least 300mm beyond the change of pitch.
- Where the roof pitch exceeds 45º (degrees) the whole roof shall be sarked.
- Sarking must be used with raked or close boarded ceilings.

Note: Not withstanding the above provisions, where local site conditions are believed to involve greater than average normal exposure to wind driven rains, it may be necessary to provide sarking.

4.4 Eaves

- First course of sarking is to override the fascia by at least 25mm, pulled tight and turned down into the gutter as per AS4200:2 requirements.

4.5 Anti-Ponding Board

Anti-Ponding Board shall be provided as follows:

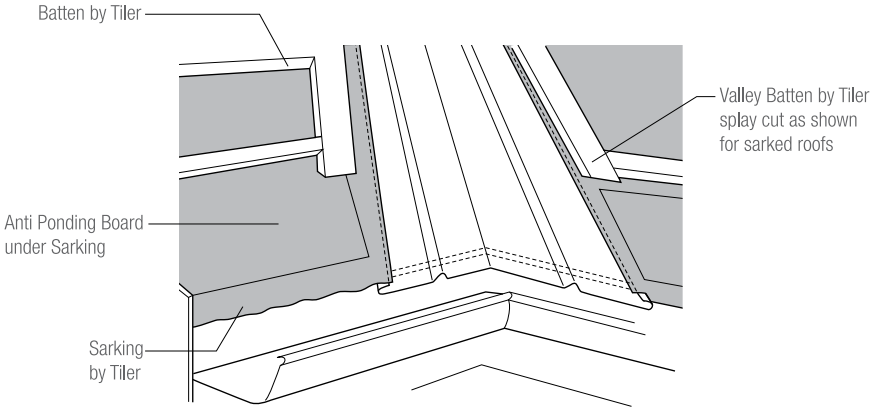
- On sarked roof with pitches less than 20°.
- On all sarked roof pitches where there are no eaves over hang.

Note: The exception being roof sections partially sarked to comply with excess rafter lengths.

4.6 Valleys

- Where sarking is used, it should not overlap the valley by more than 20mm and be held in place by a valley batten fixed parallel to the valley board. Sarking should then be cut in line with the valley lip.
- Valley batten should start at the position of the first course batten.

4.6.1 Valleys Detail



4.7 Hips

Sarking must overlap all hips by at least 150mm.

4.8 Sarking and Pitch Requirement

- Roofs at 15º (degrees) - 20º (degrees) must be sarked. Maximum Rafter Length is 4.5 Lineal metres at 15º (degrees).
- Roofs over 20º (degrees) and up to 45º (degrees) may require sarking.
- Minimum pitch for a Linea/Striata is 20º (degrees).

4.9 Sarking Important Notes

- Set out nails should not protrude above the thickness of the battens.
- Minimum overlap for sarking is 150mm unless otherwise specified and all end laps should be overlapped one rafter spacing.
- Sarking at the ridgeline shall continue over ridge, as per AS4200.2.
- Sarking is to be sagged to facilitate drainage. The depth is not to exceed thickness of batten or 40mm maximum.
- Holes or tears in the sarking should be repaired using an approved sarking tape.
- Sarking can be used to prevent inundation of the roof space when water is drained to a lower roof via downpipe spreaders or valleys. When sarking is used in this manner; the roof should be sarked from the point of discharge down to the eaves gutter. The width shall be 1.8m either side of the point of discharge.

5.0 Tile Nailing and other Fastening Materials

5.1 Concrete Tiles (Minimum Fixing)

- Clout nails should be non-ferrous, stainless steel or steel with a corrosion resistant coating.
- Clout nails should be 2.8mm (minimum) in diameter and comply with the requirements in relation to the type of timber used and applicable wind loadings.
- The minimum penetration into the batten must be 15mm.
- Mechanically fix each full tile in 2nd course and then every 2nd tile in every course, or every tile in every 2nd course.
- Boral Roofing's side lap roof tile clips can also be used with Boral's concrete tiles.

5.2 Terracotta Tiles (Minimum fixing)

- Clout nails should be non-ferrous, stainless steel or steel with a corrosion resistant coating.
- Clout nails should be 2.8mm (minimum) in diameter and comply with the requirements in relation to the type of timber used and applicable wind loadings.
- The minimum penetration into the batten must be 15mm.
- Mechanically fix each full tile in 2nd course and then either every 2nd tile in every course, or every tile in every 2nd course.
- Boral Roofing's side lap roof tile clips can also be used with Boral's terracotta tiles.

5.3 Fixing cut courses

- All short courses should be mechanically fixed:
  (a) Drill cut tile and nail or screw fix.
  (b) Fix with a purpose made short course clip.
- All cut courses must be mechanically fixed under flashings.

6.0 Laying the Roof

6.1 Receipt of Tiles

- The tiler should inspect the tiles for transportation damage. Each pallet should be examined for correct colour and profile. If there is any visible damage to the tiles or the quantities delivered are incorrect immediately notify Boral Roofing.

6.2 Tile Profiles and Bond Patterns

- Contour, Macquarie and Slimline can be laid straight bond or cross bond.
- Contour should be laid cross bond when the roof is 20º or less.
- Linea to be laid at a Quarter bond.
- Vogue, Uno Vic. Striata to be laid cross bond.
- French and Shingle to be cross bond.
- Swiss to be straight bond.

6.3 Loading

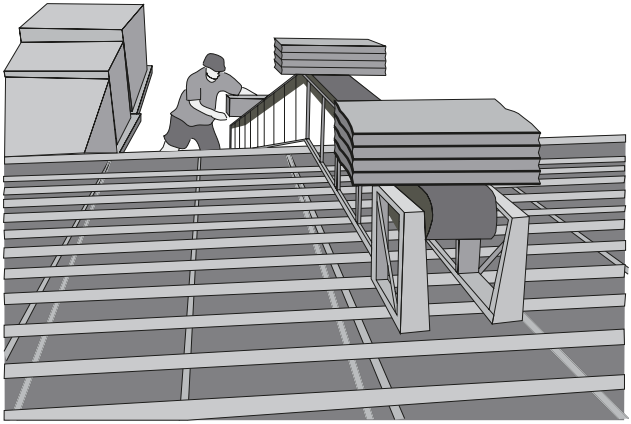
- Battening and sarking of the entire roof should be completed before the tiles are loaded.

6.4 Blending

- Roof tilers should blend Boral Roofing's concrete or terracotta roof tiles while loading onto the roof. Alternate loading of packs from three (3) or more pallets onto the roof elevator will assist to blend shade variations over the whole roof area, giving a professional result.
- In buildings where the rafters are internally exposed, or the length of the top chord or rafter exceeds 6 metres, tiles should be loaded onto the structure from each side progressively to ensure that their weight is evenly distributed.

6.4.1 Loading and Blending Detail

When loading a roof, the following procedures should be followed:



6.4.2 Visual inspection

- After about 75 to 150 tiles have been installed, a visual inspection of the tile application should be made from ground level and at a distance from the building to see that the tile courses follow straight and true lines and that any variation in colour is being eliminated by the mixing of tiles as they are laid.
- These inspections should be repeated at regular intervals during tile installation to ensure an attractive and acceptable roof on completion.

6.5 Laying and Securing Tiles

- Tiles should be laid and secured in accordance with “AS2050 Installation of Roof Tiles”.
- All courses are to be aligned vertically and horizontally.
- Set out for concrete tiles should be adjusted for full courses on all ridges and high fascia finishes wherever possible.
- Top courses are to finish hard up to top ridge board enabling full cover for ridge capping.
- With gable roofs, the bottom courses should be laid through the full length of the building and a correct overhang worked out before laying balance of tiles.
- At Gables, the two tiles at the starting and finishing end shall be mechanically fixed in every course.
- Exposed side water courses to finishing gables should be removed where practical.
- Covered jobs should to be dry ridged and left water tight, if unable to complete. Inform Boral Roofing if any problems.
- Any shortages should be left out on a side of a house, not the front of a house.
- It is good tiling practise not to lay twisted, broken or chipped terracotta tiles into the roof. Leave them for valley or hip cuts.

Note: Cut tiles at Gables to be mechanically fixed.

6.6 Fixing Recommendations

6.6.1 Fixing Recommendations Table

Table 1 Non-Cyclonic

Wind Classification	Tile Fixing		Ancillary Fixing
	Edge of Roof	Field of Roof	Ridge, Hip & Barge Tiles
N 1 & N 2	Mechanically fasten each full tile in second course and then every second tile in every course or every tile in each alternate course.		Mechanically fasten each tile.
N 3	Mechanically fasten each full tile in second course.	Mechanically fasten each second full tile.	Mechanically fasten each tile.
N 4	Mechanically fasten every full tile.	Mechanically fasten every full tile.	Mechanically fasten each tile.

Table 2 Cyclonic

Wind Classification	Tile Fixing		Ancillary Fixing
	Edge of Roof	Field of Roof	Ridge, Hip & Barge Tiles
C 1	Mechanically fasten each full tile in second course and then every second tile in every course or every tile in each alternate course.		Mechanically fasten each tile.
C 2 & C 3	Mechanically fasten every tile.		Mechanically fasten each tile.

Note: Flexible pointing shall not be used as a mechanical fastening material for ridge and hip tiles C2 & C3 wind zones. A suitable clip, screw or similar fastening device must be used.

7.0 Valleys

7.1 General

- Valleys must be cut neatly at approximately 50mm either side of the centre crease and present a straight line.
- Valley clips are to be installed on all small cuts.
- A supported “apron” flashing is to be installed under valley irons that drain onto lower roofs.
- At dog leg valleys created by a change of roof pitch, the lower edge of the valley is to be protected with a seal strip such as “Prestite” or a similar product.
- “Sarking” should not overlap the valley edge by more than 20mm and be secured by a valley batten.

8.0 Bedding and Pointing

8.1 Bedding Mortar Mix

The Australian Standard 2050 Installation of roof tiles requires as a minimum, “Cement mortar for bedding (1:4) 1 cement, 4 ± 0.4 sand.”

The use of other additives such as “Lime, Fire clay” is permitted at the following ratios:

- Lime composition bedding mortar (1:1:6).
  1 cement, 1± 0.25 lime, 6± 0.6 sand.
- Fire clay when used, replaces an equal amount of sand therefore, if ½ a measure of fire clay is used the ratio would be (1: 0.5: 3.5)…
  1 cement, 0.5± 0.005 fire clay, 3.5± 0.3.5 sand.

Note: Fire clay is not a replacement for cement.

8.2 Good Mixing Practice

- Always mix bedding mortar on mixing boards, in a cement mixer or wheel barrow.
- Always measure quantities of materials to required standards, prior to blending.
- To ensure an even distribution of cement, dry mix and thoroughly blend materials prior to adding water.
- Add water sparingly to prevent water logging the mortar.
- Never add extras to a mixed batch always finish the batch and begin again.
- “Fatty” sands do not provide an adequate bond for Flexible pointing. Excessively fatty sand must be broken down with washed sand to aid bond.
- The use of plasticizer’s and products that aerate mortar is not recommended as these products weaken the mortar.
- The use of “Lime” in bedding mortar will substantially increase the amount of Calcium Hydroxide in the mortar mix. This inturn will increase the likelihood of calcium staining on the tile surface especially where moisture drains from the water bars.

8.3 Pointing Mortar (Flexible Pointing)

Note: Flexible pointing must not be used as a mechanical fastening material for ridge and hip tiles in C2 and C3 wind zones. A suitable clip, screw or similar fastening device must be used.

- Mixing instructions as shown on the label are to be followed. Use no additives without manufacturer’s permission.

9.0 Ridge Systems

9.1 General

Boral Roofing manufactures various types of ridge. The bedding and pointing of the ridge capping and gables should be carried out in a neat and clean manner, as this reflects on the overall appearance of the completed project.

9.2 Bedding

When bedding ridge caps and gable tiles always ensure:

- Gable tiles or ridge caps are always firmly bedded into the mortar.
- Cut tiles closely to the rake of the hip to leave a maximum gap of 20mm between hip cuts.
- The tip of the hip starter is 50mm into the gutter on the same line as the nose of bottom course tiles. The hip tiles must be cut close and neat to support the mortar under the starter.
- All hips and top ridges are being laid to achieve straight and regular lines. A bedding frame or string line must be used.
- All junctions of hips and ridges should be made weatherproof, either by a purpose made fitting or by close joining with a soaker or under flashing.
- All cut tiles, whether hip or valleys should be a complete cut tile in itself, not broken off at the bottom or top edge.
- Cut tiles are aligned with adjacent tiling.
- Cut tiles are supported in the same plane as the roof. (This may, require installation of short course battens at top ridges or galvanised nails support cut tiles at hips.)
- On gable roofs, it is good practice for ridge caps to be laid so as to finish with equal lengths of ridge cap at the ends of the ridge. Lapping of ridge tiles should be directed away from the prevailing winds.
- All ridge capping is to be supported in mortar. A fuller, wider bed is recommended as it allows ridges to be aligned as close as possible to the top profile of the tile.
- Any holes in the bedding are filled.
- Cut back excess bedding, score the underside of the ridge capping (as per pointing manufacturers instructions) pick up waste material and wipe clean the tile or ridge caps edges. (This will provide a firmer surface for the flexible pointing to adhere to.)
- Weep holes are provided at all top ridges including Apex's on cement tiles, 1 per tile pan or 2 per flat tile with a min. 5mm diameter. Terracotta tiles with the weather checks cut off are also to be weep holed.
- Make roof watertight if you cannot ridge.

Note: Large finishing terracotta tiles on hips should also be supported as above.

9.3 Pointing

Note: Flexible pointing shall not be used as a mechanical fastening material for ridge and hip tiles in C2 and C3 wind zones. A suitable clip, screw or similar fastening device must be used.

When pointing ridge caps and gable tiles always ensure:

- Bedding is dry and tile/ridge edges wiped down.
- Flexible pointing is thoroughly mixed to manufacturers instructions. The pointing should be regular in appearance, and should have uniform colour and texture.
- Flexible pointing is applied to manufacturer's instructions (Generally 3mm – 5mm thick) and cover's all bedding mortar from the top edge of the tile/ridge to the lower edge roof tile or fibro verge strip. No bedding should be visible. For durability purposes, the pointing should be trowelled off to provide a neat appearance.
- Weep hole top ridges as for bedding, min. 3mm diameter hole.
- All collars are to be pointed as well as all returns on gable tiles.
- Wipe down and remove all mortar dags from the ridge capping and surrounding roof areas.

10.0 Barge/Gable Systems

10.1 General

- There are a number of ways of setting a barge/gable end.
  ✔ Bed and point ✔ Barge tiles ✔ Secret gutter ✔ Dry verge
- Starters, Finishers and cut tiles at the beginning and end of each course of a gable must be mechanically fixed (min. width 2 tiles). On unlined projecting gables, every tile in the overhanging portion shall be mechanically fixed.

10.2 Bedding and Pointing Gables

- For starting and finishing gables, fibro overhang is to be 15mm ± 10mm and tilted towards the outside of the building. A metal "Z" flashing is to be fixed under the fibro strip.
- The gable bedding is to be kept back 3mm from the edge of the fibro to enable a better pointing finish.
- Gable pointing should be neat, without visible trowel marks. The barge boards are to be left clean of pointing material.
- All gable tiles must be mechanically fixed.
- The exposed side water channel to all left hand gables should be removed where practical.

Note: Bedding strips should always have a slight fall to the outside of the gable. It is often advisable to reinforce the bedding under the gable tiles with wire mesh on steep pitches. Such reinforcement will give added strength and security to the bedded gables.

10.3 Barge Rolls

- Concrete barge tiles should be fixed dry, one per tile course.
- All gable barge roll/ridge to be screw fixed. Minimum fastening 50mm x 14 gauge Type 17 Bugle Batten screw, class 3 coating.
- In most circumstances, an extra barge roll may be required. The cut barge should be neatly mitred, drilled and screwed.
- A terracotta barge roll should be laid one per course, with a bed and point finish on the tile and fastened with one screw.
- If a concrete or terracotta steep angle ridge is to be used as a barge capping, the collar should be trimmed off and the ridge reversed on the first course of barge. The ridge should have a bed and point finish to the tiles and to be screw fixed.
- All fitting without holes must be drilled and screwed to the specifications.
- Where barge tiles are laid to verges, the verge course of tiles should be kept back 25mm from the outside face of the barge board or outside the face of the building.
- Apex barge tiles are to be mitred plumb.
- Where barge tiles abuts ridge, a suitable soaker should be made to cover the top of the mitre extending back beneath ridge and pointed over.
- Z flashing to be installed on finishing gables.

11.0 Steep Pitch Work

- State regulations should be noted.
- If roof pitch exceeds 35º degrees, every tile is to be mechanically fixed.
- NSW Contour tile to be mechanically fixed every tile at roof pitch greater than 26º (degrees).
- Ridge capping to hips is to be mechanically fixed if the roof pitch exceeds 35º (degrees).
- Where the roof pitch exceeds 40º degrees, reinforcement is to be used in the bedding cement.
- Where the roof pitch exceeds 45º the whole roof shall be sarked.

12.0 Minimum Pitch

The minimum pitch for a tiled roof is 15º (degrees), unless other arrangements have been made:

12.1 Minimum Roof Pitch Table

Profile	Sarked Min.	Unsarked Min.
Concrete: Shaped		
Contour	*15º	20º
Macquarie	*15º	20º
Slimline	*15º	20º
Concrete: Flat		
Striata	20º	20º
Linea	20º	Sarking is Mandatory
Uno Vic	20º	Sarking is Mandatory
Vogue	20º	Sarking is Mandatory
Terracotta:		
French	*15º	20º
Swiss	*15º	20º
Shingle	*15º	20º

*The above minimum roof pitches are in accordance with AS2050.
Stated roof pitches greater than 15º are Boral Roofing's recommendations. Roofers should determine existing roof pitch prior to commencing work. º(Degrees)

13.0 High Winds/Terrain Categories

Note: Flexible pointing shall not be used as a mechanical fastening material for ridge and hip tiles in C2 and C3 wind zones. A suitable clip, screw or similar fastening device must be used.

- Sarking shall be provided for all roofs where the Wind Classification is greater than N 3 as per AS2050.
- Anti-flap pads when specified are to be installed at each alternate batten spacing.
- Taped joints sarking: When specified use an approved sarking tape.
- Fixing requirements: Are described in AS 2050 Installation of roof tiles and should be followed.

14.0 Party and/or Fire Wall Treatment

- When tiling over firewalls, timber battens less than 75 x 50mm are permitted to cross the internal wall in accordance with the Building Code of Australia.
- When tiling over firewalls which are directly under top ridges metal brackets are to be installed to rafters on either side of the firewall. Battens are to be screw fixed to metal bracket.
- Fire Barrier is to be installed to eaves and under valleys where applicable.
- Appropriate fire stopping material is to be installed to fill space between wall and tiles (mortar is not acceptable).

Note: This material should be installed by following manufacturer's recommendations or local Work, Health And Safety Authorities safe handling procedures.

15.0 Roof and Job Completion

- Tilers should take care to remove all debris from the roof and gutters on the completion of the job. In particular, care should be taken to remove any steel debris – nails, etc., which might cause staining of the tiles or premature corrosion of gutters should they remain on the roof.
- Roof cover debris should be removed by sweeping down the roof and cleaning valleys and gutters. No broken or chipped tiles are to be left on the roof. All debris should be stacked at the front of the building or in a designated area.
- A final check should be made on the roof before completion to ensure that any broken or cracked tiles are replaced and the roof is fully waterproof.
- 10 to 20 spares tiles should be left in an accessible area, such as in the garage or under the house.

15.1 Pallets

Pallets should be stacked neatly for collection.

Notes

Notes

For more information about Boral roof tiles:

call us on 1300 134 002

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