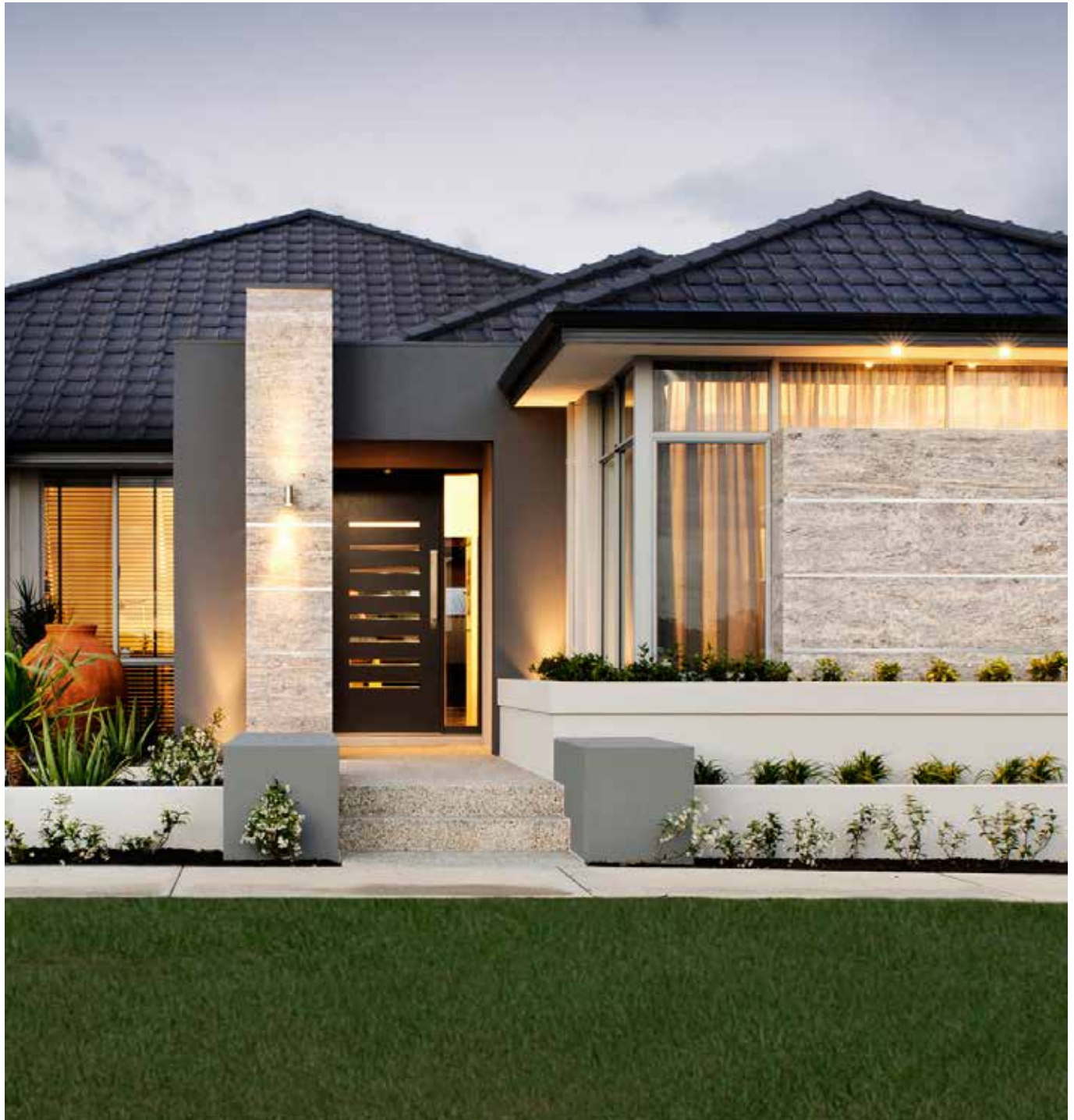


# CLAY ROOF TILES

*technical manual*





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# FIXING REQUIREMENTS FOR TILES & ACCESSORIES

**TABLE 1**  
**AS 2050 Wind Classification and Maximum Design Gust Wind Speed**

Wind Classification	Maximum Design Gust Wind Speed (m/s)	
	Serviceability Limit State (Vs)	Ultimate Limit State (Vu)
N1	26	34
N2	26	40
N3C1	32	50
N4C2	39	61
C3	47	74

**Note:** Wind classifications in Table 1 are as defined in AS 4055

**TABLE 2**  
**Minimum Mechanical Installation Requirements for Tiles and Ancillaries**  
**TILES AND ANCILLARIES**

Wind Classification	Tile Installation		Ancillary Wind Installation (See Figures 1 & 2)
	Edge Of Roof	Field Of Roof	Ridge, Hip And Barge Tiles
N1 and N2	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 every tile
N3	Mechanically fasten each full tile in second course	Mechanically fasten each second full tile in every course	Mechanically fasten every tile
N4	Mechanically fasten each full tile	Mechanically fasten every full tile	Mechanically fasten every tile
C1	Mechanically fasten every full tile	Mechanically fasten each second full tile in every course	Mechanically fasten every tile
C2/C3	Mechanically fasten every full tile	Mechanically fasten every full tile	Mechanically fasten every tile

**Notes:**

**1.** Laboratory testing has shown that only a minor deflection of truly adherent mortar will result in a breakage of either, or both, ridge or tile upon deflection of the roof. In most instances of mortar bedding and pointing, a truly long-term adherent bond does not exist. Experience has shown that roofs in practice deflect and mortar does inevitably break. Therefore, mortar bonding should not be used as a minimum mechanical installation. **2.** For pitches over 35°, extra precautions shall be taken. Refer to tile manufacturer for technical recommendations. **3.** For values greater than C3, refer to manufacturer's recommendations. **4.** All tiles fixed in C2 or C3 rated sites must not use flexible pointing material, even where labelled as a mechanical fixing product, as the sole means of fixing ridge and hip tiles. All such tiles must now be fixed with an approved clip or screw, or such other method as advised by your tile manufacturer.



## FIXING REQUIREMENTS FOR TILES & ACCESSORIES

Bristle Roofing clay roof tiles are manufactured and tested to cope with a varied range of weather conditions.

Factors that can affect the design of your roof include:

### SELECTING THE ROOF TILE

The water courses formed in the body of a shaped/profiled roof tile prevent water from entering the side lap weather channel. Flat roof tiles that do not feature water courses have greater potential to experience side lap weather channel inundation. The shape of a tile should be considered carefully, particularly on roofs that are built in exposed areas where high winds and rainfall are common.

### THE PITCH OF THE ROOF

The pitch of the roof affects the speed of water flow down the roof plane. The greater the pitch, the faster the water will drain, conversely roofs with less pitch will drain more slowly and water depth, particularly towards the bottom of the roof, may be increased.

Tiling is not recommended for a roof pitch below 15 degrees without special safeguards being put in place. AS 2050 states where it is intended to fix tiles to roofs with a pitch of less than 15 degrees, the tile manufacturer's advice should be adhered to.

Sarking is a pliable foil installed prior to fixing the roof battens. Sarking acts as insulation keeping your home cool and free from dust as well as acting as a secondary water catchment. Your Bristle Roofing representative should be consulted when choosing the correct grade of sarking for your roof design. Table 3 (below) identifies the minimum roof pitch at which Bristle Roofing tiles are to be installed, showing each region with and without the need for sarking.

<b>TABLE 3</b> <b>Minimum Pitches for Fixing Swan Valley and La Escandella Ranges</b>		
<b>La Escandella</b>	<b>Minimum Without Sark</b>	<b>Minimum With Sark</b>
Curvado/Curvado Glazed	20°	15°
Planum	20°	15°
Visum3	n/a	24° *
Medio Curva	n/a	10° **
Medio Curva	20°	15°
La Escandella Innova	20°	15°
<b>Swan Valley Collection</b>		
Marseille	18°	15°
Vienna	18°	15°

\* Sarking to be used regardless of pitch

\*\* Rigid Underlay used instead of sarking up to 27° degrees. 28°+ install on battens and sarked compulsory.

**Note:** Roofs with pitches of less than 20° with sarking installed require Anti Ponding Boards to be fitted.

## RAFTER LENGTHS AND PITCHES

The minimum roof pitch recommended can be influenced by the water run off depth. Extremely long runs accumulate water to a considerable depth at the bottom of the run, particularly at low pitches, and in heavy rainfall conditions.

It is for this reason that Bristle Roofing recommends that any roof with rafter lengths in excess of 4.5 metres should be built at a pitch greater than the minimum stated in Table 7 on page 5 of this manual. The specified pitch should increase by 2° for every additional metre of rafter length.

Informative Notes in AS 2050.2002 "Installation of Roof Tiles", state: "Long rafter lengths may require sarking to prevent inundation of the roof.

These lengths may vary according to the tile profile used, the pitch of the roof and the exposure. The manufacturer's specification should be consulted." Table 4 indicates the maximum rafter lengths after which sarking must be installed to the area of roof that exceeds the noted maximum length.

<b>TABLE 4</b> <b>Sarking Requirements in Relation to Pitch/Rafter Length</b>	
<b>Roof - Degrees of Pitch</b>	<b>Maximum Rafter Length Without Sarking (mm)</b>
$\geq 18 < 20$	4.5
$\geq 20 < 22$	5.5
$\geq 22$	6.0



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## SWAN VALLEY COLLECTION

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### *Marsielle*



***Originating from France, the Marseille tile offers versatility and simplicity in a classic style clay roof tile.***

The Marseille tile continues the proud tradition of the tile maker's craft with a tile that suits a range of architectural styles.

The combination of its sharp clean lines and natural colour palette result in a roof tile with a timeless look and unmistakeable style. Offering the colour longevity, strength, and durability of clay, the Marseille is ideal for homes of distinction.

SWAN VALLEY COLLECTION

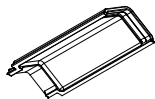
Product Information

Marsielle Product Specifications

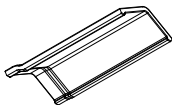
Product Specification	
Min Pitch:	15 Degrees with Sarking, 18 Degrees without Sarking
Optimum Set Out:	360mm (+/- 5mm)
First Batten:	330mm (top of batten)
Sarking:	As noted in “Min Pitch” above
Dimensions:	450mm x 278mm x 55mm
Weight:	4.15kg
Layed:	Cross Bonded
Tiles Per m2:	11.7
Weight per M²:	45.65kg
Batten:	600 Centres - 38 x 25
Fixing:	Head Lap Clip or Nailed
Pallet Quantity:	312

Marsielle Fittings

RidgesApexHip EndBargesExtras



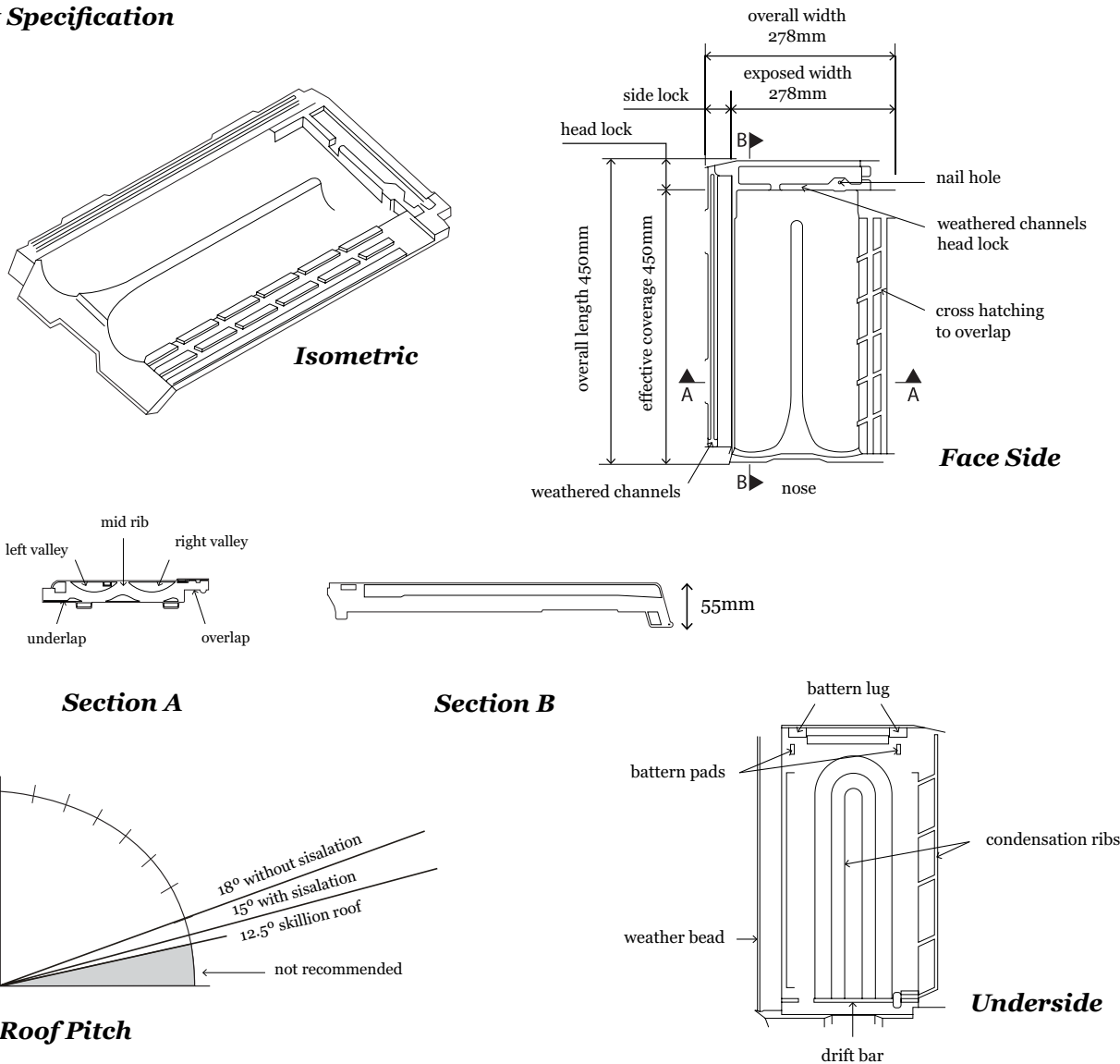
Collarless Ridge



Collared Ridge

SWAN VALLEY COLLECTION / MARSEILLE

Marseille Product  
& Test Specification

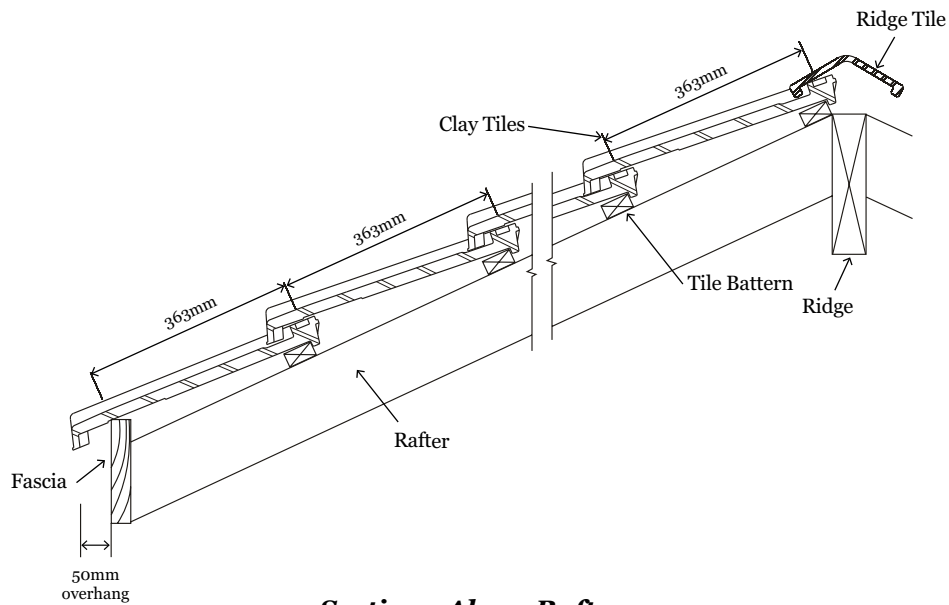


Testing Standard	Test Description	Std Tolerance	Average Marseille Result
AS - 4046.1	Distortion & Warpage	< 8mm	2.3mm
AS - 4046.2	Batten lugs & Squareness	< 1.5% Length	0.2%
EN - 538	Transverse Strength	3 Nt/exposed mm of width	6.7N per exposed mm width
EN - 539-2	Water Absorption	<10%	5.1%
EN - 539-1	Permeability	Two hour test	No seepage
EN - 539-1&2	Freeze / Thaw	150 cycles	No damage
AS - 4046.7	Resistance to Salt Attack	Exposure	No fretting
AS - 4046.8	Dynamic weather resistance	Calibrated Datum	Resistant to driven water



# SWAN VALLEY COLLECTION / MARSEILLE

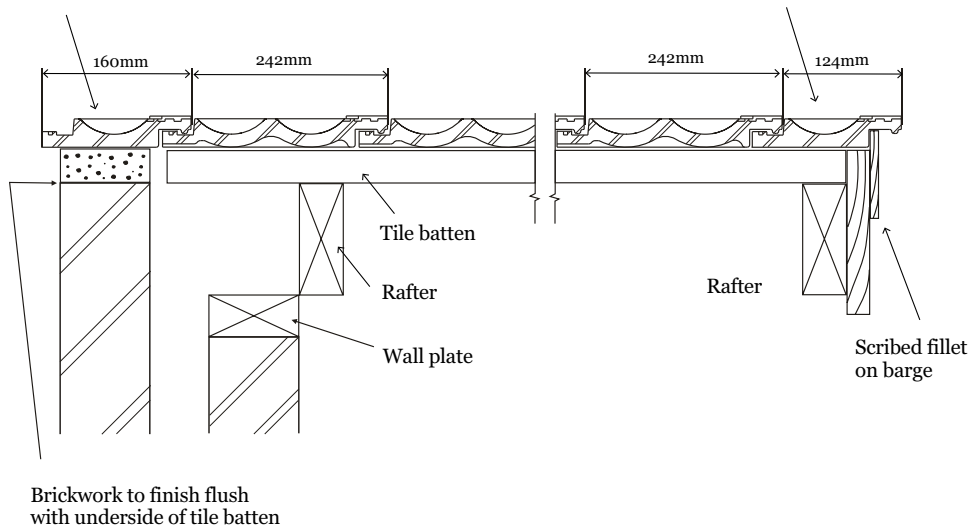
## **Marseille Product Identification & Layout Coursing Information**



**Section - Along Rafter**

Marseille finishing verge tile bedded to brickwork and fixed with 75 x 3.75 springhead galvanised anchor nails

Marseille starter verge tile fixed to barge with 75 x 3.75 springhead galvanised nails



**Section - Through Rafter**

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## SWAN VALLEY COLLECTION

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### *Vienna*



***With sharp lines and bold pastel colours  
the Vienna range is designed for  
contemporary homes.***

A tile to compliment today's varied architectural styles, the pace and diversity of modern city living reflected in the strong straight lines of this tile.



SWAN VALLEY COLLECTION

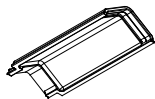
Product Information

Vienna Product Specifications

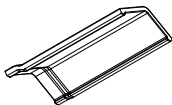
Product Specification	
Min Pitch:	15 Degrees with Sarking, 18 Degrees without Sarking
Optimum Set Out:	380mm (+5/- 25mm)
First Batten:	320mm (top of batten)
Sarking:	As noted in “Min Pitch” below
Dimensions:	450mm x 278mm x 55mm
Weight:	4.15kg
Layed:	Straight Bonded
Tiles Per m2:	11.7
Weight per M²:	45.65kg (Tiles Only)
Batten:	600 Centres - 38 x 25
Fixing:	Head Lap Clip or Nailed
Pallet Quantity:	312

Vienna Fittings

RidgesApexHip EndBargesExtras



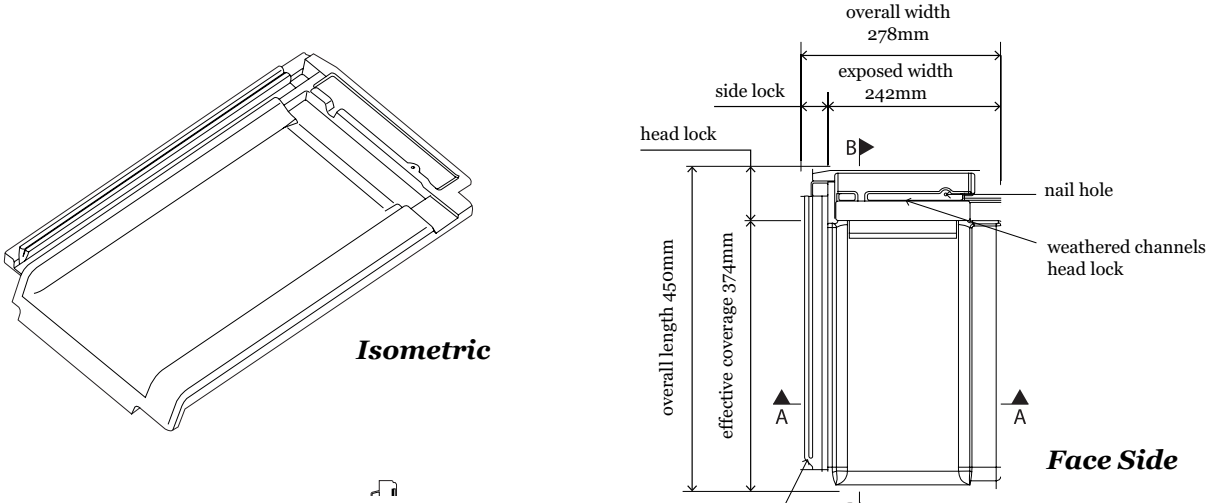
Collarless Ridge



Collared Ridge

SWAN VALLEY COLLECTION / VIENNA

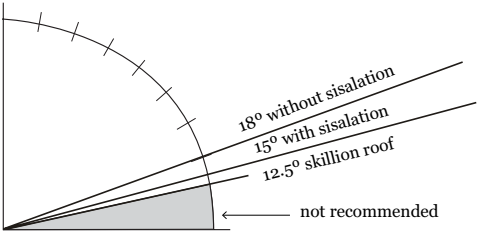
Vienna Product  
& Test Specification



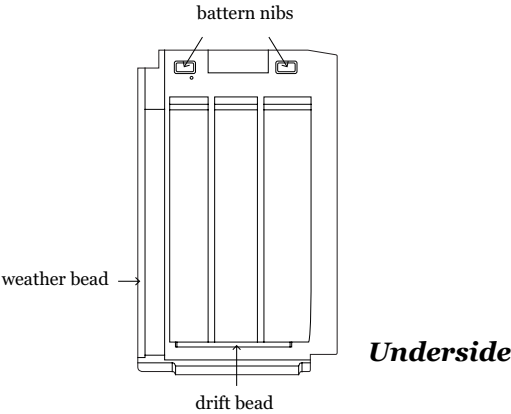
Section A



Section B



Roof Pitch

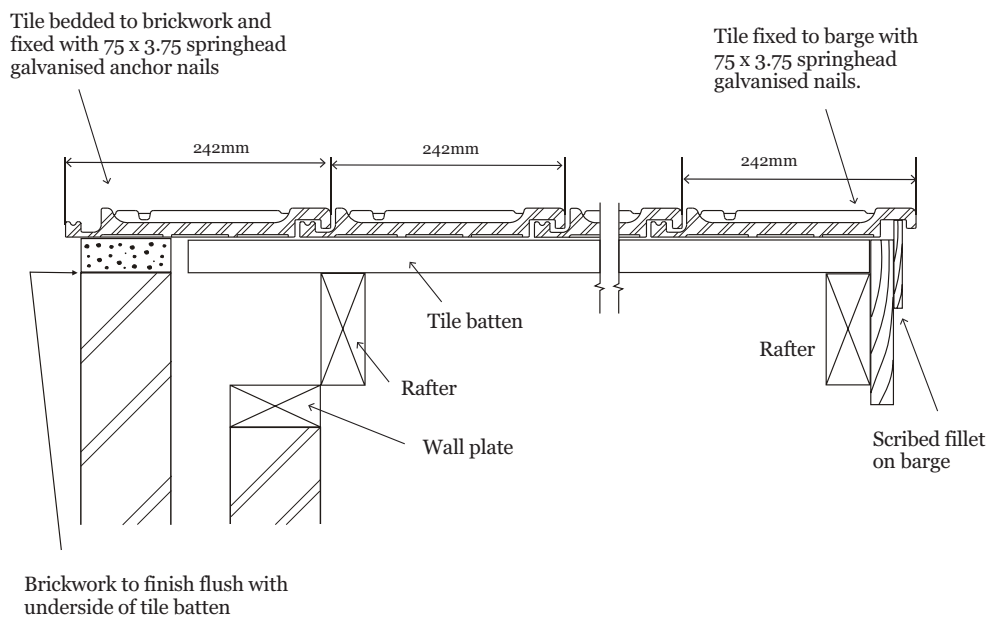
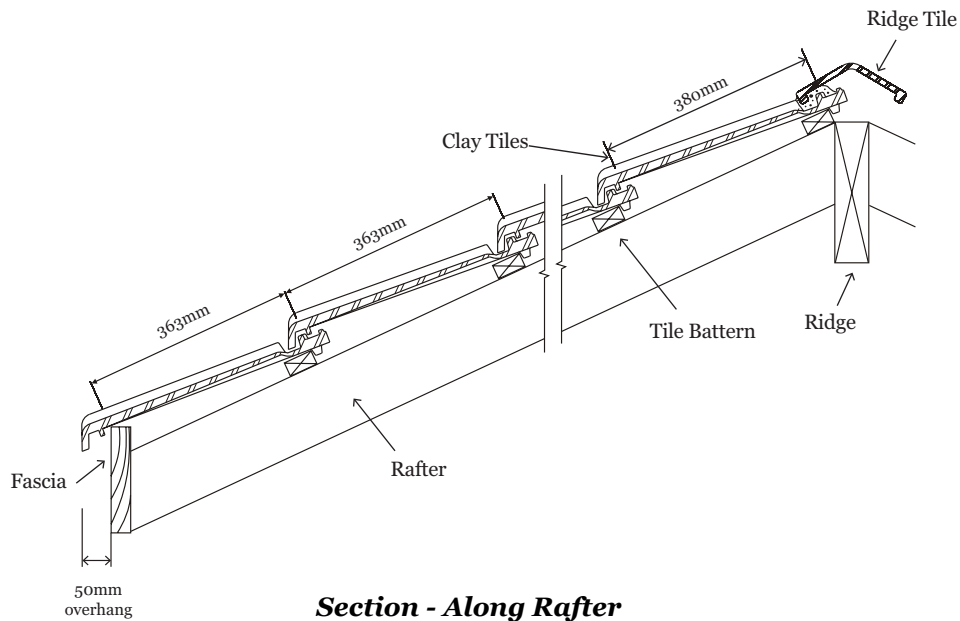


Underside

Testing Standard	Test Description	Std Tolerance	Average Vienna Result
AS - 4046.1	Distortion & Warpage	< 8mm	2.3mm
AS - 4046.2	Batten lugs & Squareness	< 1.5% Length	0.2%
AS - 4046.3	Transverse Strength	3 N/exposed mm of width	6.7N per exposed mm width
AS - 4046.4	Water Absorption	<10%	7%
AS - 4046.5	Permeability	Two hour test	No seepage
AS - 4046.6	Freeze / Thaw	5 cycles	No damage
AS - 4046.7	Resistance to Salt Attack	Exposure	No fretting
AS - 4046.8	Dynamic weather resistance	Calibrated Datum	Resistant to driven water

# SWAN VALLEY COLLECTION / VIENNA

## Vienna Product Identification & Layout Coursing Information



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## SWAN VALLEY COLLECTION

---

### *Swiss*



***For many centuries this splendid roof tile has been a feature of Swiss Chalets and Chateaux.***

With its distinctive shape and exciting collection of colours the Swiss roof tile range is a popular choice with builders creating a unique style of home.

SWAN VALLEY COLLECTION

Product Information

Swiss Product Specifications

Product Specification	
Min Pitch:	15 Degrees with Sarking, 19 Degrees without Sarking
Optimum Set Out:	330mm (+5/- 25mm)
First Batten:	365mm (top of batten)
Sarking:	As noted in “Min Pitch” below
Dimensions:	445mm x 275mm x 70mm
Weight:	4.15kg
Layed:	Straight Bonded
Tiles Per m2:	12
Weight per M²:	49.8kg (Tiles Only)
Batten:	600 Centres - 38 x 25 Karri (WA)
Fixing:	Head Lap Clip or Nailed
Pallet Quantity:	312

Swiss Fittings

Ridges

Apex

Hip End

Barges

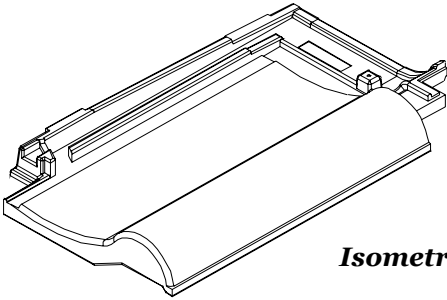
Extras



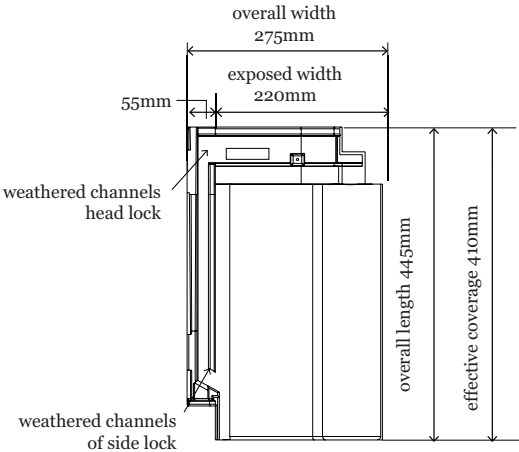
Collared Ridge

SWAN VALLEY COLLECTION / SWISS

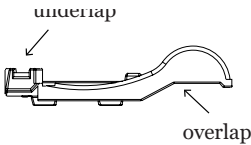
Swiss Product  
& Test Specification



Isometric



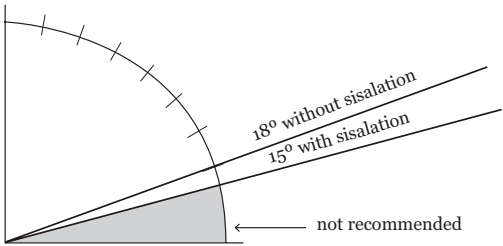
Face Side



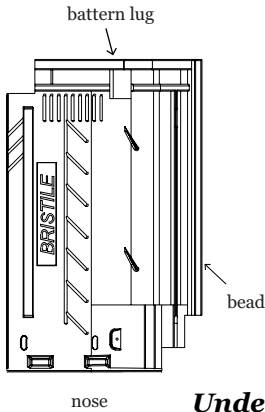
Section A



Section B



Roof Pitch

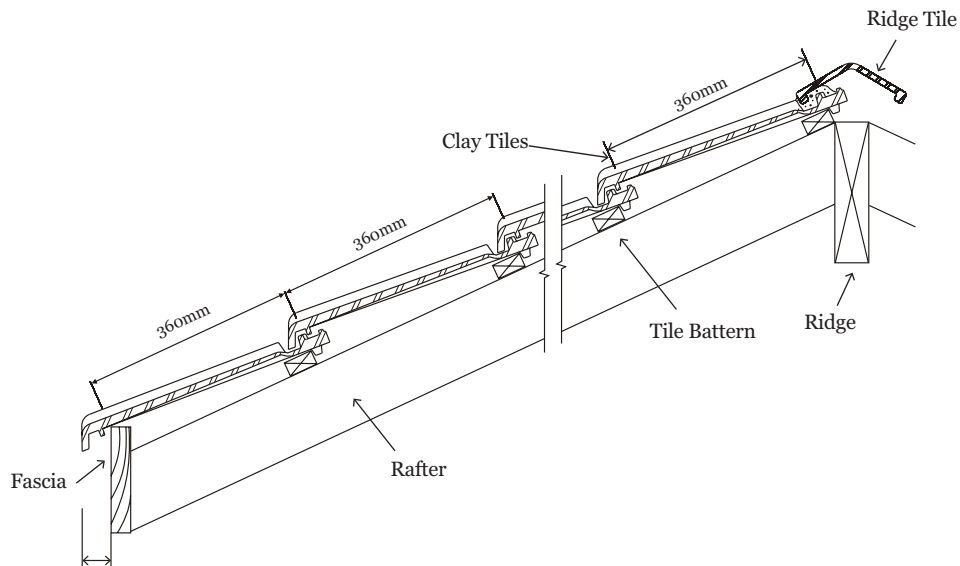


Underside

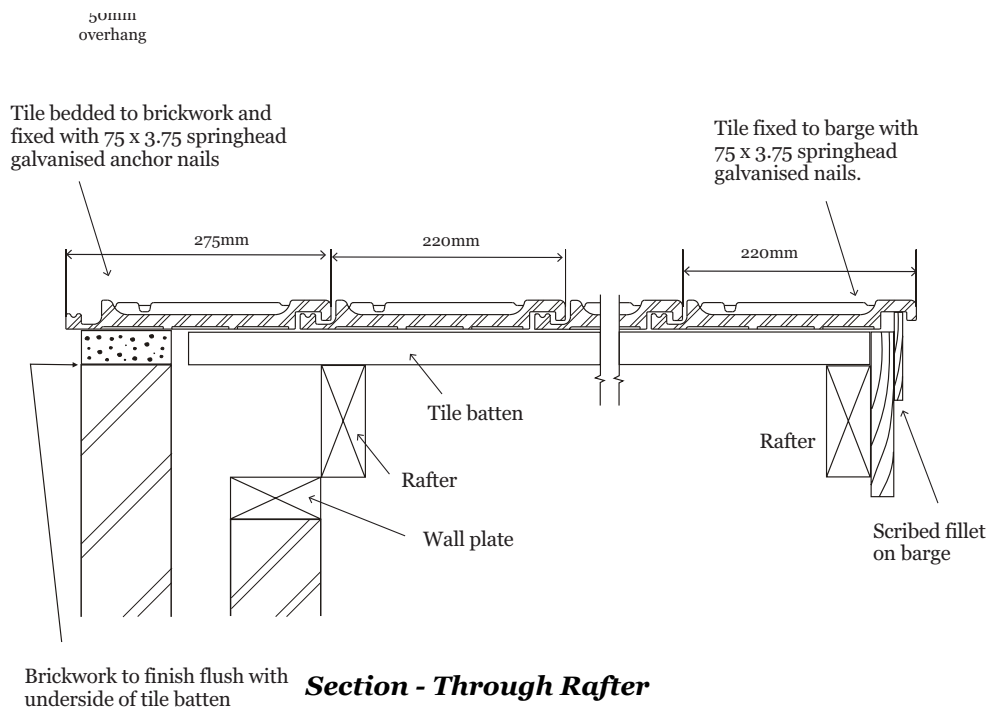
Testing Standard	Test Description	Std Tolerance	Average Swiss Result
AS - 4046.1	Distortion & Warpage	< 8mm	2.3mm
AS - 4046.2	Batten lugs & Squareness	< 1.5% Length	0.2%
EN - 538	Transverse Strength	3 Nt/exposed mm of width	6.7N per exposed mm width
EN - 539-2	Water Absorption	<10%	5.1%
EN - 539-1	Permeability	Two hour test	No seepage
EN - 539-1&2	Freeze / Thaw	150 cycles	No damage
AS - 4046.7	Resistance to Salt Attack	Exposure	No fretting
AS - 4046.8	Dynamic weather resistance	Calibrated Datum	Resistant to driven water

# SWAN VALLEY COLLECTION / SWISS

## Swiss Product Identification & Layout Coursing Information



**Section - Along Rafter**



**Section - Through Rafter**



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## LA ESCANDELLA COLLECTION

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### *Planum*



***Aesthetics and functionality are brought together in the Planum range, a collection of tiles that combines a traditional roofing material with contemporary architectural style.***

Planum creates a look of simplicity and elegance aged and monotone colour options developed to complement the sleek, refined shape of the tile. Due to its innovative design and size, the Planum tile is faster and easier to install, lowering installation time and costs. Furthermore the highly weatherproof design means it can be applied to roof pitches as low as fifteen degrees.



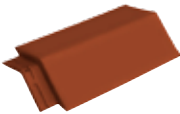


# LA ESCANDELLA COLLECTION

## Product Information

### *Planum Product Specifications*

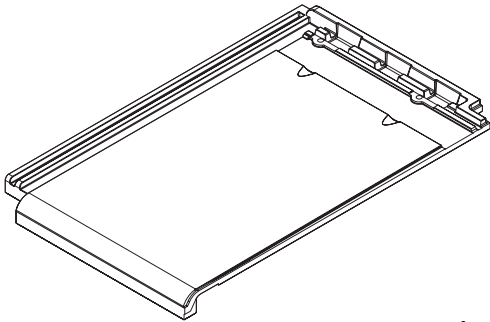
Product Specification	
<b>Min Pitch:</b>	15 Degrees with Sarking
<b>Optimum Set Out:</b>	365mm (+/- 5mm)
<b>First Batten:</b>	360mm (top of batten)
<b>Sarking:</b>	As noted in "Min Pitch" above
<b>Dimensions:</b>	440mm x 280mm x 32mm
<b>Weight:</b>	3.5kg
<b>Layed:</b>	Cross Bonded
<b>Tiles Per m2:</b>	11.30
<b>Weight per M²:</b>	40kg
<b>Cuts per LM:</b>	3.5
<b>Ridges per LM:</b>	2.5
<b>Batten per M²:</b>	3.2
<b>Batten:</b>	600 Centres - 40 x 25 HWD (QLD) / 38 x 38 Pine (NSW, ACT, VIC, SA, TAS) 38 x 25 Karri (WA) 900 Centres - 50 x 38 HWD (QLD, NSW, ACT, VIC, SA, TAS)
<b>Fixing:</b>	Head Lap Clip or Nailed
<b>Pallet Quantity:</b>	240 / 320

### *Planum Fittings*

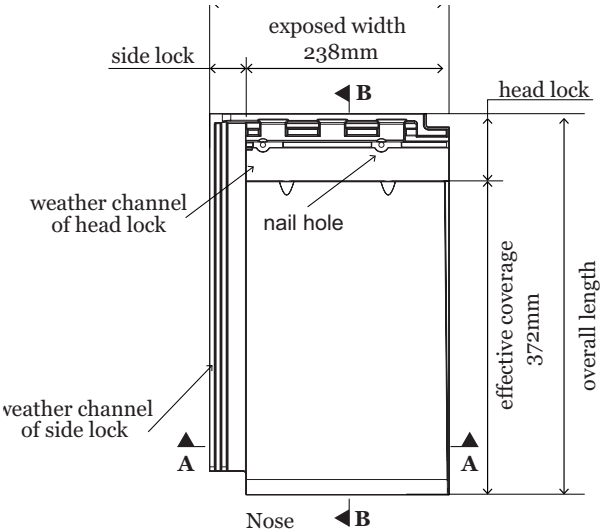
Ridges	Apex	Hip End	Double Roll	Barges
			N/A	
Q90 Collarless Ridge	Q111 Collarless 3 Way Apex	Q109 Collarless Hip End Ridge	N/A	Q91 Pyramid Ridge

LA ESCANDELLA COLLECTION / PLANUM

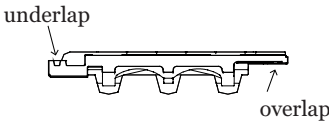
Planum Product  
& Test Specification



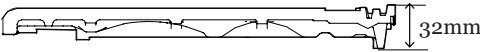
Isometric



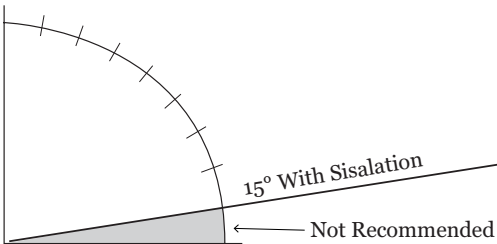
Face Side



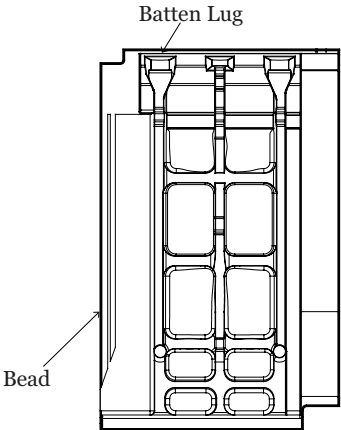
Section A



Section B



Roof Pitch

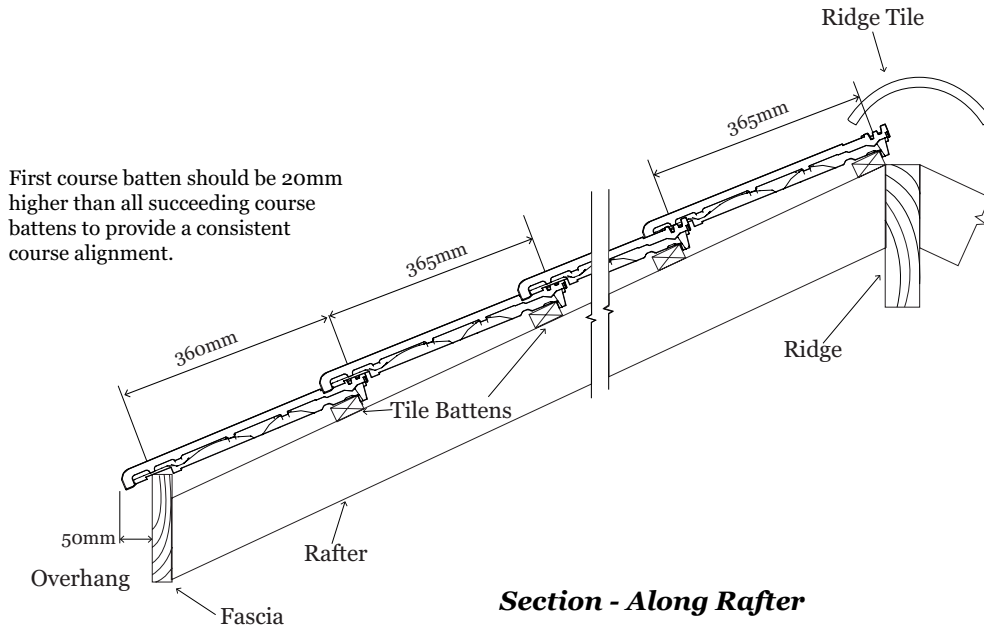


Underside

Testing Standard	Test Description	Std Tolerance	Average Planum Result
AS - 4046.1	Distortion & Warpage	< 8mm	All Planum tiles either comply or exceed the standard tolerances listed in this table.
AS - 4046.2	Batten lugs & Squareness	< 1.5% Length	
EN - 538	Transverse Strength	3 Nt/exposed mm of width	
EN - 539-2	Water Absorption	<10%	
EN - 539-1	Permeability	Two hour test	
EN - 539-1&2	Freeze / Thaw	150 cycles	
AS - 4046.7	Resistance to Salt Attack	Exposure	
AS - 4046.8	Dynamic weather resistance	Calibrated Datum	

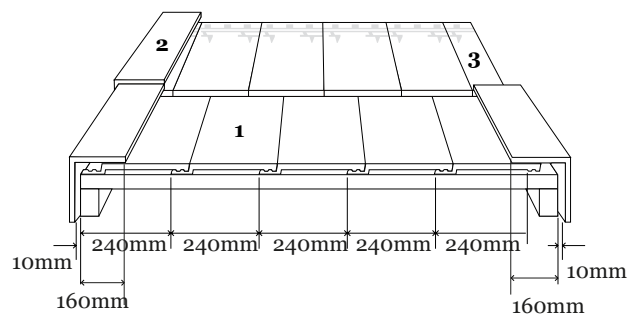
# LA ESCANDELLA COLLECTION / PLANUM

## Planum Product Identification & Layout Coursing Information



## Planum cross bonded roof tile laying

- 1** / Planum Roof tile
- 2** / Q91 Pyramid Ridge
- 3** / Half tile (cut on site)

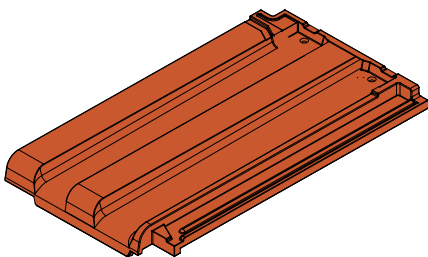


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## LA ESCANDELLA COLLECTION

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### *Innova*



***Discover the latest innovation from  
La Escandella with the Innova range.***

The Innova is a shaped roof tile with a sleek refined finish. The combination of it's sharp clean lines and natural clay colour palette result in a roof tile with a timeless look and unmistakeable style. Offering the colour longevity, strength, and durability of clay, the Innova suits a range of house design.

LA ESCANDELLA COLLECTION

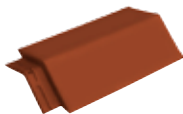
Product Information

Innova Product Specifications

Product Specification	
Min Pitch:	15 Degrees with Sarking, 20 Degrees without Sarking
Optimum Set Out:	390mm (+5mm/-70mm)
First Batten:	380mm (top of batten)
Sarking:	As noted in “Min Pitch” below
Dimensions:	4560mm x 255mm x 30mm
Weight:	3.4kg
Layed:	Straight or Cross Bonded
Tiles Per m2:	11.5
Weight per M²:	39.1kg (Tiles Only)
Cuts per LM:	3
Ridges per LM:	2.5
Battern per M²:	2.9
Batten:	600 Centres - 38 x 25 Karri (WA)
Fixing:	Head Lap Clip or Nailed
Pallet Quantity:	216/288

Innova Fittings

Ridges



Q90 Collarless Ridge

Apex



Q111 Collarless 3 Way Apex

Hip End

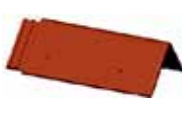


Q109 Collarless Hip End Ridge

Double Roll

N/A

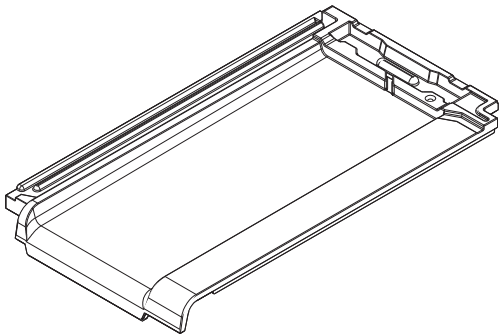
Barges



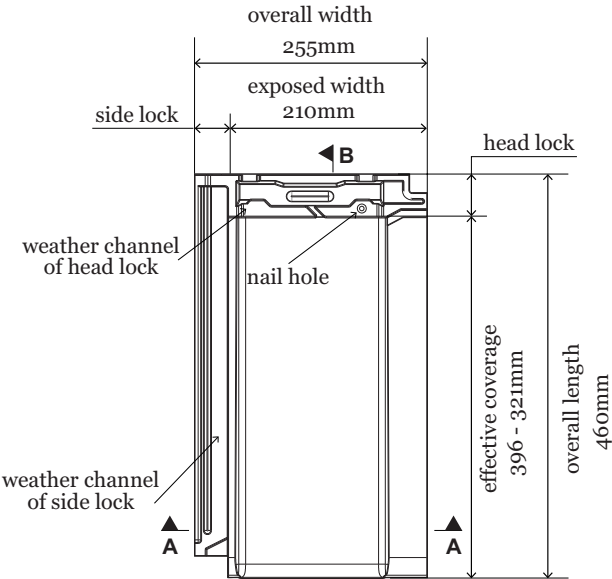
Q91 Pyramid Ridge

LA ESCANDELLA COLLECTION / INNOVA

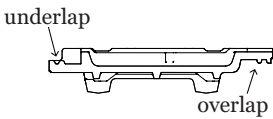
Innova Product  
& Test Specification



Isometric



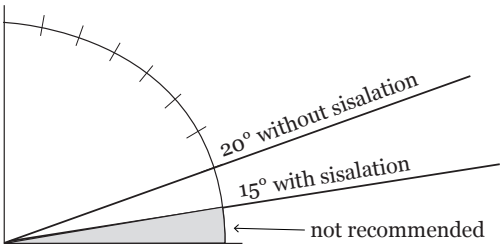
Face Side



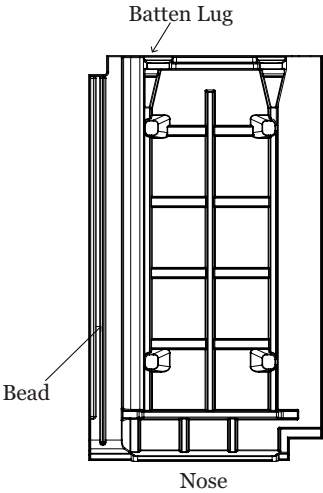
Section A



Section B



Roof Pitch

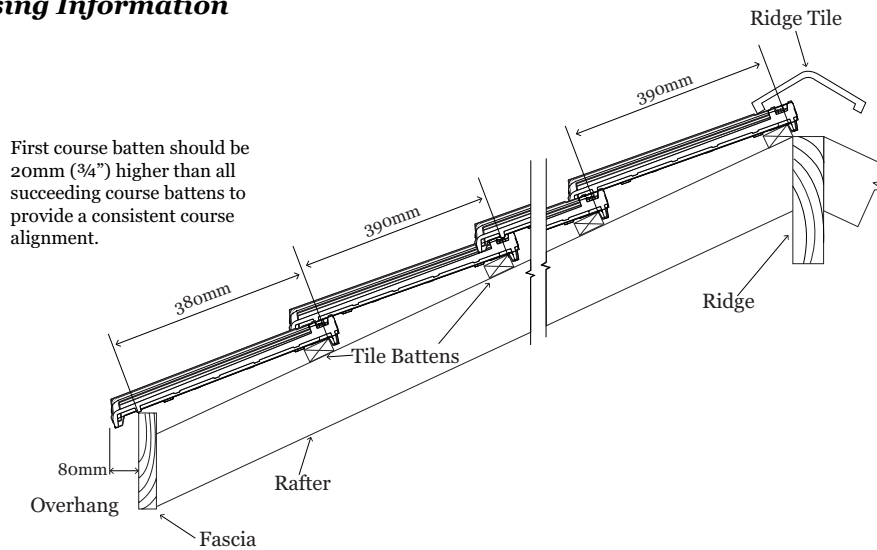


Underside

Testing Standard	Test Description	Std Tolerance	Average Innova Result
AS - 4046.1	Distortion & Warpage	< 8mm	All Innova tiles either comply or exceed the standard tolerances listed in this table.
AS - 4046.2	Batten lugs & Squareness	< 1.5% Length	
EN - 538	Transverse Strength	3 Nt/exposed mm of width	
EN - 539-2	Water Absorption	<10%	
EN - 539-1	Permeability	Two hour test	
EN - 539-1&2	Freeze / Thaw	150 cycles	
AS - 4046.7	Resistance to Salt Attack	Exposure	
AS - 4046.8	Dynamic weather resistance	Calibrated Datum	

# LA ESCANDELLA COLLECTION / INNOVA

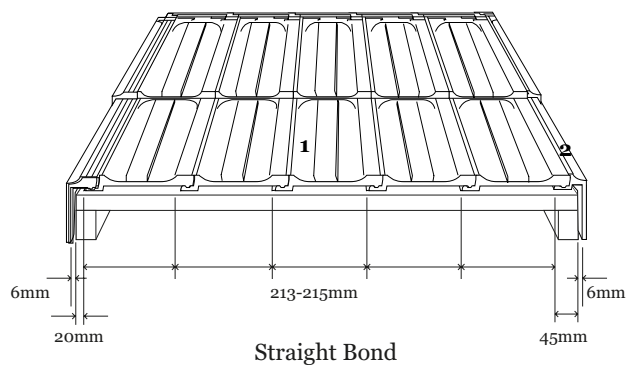
## ***Innova Product Identification & Layout Coursing Information***



### ***Section - Along Rafter***

## ***Innova bond pattern / Continuous joints laying***

- 1** / Innova roof tile
- 2** / Q91 Pyramid Ridge



### ***Section - Through Rafter***

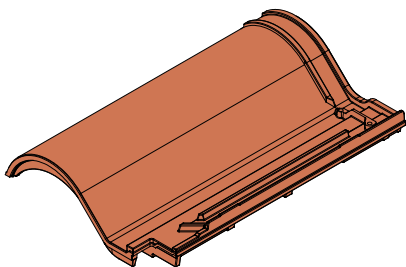


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## LA ESCANDELLA COLLECTION

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### *Curvado*



***The Curvado range captures a look of grandeur with a distinctively European style.***

A roof tile conceived to satisfy the needs and preferences of building professionals, the Curvado offers a variety of features which guarantee enduring popularity with home builders seeking a European style.

Manufactured from the highest quality clays, the Curvado incorporates a modern interlocking design which replicates




# LA ESCANDELLA COLLECTION

## Product Information

### Curvado Product Specifications

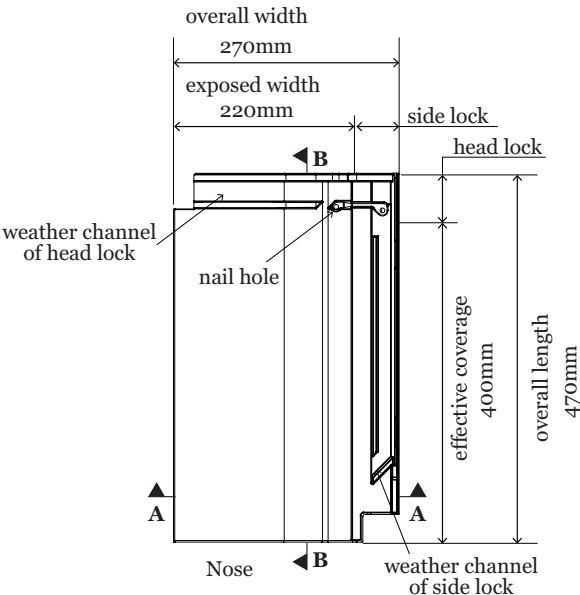
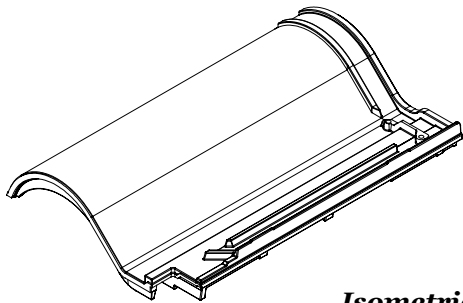
Product Specification	
<b>Min Pitch:</b>	15 Degrees with Sarking, 20 Degrees without Sarking
<b>Optimum Set Out:</b>	400mm (+/- 5mm)
<b>First Batten:</b>	370mm (top of batten)
<b>Sarking:</b>	As noted in "Min Pitch" above
<b>Dimensions:</b>	470mm x 286mm x 75mm
<b>Weight:</b>	3.9kg
<b>Layed:</b>	Straight Bonded
<b>Tiles Per m2:</b>	11.40
<b>Weight per M²:</b>	44.46kg
<b>Cuts per LM:</b>	3
<b>Ridges per LM:</b>	2.5
<b>Batten per M²:</b>	2.9
<b>Batten:</b>	600 Centres - 40 x 25 HWD (QLD) / 38 x 38 Pine (NSW, ACT, VIC, SA, TAS) 38 x 25 Karri (WA) 900 Centres - 50 x 38 HWD (QLD, NSW, ACT, VIC, SA, TAS)
<b>Fixing:</b>	Head Lap Clip or Nailed
<b>Pallet Quantity:</b>	240 / 180

### Curvado Fittings

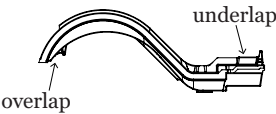
Ridges	Apex	End Cap	Double Roll	Barges	Extras
					
Q02 Round Ridge	Q44 Round 3 Way Apex Ridge	Q83 Round Hip End Ridge Cap	Q33 Double Large Roof Tile (One per course on the left side) only)	Q12 Round LHS Course	Q10 Straight LHS Course
					
Q04 Round Hip End Ridge	Q45 Round 4 Way Apex Ridge			Q13 Round RHS Course	Q11 Straight LHS Course

LA ESCANDELLA COLLECTION / CURVADO

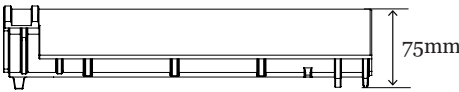
Curvado Product  
& Test Specification



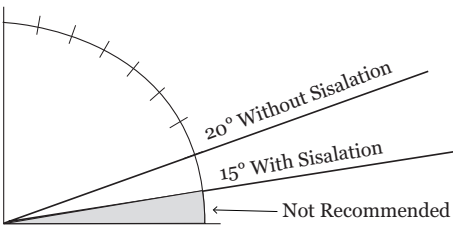
Face Side



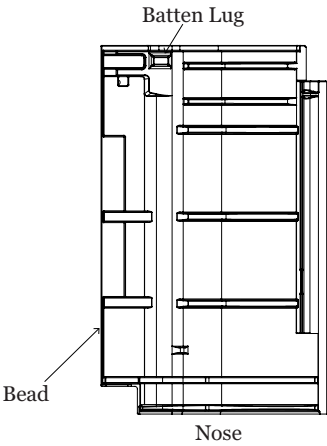
Section A



Section B



Roof Pitch



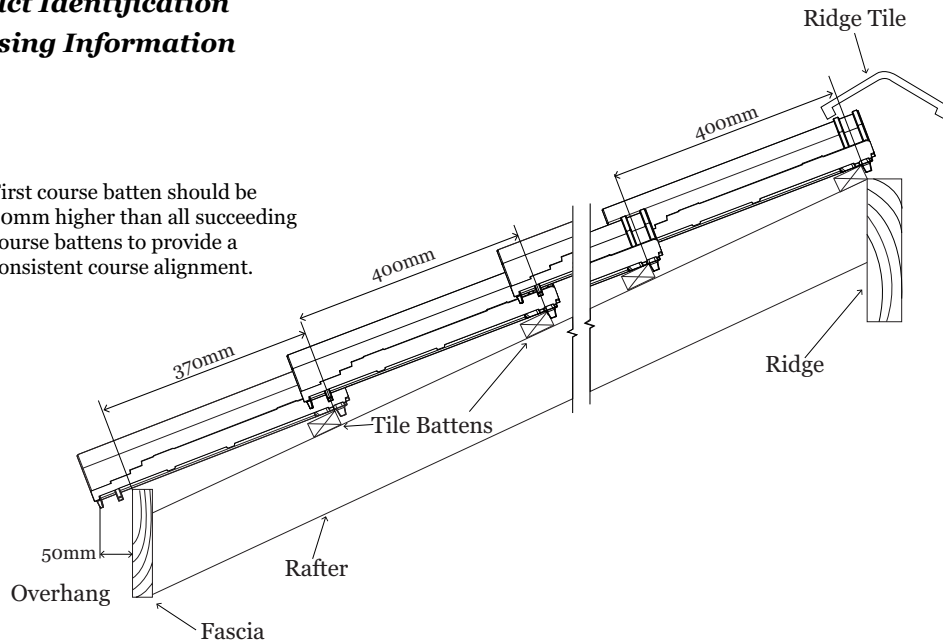
Underside

Testing Standard	Test Description	Std Tolerance	Average Curvado Result
AS - 4046.1	Distortion & Warpage	< 8mm	All Curvado tiles either comply or exceed the standard tolerances listed in this table.
AS - 4046.2	Batten lugs & Squareness	< 1.5% Length	
EN - 538	Transverse Strength	3 Nt/exposed mm of width	
EN - 539-2	Water Absorption	<10%	
EN - 539-1	Permeability	Two hour test	
EN - 539-1&2	Freeze / Thaw	150 cycles	
AS - 4046.7	Resistance to Salt Attack	Exposure	
AS - 4046.8	Dynamic weather resistance	Calibrated Datum	

# LA ESCANDELLA COLLECTION / CURVADO

## Curvado Product Identification & Layout Coursing Information

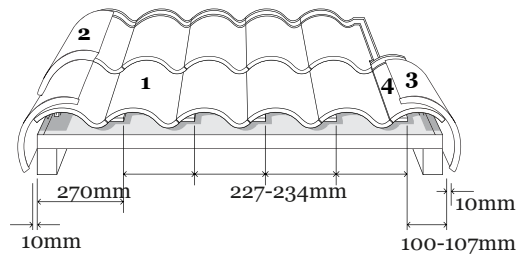
First course batten should be 20mm higher than all succeeding course battens to provide a consistent course alignment.



### Section - Along Rafter

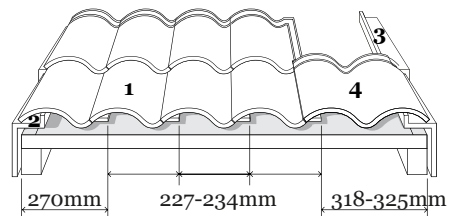
## Curvado half tile roof laying

- 1 / Curvado roof tile
- 2 / Q12 round LHS course
- 3 / Q13 round RHS course
- 4 / Half tile (cut on site)



## Curvado double roll roof tile laying

- 1 / Curvado roof tile
- 2 / Q10 straight LHS course
- 3 / Q11 straight RSH course
- 4 / Q33 double roll tile



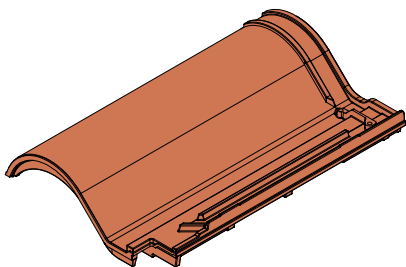
### Section - Through Rafter

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## LA ESCANDELLA COLLECTION

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### *Curvado Glazed*



***For a bold, eye catching tile in colours designed to reflect your character, Bristle Roofing offers the Curvado Glazed range.***

A roof tile conceived to satisfy the needs and preferences of building professionals, the Curvado Glazed tile is available in two sizes and has a variety of features which guarantee enduring popularity with home builders seeking a European style. Manufactured from the highest quality clays, the Curvado Glazed incorporates a modern interlocking design which replicates the traditional pan and cover tile that has been a hallmark of European and Mediterranean architecture for centuries.










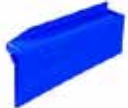
# LA ESCANDELLA COLLECTION

## Product Information

### *Curvado Glazed Product Specifications*

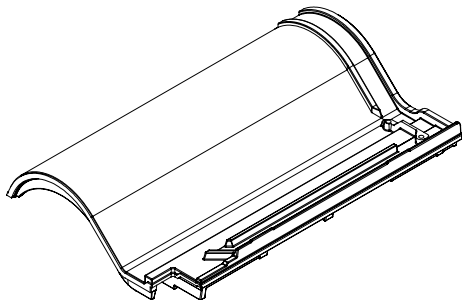
Product Specification	
<b>Min Pitch:</b>	15 Degrees with Sarking, 20 Degrees without Sarking
<b>Optimum Set Out:</b>	400mm (+/- 5mm)
<b>First Batten:</b>	370mm (top of batten)
<b>Sarking:</b>	As noted in "Min Pitch" above
<b>Dimensions:</b>	470mm x 286mm x 75mm
<b>Weight:</b>	3.9kg
<b>Layed:</b>	Straight Bonded
<b>Tiles Per m2:</b>	11.40
<b>Weight per M²:</b>	44.46kg
<b>Cuts per LM:</b>	3
<b>Ridges per LM:</b>	2.5
<b>Batten per M²:</b>	2.9
<b>Batten:</b>	600 Centres - 40 x 25 HWD (QLD) / 38 x 38 Pine (NSW, ACT, VIC, SA, TAS) 38 x 25 Karri (WA) 900 Centres - 50 x 38 HWD (QLD, NSW, ACT, VIC, SA, TAS)
<b>Fixing:</b>	Head Lap Clip or Nailed
<b>Pallet Quantity:</b>	240 / 180

### *Curvado Glazed Fittings*

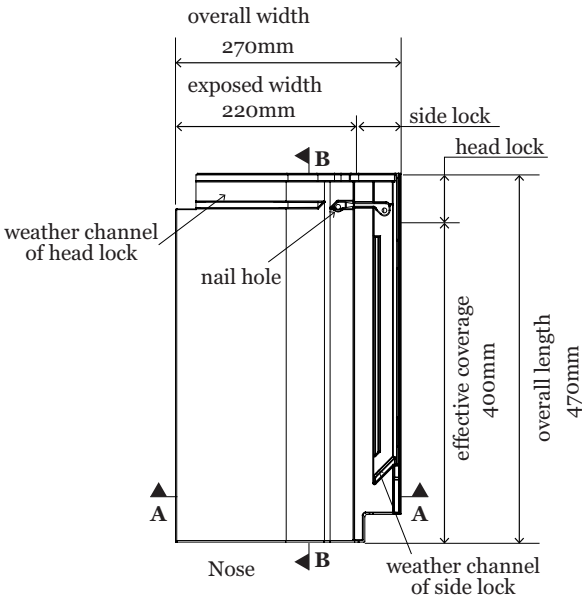
Ridges	Apex	End Cap	Double Roll	Barges	Extras
					
Q02 Round Ridge	Q44 Round 3 Way Apex Ridge	Q83 Round Hip End Ridge Cap	Q33 Double Large Roof Tile (One per course on the left side) only)	Q12 Round LHS Course	Q10 Straight LHS Course
					
Q04 Round Hip End Ridge	Q45 Round 4 Way Apex Ridge			Q13 Round RHS Course	Q11 Straight LHS Course

LA ESCANDELLA COLLECTION / CURVADO GLAZED

Curvado Product  
& Test Specification



Isometric



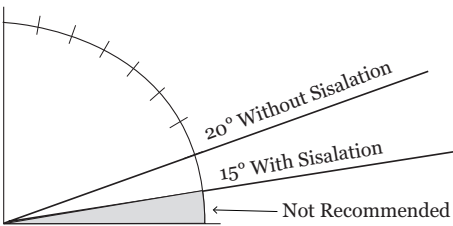
Face Side



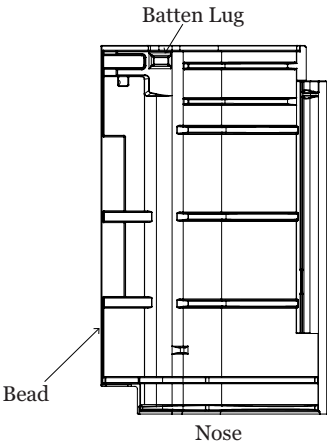
Section A



Section B



Roof Pitch

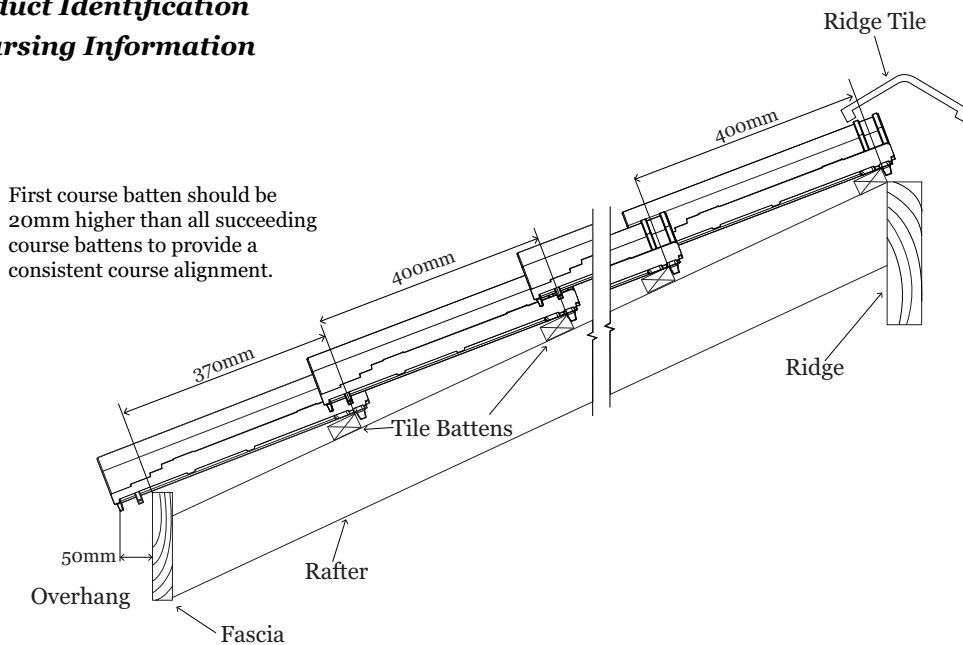


Underside

Testing Standard	Test Description	Std Tolerance	Average Curvado Result
AS - 4046.1	Distortion & Warpage	< 8mm	All Curvado tiles either comply or exceed the standard tolerances listed in this table.
AS - 4046.2	Batten lugs & Squareness	< 1.5% Length	
EN - 538	Transverse Strength	3 Nt/exposed mm of width	
EN - 539-2	Water Absorption	<10%	
EN - 539-1	Permeability	Two hour test	
EN - 539-1&2	Freeze / Thaw	150 cycles	
AS - 4046.7	Resistance to Salt Attack	Exposure	
AS - 4046.8	Dynamic weather resistance	Calibrated Datum	

# LA ESCANDELLA COLLECTION / CURVADO GLAZED

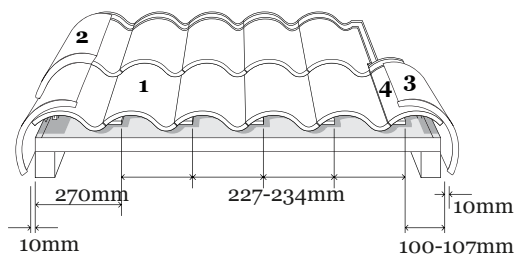
## Curvado Product Identification & Layout Coursing Information



**Section - Along Rafter**

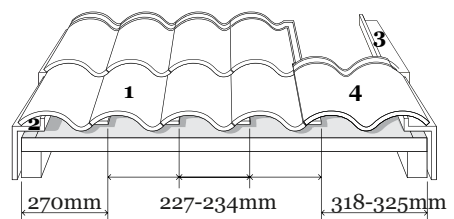
## Curvado half tile roof laying

- 1 / Curvado roof tile
- 2 / Q12 round LHS course
- 3 / Q13 round RHS course
- 4 / Half tile (cut on site)



## Curvado double roll roof tile laying

- 1 / Curvado roof tile
- 2 / Q10 straight LHS course
- 3 / Q11 straight RSH course
- 4 / Q33 double roll tile



**Section - Through Rafter**

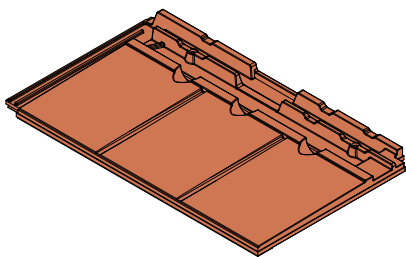


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## LA ESCANDELLA COLLECTION

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### *Visum3*



***A new era in roofing products has arrived  
with the Visum3 tile from Bristle Roofing.***

Featuring a truly revolutionary interlocking design, the Visum3 has been designed to replicate smaller slate and clay tiles without the associated costs. Introduced with a 20 year patent, the Visum3 provides an affordable alternative for those desiring a shingle roof. Industry leading technology enables each tile to be coloured individually with realistic pitting on the tiles surface for authenticity. Featuring a slim 9mm nose, the Visum3 achieves ultra flat laying for the ultimate shingle and slate appearance.





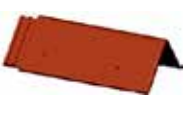
## LA ESCANDELLA COLLECTION

## Product Information

*Visum3 Product Specifications*

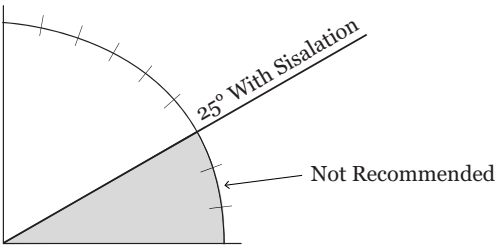
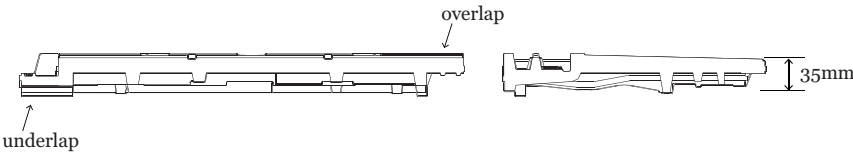
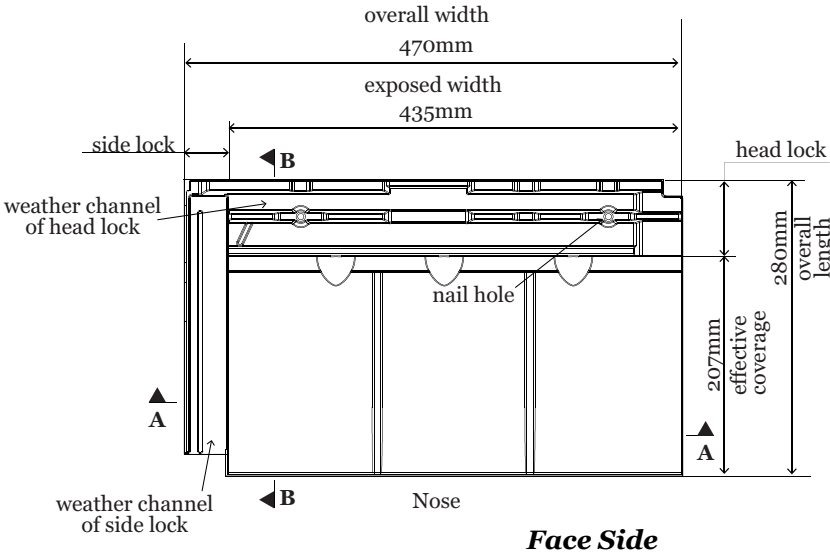
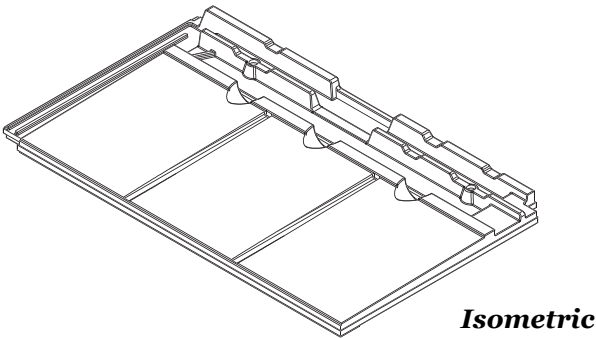
Product Specification	
<b>Min Pitch:</b>	25 Degrees with Proctor Membrane
<b>Optimum Set Out:</b>	187mm (+/- 5mm)
<b>First Batten:</b>	206mm (top of batten)
<b>Sarking:</b>	Mandatory (Breathable membrane to be used)
<b>Dimensions:</b>	280mm x 480mm x 35mm
<b>Weight:</b>	4.3kg
<b>Layed:</b>	Cross Bonded (watercourse high bead in line with central frog)
<b>Tiles Per m2:</b>	11.9
<b>Weight per M²:</b>	51.17kg
<b>Cuts per LM:</b>	8
<b>Ridges per LM:</b>	2.5
<b>Batten per M²:</b>	5.8
<b>Batten:</b>	600 Centres - 40 x 25 HWD (QLD) / 38 x 38 Pine (NSW, ACT, VIC, SA, TAS) 38 x 25 Karri (WA) 900 Centres - 50 x 38 HWD (QLD, NSW, ACT, VIC, SA, TAS)
<b>Fixing:</b>	Head Lap Clip or Nailed
<b>Pallet Quantity:</b>	280 / 210

*Visum3 Fittings*

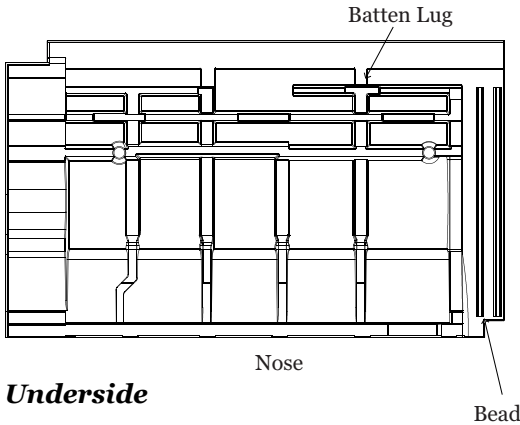
Ridges	Apex	Hip End	Double Roll	Barges	Extras
			N/A		
Q90 Collarless Ridge	Q111 Collarless 3 Way Apex	Q109 Collarless Hip End Ridge		Q91 Pyramid Ridge	Q96 Ventiation Tile

LA ESCANDELLA COLLECTION / VISUM3

Visum3 Product & Test Specification



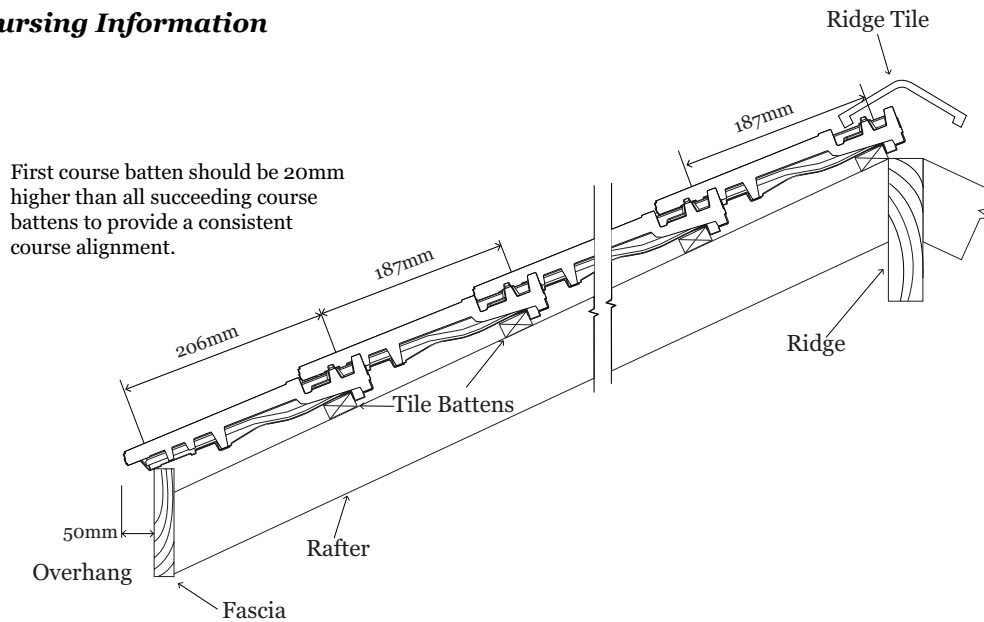
**Roof Pitch**



Testing Standard	Test Description	Std Tolerance	Average Visum3 Result
AS - 4046.1	Distortion & Warpage	< 8mm	All Visum3 tiles either comply or exceed the standard tolerances listed in this table.
AS - 4046.2	Batten lugs & Squareness	< 1.5% Length	
EN - 538	Transverse Strength	3 Nt/exposed mm of width	
EN - 539-2	Water Absorption	<10%	
EN - 539-1	Permeability	Two hour test	
EN - 539-1&2	Freeze / Thaw	150 cycles	
AS - 4046.7	Resistance to Salt Attack	Exposure	
AS - 4046.8	Dynamic weather resistance	Calibrated Datum	

# LA ESCANDELLA COLLECTION / VISUM3

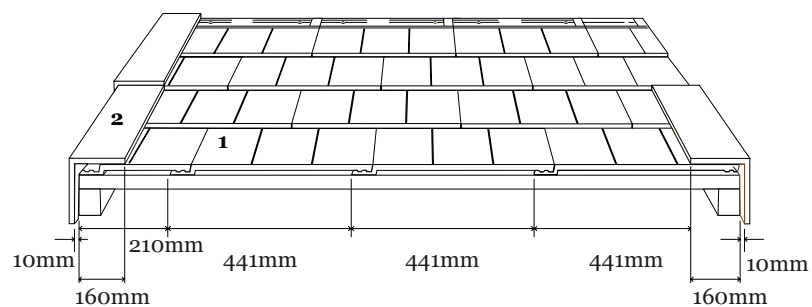
## Visum3 Product Identification & Layout Coursing Information



**Section - Along Rafter**

## Visum3 roof tile laying

- 1 / Visum3 roof tile
- 2 / Q91 Pyramid Ridge



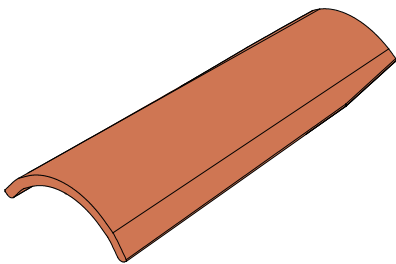
**Section - Through Rafter**

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## LA ESCANDELLA COLLECTION

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### *Medio Curva*



***A roof tile used through the ages, reintroduced in colours designed for the new world.***

Traditionally, this two piece tile, also referred to as 'Mission Barrel', was the most frequently used roof tile in Europe and in Spanish colonial buildings in the new world. Today the Medio Curva tile is used in the construction of new homes, due to the beauty and wide variety of colours available, or on existing projects to restore historic roofs to their former beauty.





# LA ESCANDELLA COLLECTION

## Product Information

### *Medio Curva Product Specifications*

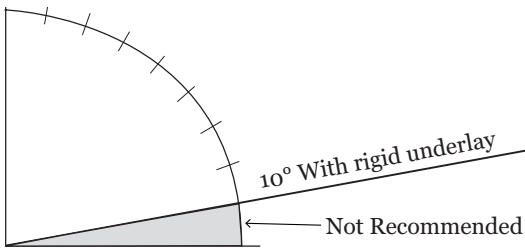
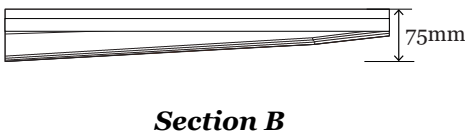
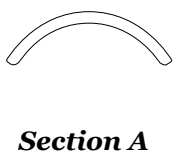
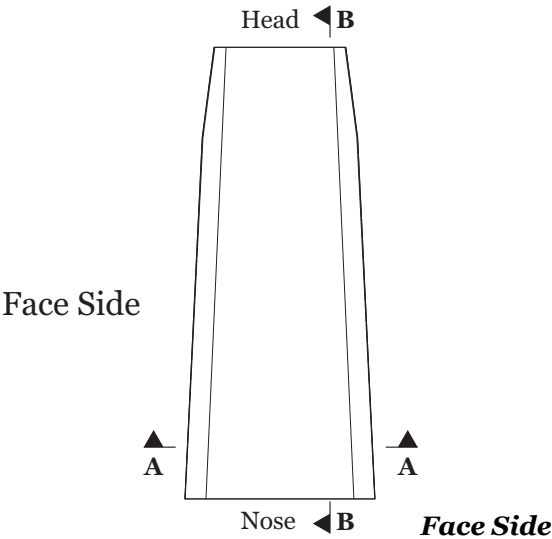
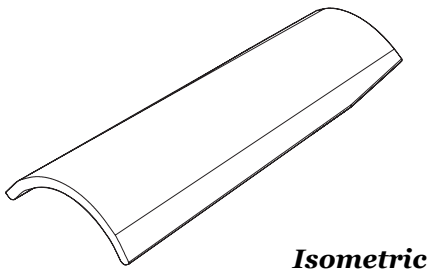
Product Specification	
<b>Min Pitch:</b>	10-27 degrees with roof sheets, 27.1+ degrees with batten installation
<b>Optimum Set Out:</b>	See Longitudinal fit information on page 39
<b>First Batten:</b>	See Longitudinal fit information on page 39
<b>Sarking:</b>	N/A
<b>Dimensions:</b>	See Longitudinal fit information on page 39
<b>Weight:</b>	See Longitudinal fit information on page 39
<b>Layed:</b>	Straight Bonded
<b>Tiles Per m2:</b>	See Longitudinal fit information on page 39
<b>Weight per M²:</b>	See Longitudinal fit information on page 39
<b>Cuts per LM:</b>	16
<b>Ridges per LM:</b>	2.5
<b>Batten per M²:</b>	2.9
<b>Batten:</b>	600 Centres - 40 x 25 HWD (QLD) / 38 x 38 Pine (NSW, ACT, VIC, SA, TAS) 38 x 25 Karri (WA) 900 Centres - 50 x 38 HWD (QLD, NSW, ACT, VIC, SA, TAS)
<b>Fixing:</b>	Adhesive
<b>Pallet Quantity:</b>	275

### *Medio Curva Tiles & Fittings*

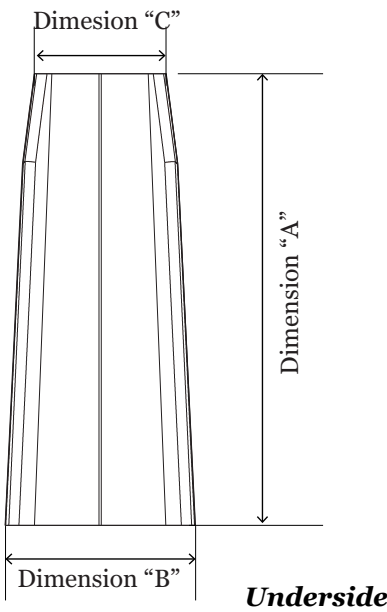
Ridges	Apex	Hip End	Double Roll	Tile	Extras
					
T5	N/A	Q83 Round Hip End Ridge Cap	N/A	T5	N/A

LA ESCANDELLA COLLECTION / MEDIO CURVA

Medio Curva Product  
& Test Specification



**Roof Pitch**



Testing Standard	Test Description	Std Tolerance	Average Medio Curva Result
AS - 4046.1	Distortion & Warpage	< 8mm	All Medio Curva tiles either comply or exceed the standard tolerances listed in this table.
AS - 4046.2	Batten lugs & Squareness	< 1.5% Length	
EN - 538	Transverse Strength	3 Nt/exposed mm of width	
EN - 539-2	Water Absorption	<10%	
EN - 539-1	Permeability	Two hour test	
EN - 539-1&2	Freeze / Thaw	150 cycles	
AS - 4046.7	Resistance to Salt Attack	Exposure	
AS - 4046.8	Dynamic weather resistance	Calibrated Datum	



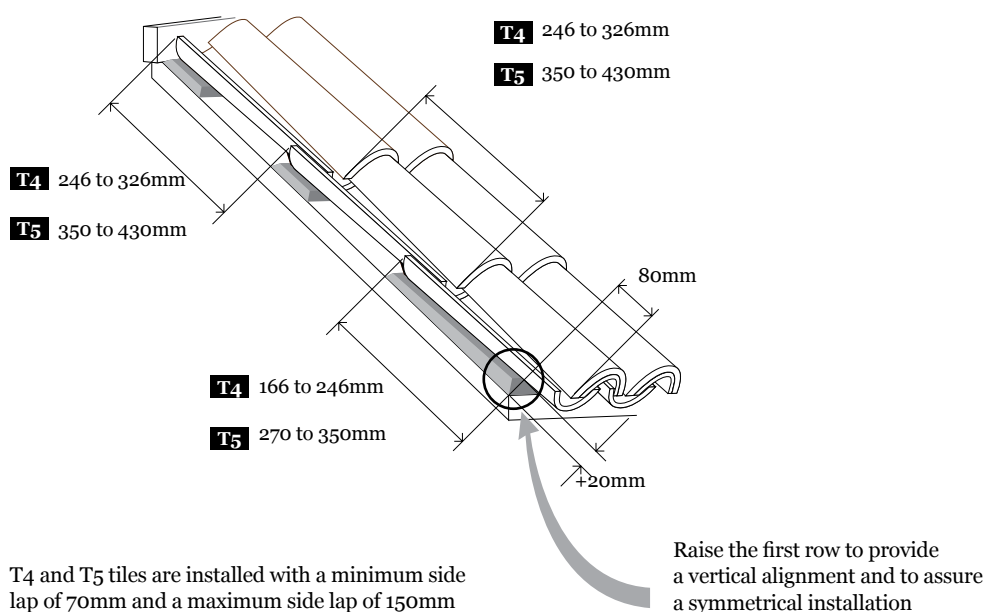
# LA ESCANDELLA COLLECTION / MEDIO CURVA

**Product Specification Table**

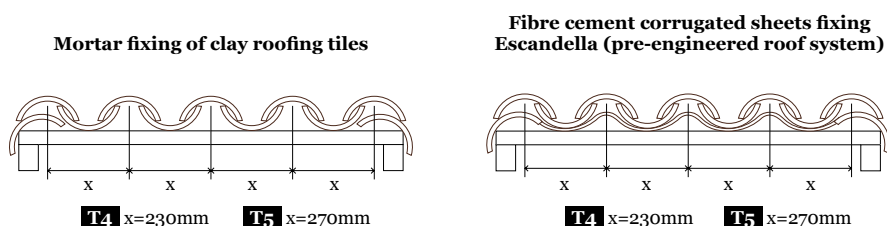
	<b>T4 Red Clay</b>	<b>T4 White Clay</b>	<b>T5 Red Clay</b>	<b>T5 White Clay</b>
<b>Dimensions</b>	a: 396 mm b: 182 mm c: 130 mm	a: 400 mm b: 185 mm c: 134 mm	a: 500 mm b: 210 mm c: 160 mm	a: 500 mm b: 215 mm c: 165 mm
<b>Pieces /m<sup>2</sup></b>	28	28	18	18
<b>Weight piece</b>	1.6 kg	1.5 kg	2.55 kg	2.4 kg
<b>Pieces /pallet</b>	648 / 660	648 / 660	275	275
<b>Average weight (inc. sheet) /m<sup>2</sup></b>	58.7 kg	55.9 kg	59.78 kg	57.08 kg

## Medio Curva Product Specification Laying Method

### Longitudinal fit

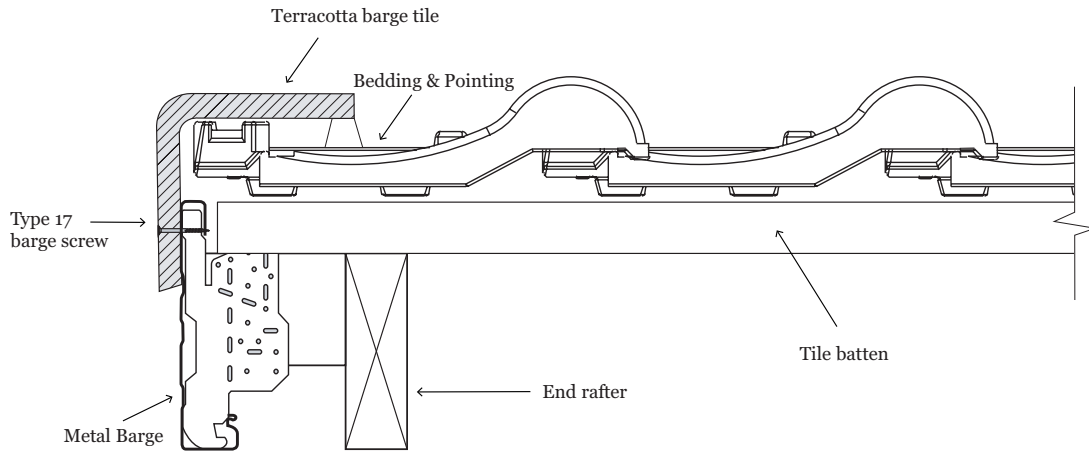


### Transversal fit



## LA ESCANDELLA COLLECTION

### *Clay tile barge*



Drawing No. BTR012  
Not to scale Author: Bristile Roofing



# THERMAL PERFORMANCE

Roof construction	Heat flow in	Heat flow out
Flat ceiling, ventilated	RT 2.2	RT1.0
Flat ceiling, non-ventilated	RT1.9	RT1.2
Raked ceiling	RT 2.2	RT1.3

The R-values shown are Total R-values for the building element as required by the Energy Provisions of the Building Code of Australia.

Kingspan **AIR-CELL**® products are manufactured, tested and packaged in conformance with AS/NZS 4859.1.

The contribution of the product Total R-values depends on installation and environmental conditions.

The R-value will be reduced in the event of the accumulation of dust on the upward facing surfaces and in those cavities that are ventilated.

## Insulation Installation Instructions

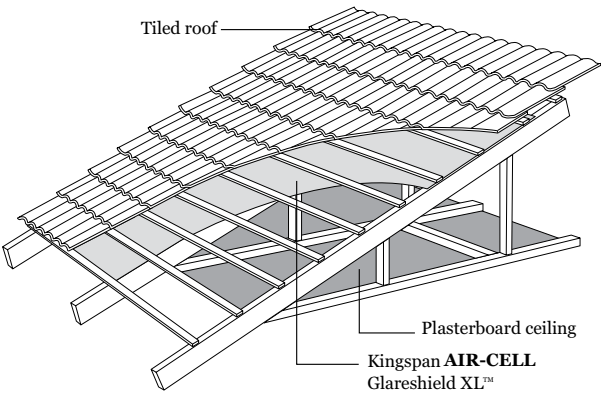


Figure 5 - Kingspan **AIR-CELL** Glareshield XL™ in a tiled roof with a flat ceiling

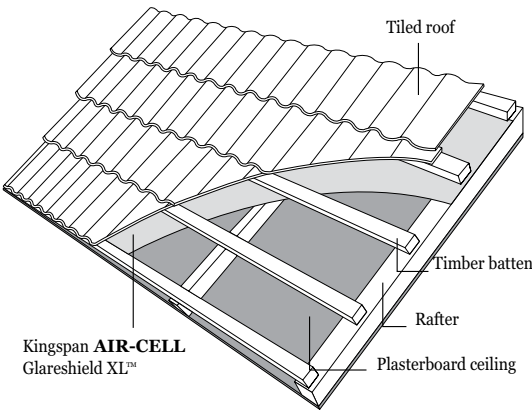


Figure 6 - Kingspan **AIR-CELL** Glareshield XL™ in a tiled roof with a raked ceiling

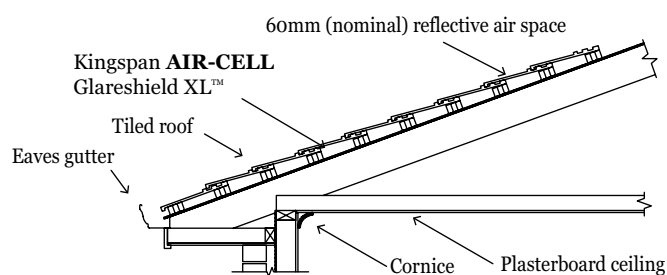
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# INSTRUCTIONS

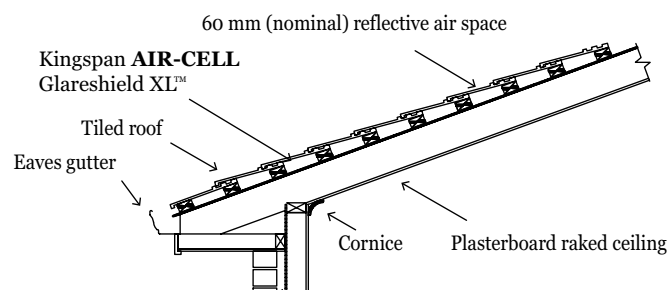
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## ***Insulation Installation Instructions***

1. Starting at the gutter, roll out the Kingspan AIR-CELL Glareshield XL™ across the rafters with the anti-glare side up, and ensuring a 50 mm overlap into the gutter is achieved.
2. Fix to rafters.
3. Allow 150 mm minimum overlap for joins (or 50 mm is adequate if joins are to be taped).
4. End joins should be overlapped by rafter spacing if not taped.
5. Fix battens as per roof cover requirements and applicable standards.



**Figure 7** - Side elevation of Kingspan AIR-CELL Glareshield XL™ in a tiled roof with a flat ceiling



**Figure 8** - Side elevation of Kingspan AIR-CELL Glareshield XL™ in a tiled roof with a raked ceiling



### **General Description**

Bradford Enviroseal™ Roof Tile Safety is an extra heavy duty sarking for tiled residential roofs with unsurpassed tensile strength providing ultimate protection against heat, moisture, wind, and hail penetrations, as well as providing fall arrest/safety for the installer, however is not suitable for use under metal deck and slate tile roofing.

### **Product Description**

Bradford Enviroseal Roof Tile Safety is an extra heavy duty radiant barrier consisting of a layer of reinforced aluminium foil laminate, with fire retardant adhesive to a super strong high tensile, and high tear strength woven polymeric fabric.

It is suitable for use in bush fire prone areas, high wind and storm prone areas and has a green backing to eliminate glare during installation.

### **Applications**

Bradford Enviroseal Roof Tile Safety is a pliable foil insulation with extra superior tensile strength and tear resistance designed for use as extra heavy duty sarking under tiled roofs and protection against fear of falling through the sarking.

Enviroseal Roof Tile Safety is the ideal barricade against dirt, dust, draughts and wind driven rain water as well as providing a fire retardant barrier to help protect homes from burning embers generated from a bushfire. It is ideal for use under roof tiles, especially where the safety of the installer is important.

It eliminates the need for safety mesh at spans of 600mm & 900mm as per AS/NZS 4040.4 (modified) certified by AFIMA, thereby reducing installation time and costs associated with it.

Enviroseal Roof Tile Safety is recognised by some state WorkCover code of practice to be a safeguard against the risks of falling through an incomplete or fragile roof, or openings in the roof.

Enviroseal's integral thermal insulation properties also contribute to keeping homes warmer in winter and cooler in summer.

Additionally, installation of Enviroseal Roof Tile Safety will add to the overall thermal performance of the roof when a clear airspace of at least 20mm or more is provided at the reflective side of the foil face. Reducing glare from the external face of a building is an important site construction and road safety requirement.

Enviroseal Roof Tile Safety has a green backing which is installed to the outside of the building to reduce reflection to acceptable levels.

### **Benefits**

- Pliable yet extremely strong and easy to use
- Ideal for under tiled cement and terracotta roof
- Provides ongoing physical protection against the elements such as burning embers generated from a bushfire and also reduces risk of hail entering the roof space
- Reduces temperature variations and wind driven rain water inside the home
- Increases energy efficiency
- Recommended for coastal areas; and
- Improves homeowner comfort by weatherising the home

### **Health and Safety**

Information on any known health risks on our products and how to handle them safely is detailed on our website [www.bradfordinsulation.com.au](http://www.bradfordinsulation.com.au). Additional information is listed in the Material Safety Data Sheets also available on our website.





Standard Sizes and Packaging				
Width (mm)	Length (m)	m <sup>2</sup> Per Roll	Rolls Per Pallet	Product Code
1500	30	45	50	27060

### Durability

Bradford Enviroseal Roof Tile Safety is a general purpose Roof Sarking product and is guaranteed to be free from manufacturing defects.

Bradford Enviroseal™ Roof Tile Safety will perform in normal building applications when installed in accordance with AS/NZS 4200.2:1994 Pliable Building Membranes and Underlay's, Part 2 Installation Requirements including any special notes detailed in this data sheet or those found in Bradfords design guide documents.

Please note, all work must be designed and constructed in compliance with all provisions of the current Building Code of Australia, regulations and relevant standards.

Being a secondary sarking material, Bradford Enviroseal Roof Tile Safety is not designed to withstand prolonged direct exposure to the elements.

Accordingly, upon application of this product the outer roof should be installed without delay. Bradford Enviroseal™ Roof Tile Safety should be installed with the green side facing outwards.

In roofing applications, CSR Bradford Insulation recommends using a minimum sag of 40mm deep between the rafters, except at the eaves.

To ensure effective performance and satisfactory lifespan, radiant barriers such as Enviroseal must be installed with a minimum airspace of 20mm on the reflective face.

For spans equal or less than 600mm, an overlap (joint) of 150mm must be allowed for. For spans exceeding 600mm and equal to or less than 900mm, the foil must be overlapped by 300mm and a batten shall be fixed at the centre of the lap.

Longitudinal joints are to overlap the span of one rafter support member. For specialised applications please refer to your nearest Bradford Insulation office.

### Physical Properties

Classification in accordance with AS/NZ 4200.1 unless otherwise stated. \*\*When tested to 1530.2, it complies to requirements set out for extreme bush fire attack category BCA volume II clause 3.7.4.3.

### Thermal Performance

The thermal performance of reflective insulation varies according to the direction of the heat flow. The following table provides total R values for a typical roof in accordance with AS4859.1:2002 and Amendments 4.2006 Materials for the Thermal Insulation of Buildings.

Pitched Tiled Roof	
Total R Values	
Summer	Winter
RT 1.5	RT 0.97

- Emittance of reflective foil surface 0.05 or less
- Temperature difference of 6°C for heat flow out and 12°C for heat flow in
- Enviroseal installed under the battens above the rafters, reflective surface facing down, sagged !40mm
- Emittance of antiglare surface 0.87
- Foil backing: Non-reflective



## BRISTILE ROOFING WARRANTIES



Clay Roof Tiles are offered with a Colour For Life Warranty. This means that the roof tile you buy is warranted to remain the same colour for the life of the product. No other commonly used roofing material such as concrete roof tiles or metal roofing can make claim.



All roofs installed by Bristile Roofing are offered with a 10 Year Total Roof Warranty. This warranty states that we guarantee the roof has been installed properly and that the roof tiles and all accessory products are guaranteed against defect for a period of 10 years\*.



Selected Clay Roof Tiles are offered with a 50 Year Product Warranty which means the product is guaranteed to remain structurally sound and is free of manufacturing faults for a 50 year period.



Selected Clay Roof Tiles are offered with an industry leading 100 Year Product Warranty which means the product is guaranteed to remain structurally sound and is free of manufacturing faults for a 100 year period.

### *Roofing Warranties. The Simple Facts*

There are a number of roofing materials to choose from with a vast range of differing warranties, often written in legal jargon and terms that most people would have trouble understanding.

Below are the simple facts comparing Bristile Roofing's warranties with the leading alternative, metal roofing.

	Warranty applies to product installed within 200m of breaking surf	Warranty applies to product installed within 500m of salt water	Roof must be cleaned bi-annually to maintain warranty*	Warranty applied to colour longevity
<b>COLOUR FOR LIFE WARRANTY</b> CLAY ROOF TILES	YES	YES	YES	YES
<b>50 AND 100 YEAR PRODUCT WARRANTY</b> CLAY ROOF TILES	YES	YES	NO	NO
<b>36 YEAR EXTENDED WARRANTY</b> METAL ROOFING	NO	NO	YES	NO

\* Areas not normally exposed to rain must be hosed every six months  
All information is correct at the time of printing.





# WE ARE

## *Brickworks*

Brickworks Building Products is one of Australia's largest and most diverse building material manufacturers. Under the Brickworks Building Products umbrella are some of Australia's best known building materials brands. Our products include bricks, pavers, masonry blocks, retaining wall systems, precast concrete panels, concrete and terracotta roof tiles, timber products and specialised façade systems.

With a broad product portfolio and manufacturing and sales facilities across Australia, Brickworks Building Products is uniquely placed to service the demands of the building industry.

With over 1200 staff across Australia and New Zealand, we pride ourselves on our commitment to product, service excellence and our leadership position.

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 **australbricks**  
SINCE 1908

 **australmasonry**

 **australprecast**

 **auswesttimbers**

 **bristileroofing**

 **BOWRAL BRICKS**

**nubrik**  
authentic brickwork



**terraçade**  
TERRACOTTA FAÇADE SYSTEMS

**INEX > BOARDS**

**Pronto Panel**



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Bristile Roofing is part of the Brickworks Group

The product images shown in this brochure give a general indication of product colour for your preliminary selection. Bristile Roofing recommends all customers see actual product samples at a selection centre prior to making final selections.