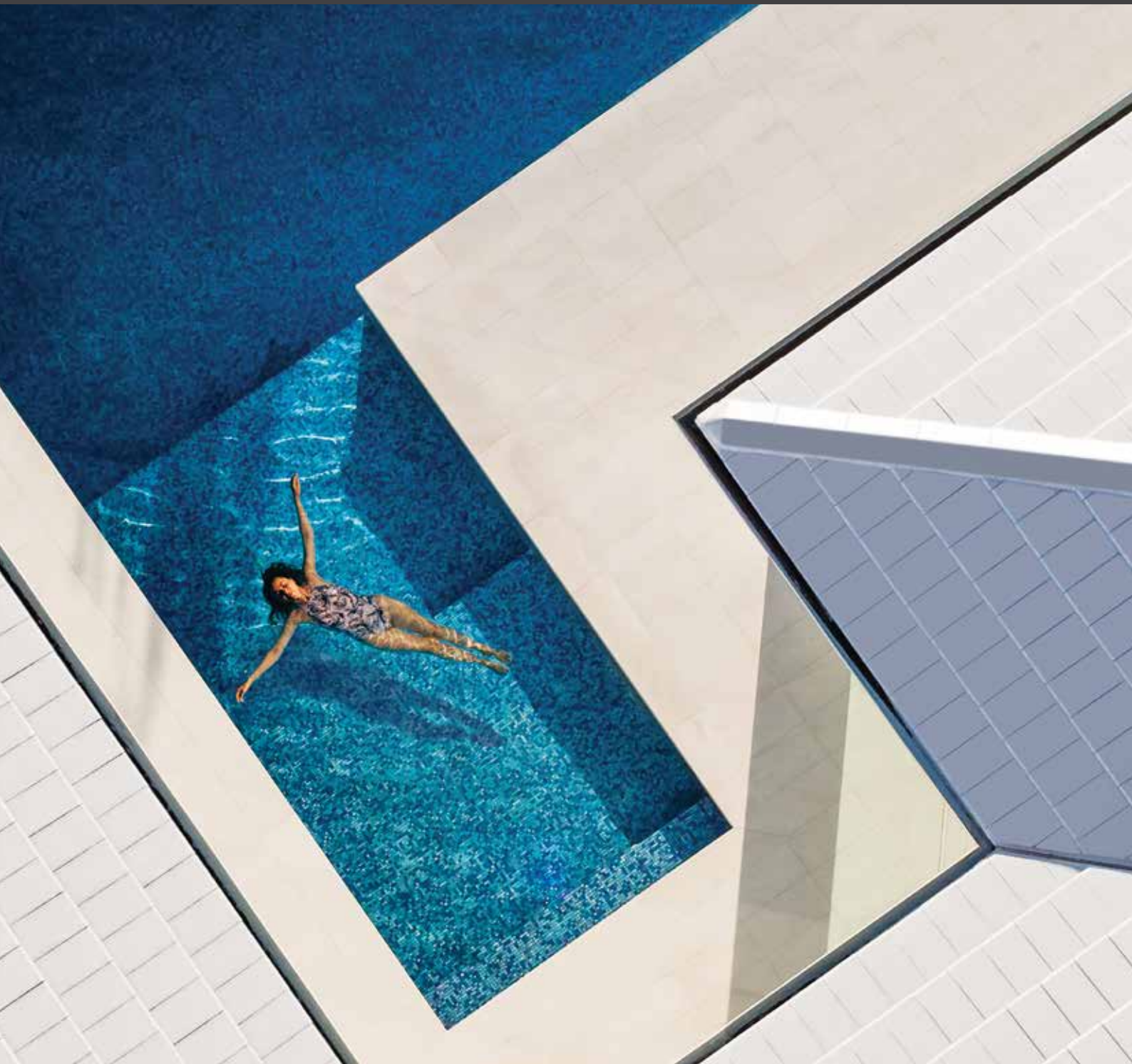


Terracotta Roof Tiles

Technical Manual



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A BRAND OF

BRICKWORKS

Terracotta Roof Tiles

–

Everlasting beauty and style



Bristle Roofings terracotta roof tile collection proudly crafted by La Escandella

La Escandella terracotta roof tiles have developed a reputation for achieving the highest quality colours and finishes of any terracotta tile in the Australian market.

Not all roofing materials are created equal. Meticulously crafted from natural material and kiln fired to solidify their form, our terracotta roof tiles offer ever lasting beauty for your home.

Brought to you by

La Escandella
ROOFING THE WORLD



1 – Bristile Roofing



Introduction

Essential

The utmost care has been taken in compiling this manual. Bristile Roofing is not liable nor responsible for the contents of the manual (including any printing or typographical errors) and urges that all standards and recommendations are checked independently. Note: Instructions and details in this manual refer to both concrete and terracotta tiles (unless expressly noted).

Specifications

Bristile Roofing advise that material contained in this manual is correct at the time of publishing, specifications are subject to change without notice.

Local Authorities

Product specifications and installation standards contained within this manual are minimum recommendations based on Australian good trade practice. The appropriate fixing standard for specific regions will vary in accordance with the environmental conditions. Where applicable, it is advised Bristile Roofing's local office be consulted, together with other local authorities.

Behaviour

Bristile Roofing roof tiles will behave as documented if installed in accordance with good trade practice and following the recommendations contained in this and other relevant manuals. Preferred methods and standards of fixing tiles are documented in this manual which includes the complete range of Bristile Roofing tiles.

Consider the following points:

- Impress the highest standards of trade practice to guarantee attractive and enduring roof finishes
- Encourage affinity between overlapping trades on the building site
- The full range of products may not be available or applicable to all states at this time
- Consistent installation methods are stated, but this may vary from state to state, gain advice from local authorities.
- High wind areas require special installation standards

Standards

Australian standards and installation specifications should be adhered to when installing roofing tiles. These standards and specifications are provided to convey up-to-date information for industry (architects, building contractors as well as purchasers and installers).

Where ever a standard is referred to in this manual it will be the most current version of that standard at the time of publishing.



The Bristile Roofing Story

What started as a small roof tile company has today developed into one of Australia's largest suppliers of concrete and terracotta roof tiles.

In 2700BC the Chinese first developed the glazed terracotta roof tile and they have been a reliable and sought after roofing product ever since. The refinement of concrete roof tiles into a long lasting and cost effective roofing material happened in the middle of the 19th century. The versatility of both products has seen them become popular in such diverse markets as Europe, North America and Asia.

Terracotta tiles were first introduced to the Australian market in 1916. In 1929 Mr. Lance Brisbane established the terracotta division of our business in Perth, Western Australia. Thanks to Mr. Brisbane, from whom the company took its name, and the hard work of dedicated employees through the years, the Bristile brand became synonymous with building products of the highest quality. Concrete tiles were first

marketed in the late 1940's and roof tiles, whether concrete or terracotta, quickly became the roofing material of choice due to their durability, profile variation and selection of colours.

In 1974, Besser Roof Tiles (as the company was then known) entered the Queensland market offering one tile profile in eight colours. In those days maximum output was 20,000 tiles per day. In time the company expanded into New South Wales, building factories in Grafton and Sydney. The Pioneer group purchased the company in 1989 and oversaw further development during the next decade including the incorporation of the famous Victorian brand Nubrik which had first made concrete tiles in 1972 under the Whitelaw Roof Tiles brand.

Today, these various roof tile companies, which first started serving the Australian market over 75 years ago, have combined. Now known as Bristile Roofing, we are one of the country's largest suppliers of concrete and terracotta roof tiles, with a comprehensive range of more than 40 colours and seven profiles.

Bristile Roofing is part of the national Brickworks group of companies which includes other famous Australian brands like Austral Bricks, Eureka Tiles Australia and Auswest Timbers.

There have been a lot of changes over the years, but one thing that has not changed is our desire to provide our customers with the very best quality products and service. Our focus on quality gives us the confidence to provide a written 10 year installation warranty on our concrete and terracotta product and a 50 year product warranty on our concrete range of tiles. Bristile's La Escandella Collection of terracotta products are covered by our famous "Colour for Life" warranty that states they will retain their colour for life.

For more information on any of our products please call 1300 274 784 or visit our website.

The Benefits

1.

Colour for Life Warranty
Terracotta tiles (or ceramic) are produced using a high firing process that binds the colour applied to the tiles surface.
2.

Vast range of colours and profiles
Bristile Roofing's terracotta roof tiles offer the most comprehensive range of colours and finishes available on the Australian market.
3.

Exceptional sound insulation
Roof tiles reduce external noise by up to 25 decibels which is more than twice the noise reduction achieved by other commonly used roofing materials.
4.

Rust and corrosion free
Roof tiles are rust and corrosion resistant which means they are suitable for installation in even the harshest coastal environments.
5.

Fire resistant
Roof tiles are ideal for use in bush fire areas because they are non combustible.
6.

Low in embodied energy
Testing shows that terracotta roof tiles are lower in embodied energy than a number of competing roofing products.
7.

Reduces cooling requirements
Testing of similarly coloured roofing products shows that terracotta roof tiles can reflect more heat away from your home resulting in lower cooling requirements.
8.

10 Year Warranty
When you build with Bristile Roofing you build with confidence knowing that your roof is provided with a 10 Year Total Roof Warranty.
9.

Strong and durable
Terracotta roof tiles must comply with strict quality standards and are actually stronger than standard concrete roof tiles.
10.

Safe to drink
Water collected from a tiled roof is as safe to drink as water collected off most roofing materials.
11.

Re-usable and recyclable
Terracotta roof tiles can be reused by moving them from one roof and installing them on another home without the need for further processing before re installation.
12.

Repair and replacement
Because a tiled roof is composed of a large number of small pieces, damaged tiles can be removed and replaced with relative ease.



Product – Planum | Slate



Our Warranties

Bristile Roofing offers industry leading warranties from a name you can trust.

Colour for Life Warranty

Terracotta 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.



10 Year Total Roof Warranty

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*.



50 Year Product Warranty

Selected Terracotta 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.



100 Year Product Warranty

Selected Terracotta Roof Tiles are offered with a 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.



Warranty	Warranty applies to product installed within 200m of breaking surf	Warranty applies to product installed within 500m of salt water	Warranty applies to colour longevity
Colour For Life Warranty Terracotta Roof Tiles	●	●	●
50 and 100 Year Product Warranty Terracotta Roof Tiles	●	●	●



2 – 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

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.

Bristile Roofing ceramic 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 Bristile 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 Bristile Roofing tiles are to be installed, showing each region with and without the need for sarking.

TABLE 3

Minimum Pitches for Fixing La Escandella Ranges

La Escandella Roof Tile	Minimum Without Sark	Minimum With Sark
Curvado/Curvado Glazed	20°	15°
Planum	20°	15°
Marseille	20°	15°
Vienna	20°	15°
Visum3	n/a	30°*
Medio Curva	n/a	10°**
La Escandella Innova	20°	15°

* Breathable membrane 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 Bristile 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.

TABLE 4

Sarking Requirements in Relation to Pitch/Rafter Length

Roof - Degrees of Pitch	Maximum Rafter Length Without Sarking (mm)
≥18 < 20	4.5
≥20 < 22	5.5
≥22	6.0

3 – Product Range



Profiles

Curvado



Curvado Profile
The Curvado profiles accentuated rounded shape and exciting range of colours make it the ideal tile for projects of distinction.

Dimensions	470 × 286 mm
Tiles / m ²	11.4 pcs
Minimum pitch	15 °
Weight per tile	3.9kg
Weight / m ²	44.46kg

Marseille



Marseille Profile
A classic terracotta roof tile with a design that originates from France.

Dimensions	466 × 260 mm
Tiles / m ²	11.1 pcs
Minimum pitch	15 °
Weight per tile	3.6kg
Weight / m ²	39.96.46kg

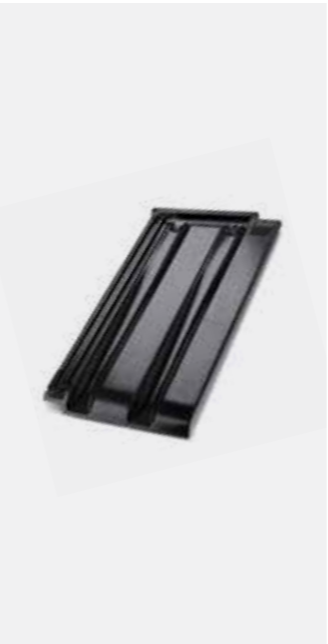
Medio Curva



Medio Curva Profile
Using a distinctive system of installation, the Medio Curva tile creates an eye catching finish on any project.

Dimensions	500 × 210/260 mm
Tiles / m ²	22 pcs
Minimum pitch	10 °
Weight per tile	2.55kg
Weight / m ²	56.1kg

Innova



Innova Profile
Innovative new tile profile is designed to suit a range of designs.

Dimensions	460 × 255 mm
Tiles / m ²	11.5 pcs
Minimum pitch	15 °
Weight per tile	3.4kg
Weight / m ²	39.1kg

Planum



Planum Profile
A sleek, minimalist roofing product ideal for contemporary house designs.

Dimensions	440 × 280 mm
Tiles / m ²	11 pcs
Minimum pitch	15 °
Weight per tile	3.5kg
Weight / m ²	38.5kg

Vienna



Vienna Profile
Features sharp lines with a sleek flat profile.

Dimensions	460 × 255 mm
Tiles / m ²	11.5 pcs
Minimum pitch	15 °
Weight per tile	3.3kg
Weight / m ²	37.95kg

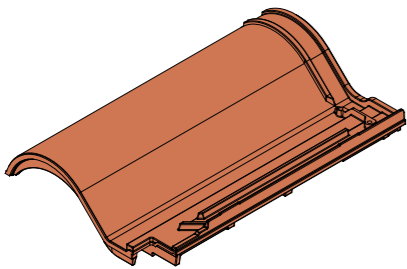
Visum3



Visum3 Profile
Creating the aesthetic of three slate tiles, the Visum3 is ideal for traditional country estate style projects and heritage buildings.

Dimensions	280 × 480 mm
Tiles / m ²	11.9 tiles
Minimum pitch	30 °
Weight per tile	3.85kg
Weight / m ²	44.27kg

Curvado




The Curvado range captures a look of grandeur with a distinctively European style. Manufactured from the highest quality terracotta materials, the Curvado 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.

Curvado Product Specifications

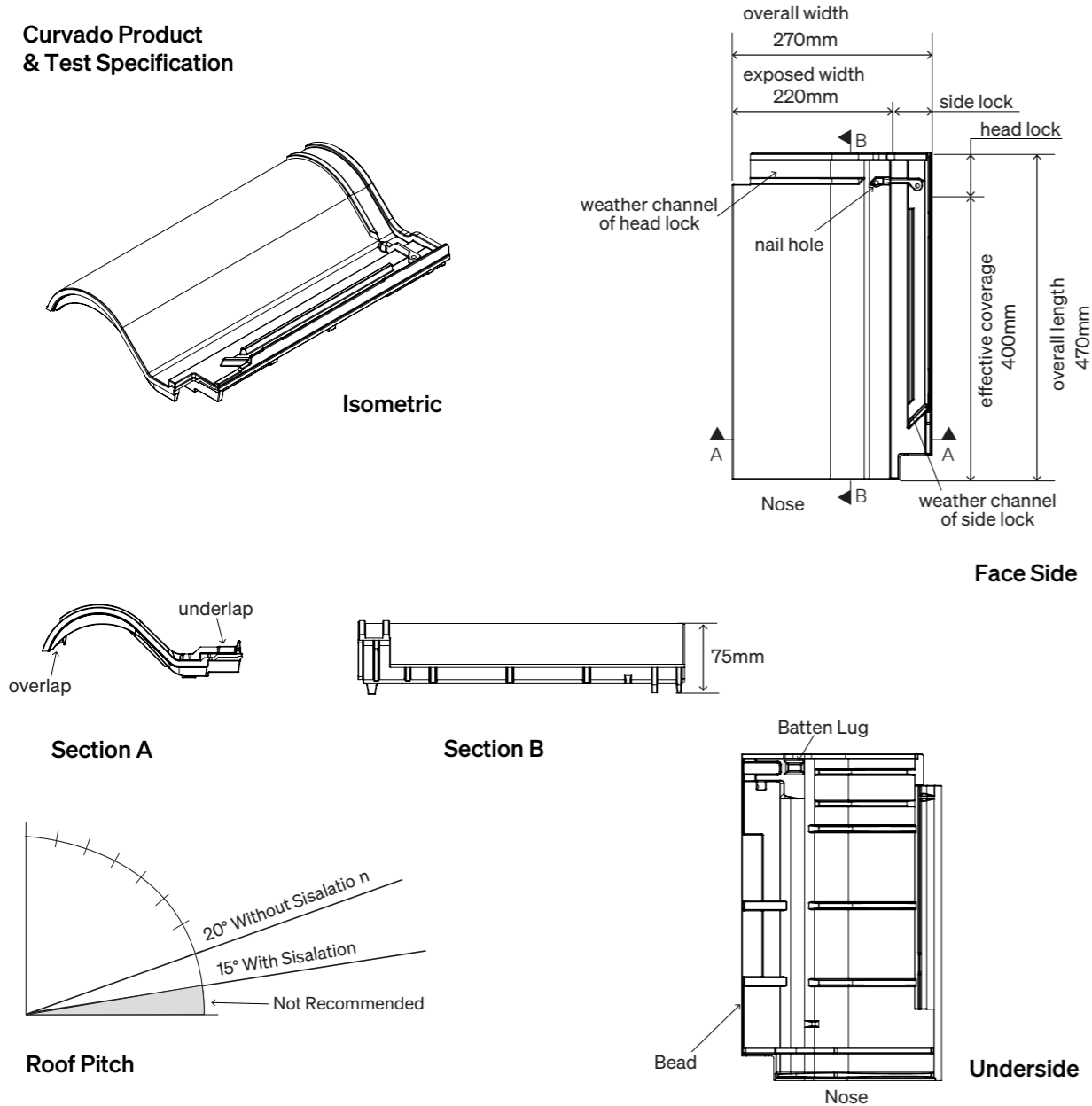
Min Pitch:	15 Degrees with Sarking, 20 Degrees without Sarking
Optimum Set Out:	400mm (+/- 5mm)
First Batten:	370mm (top of batten)
Sarking:	As noted in "Min Pitch" above
Dimensions:	470mm x 286mm x 75mm
Weight:	3.9kg
Layed:	Straight Bonded
Tiles Per m²:	11.40
Weight per m²:	44.46kg
Cuts per LM:	3
Ridges per LM:	2.5
Batten per m²:	2.9
Batten:	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)
Fixing:	Head Lap Clip or Nailed
Pallet Quantity:	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

Curvado Product Information

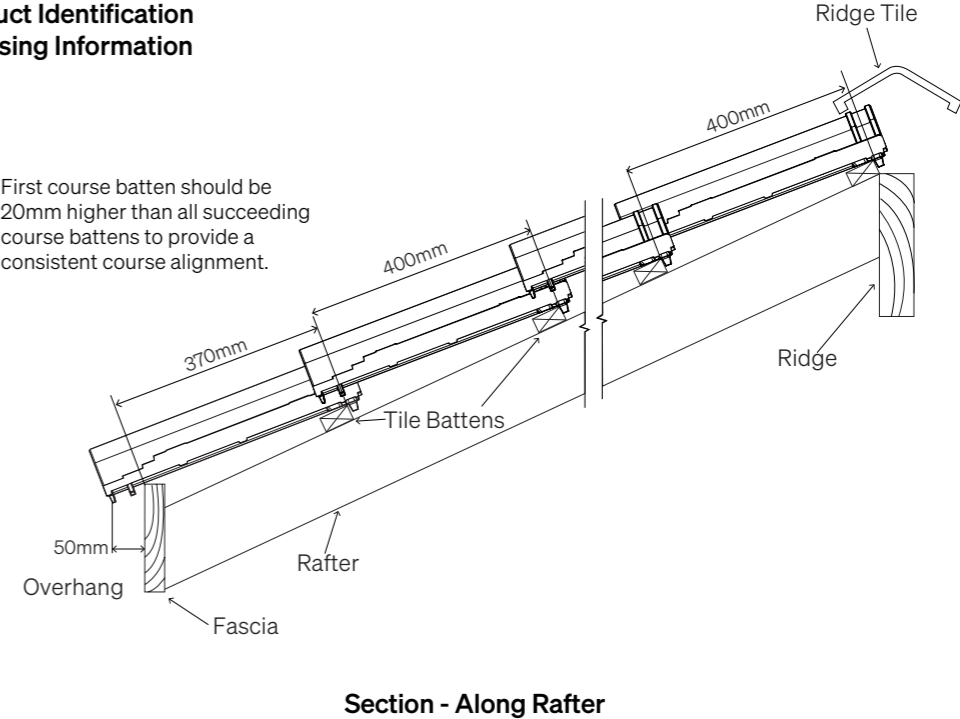
Curvado Product & Test Specification



Testing Standard	Test Description	Standard 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	

Curvado Product Information

Curvado Product Identification & Layout Coursing Information

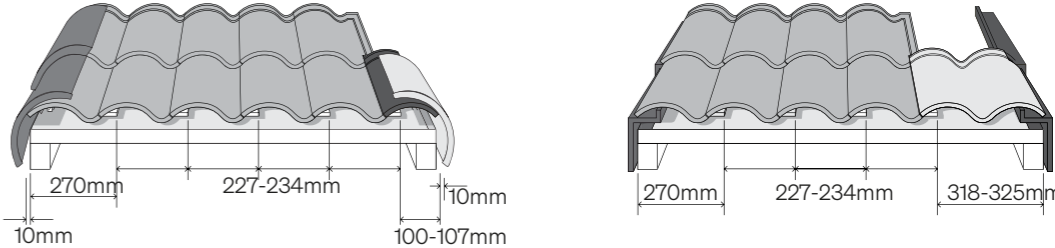


Curvado half tile roof laying

- Curvado roof tile
- Q12 round LHS course
- Q13 round RHS course
- Half tile (cut on site)

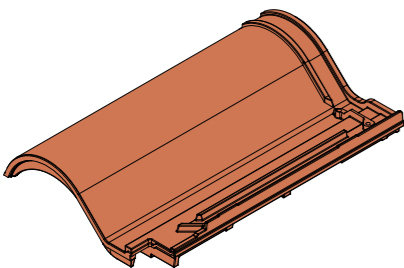
Curvado double roll roof tile laying

- Curvado roof tile
- Q10 straight LHS course
- Q33 double roll tile
- Q11 straight RSH course



Section - Through Rafter

Curvado Glazed



Manufactured from the highest quality terracotta materials with a large range of stunning glazed colours, the Curvado Glazed range 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. It also offers a large range of stunning glazed colours.

Curvado Glazed Product Specifications

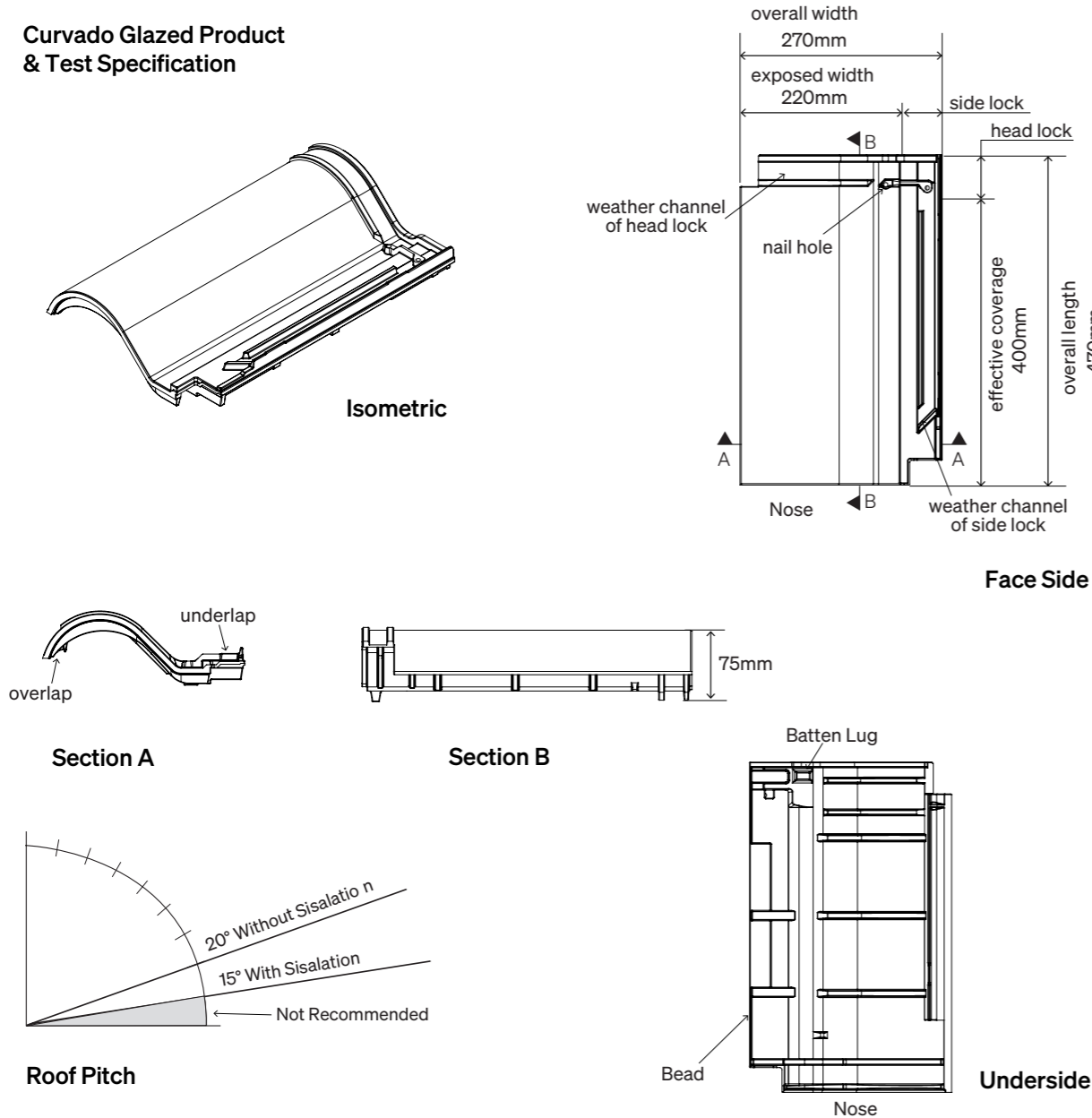
Min Pitch:	15 Degrees with Sarking, 20 Degrees without Sarking
Optimum Set Out:	400mm (+/- 5mm)
First Batten:	370mm (top of batten)
Sarking:	As noted in "Min Pitch" above
Dimensions:	470mm x 286mm x 75mm
Weight:	3.9kg
Layed:	Straight Bonded
Tiles Per m²:	11.40
Weight per m²:	44.46kg
Cuts per LM:	3
Ridges per LM:	2.5
Batten per m²:	2.9
Batten:	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)
Fixing:	Head Lap Clip or Nailed
Pallet Quantity:	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

Curvado Glazed Product Information

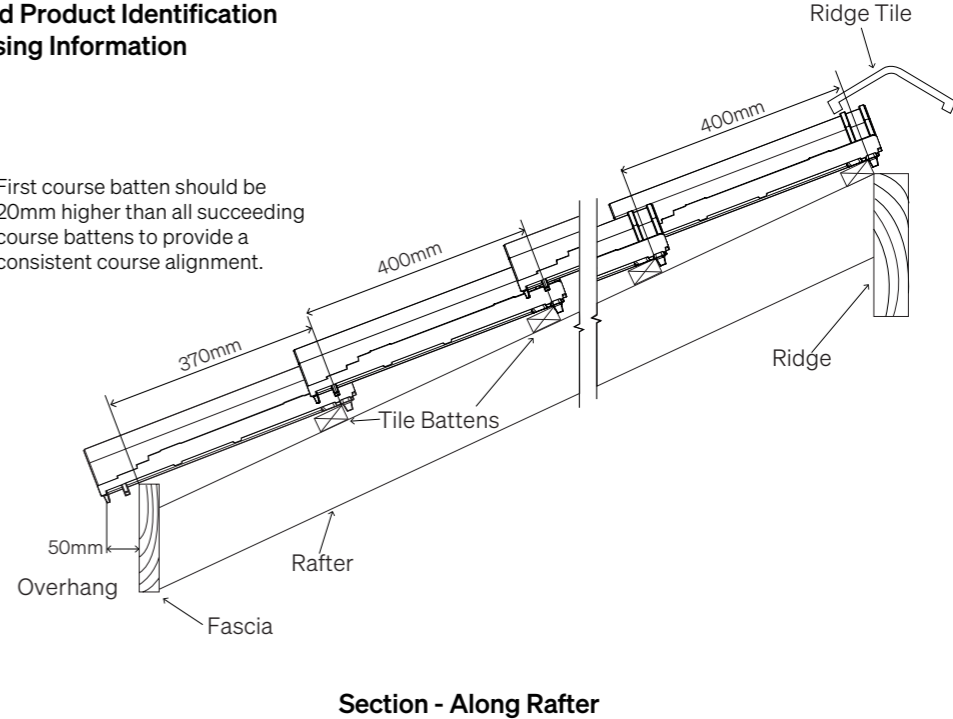
Curvado Glazed Product & Test Specification



Testing Standard	Test Description	Standard 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	

Curvado Glazed Product Information

Curvado Glazed Product Identification & Layout Coursing Information

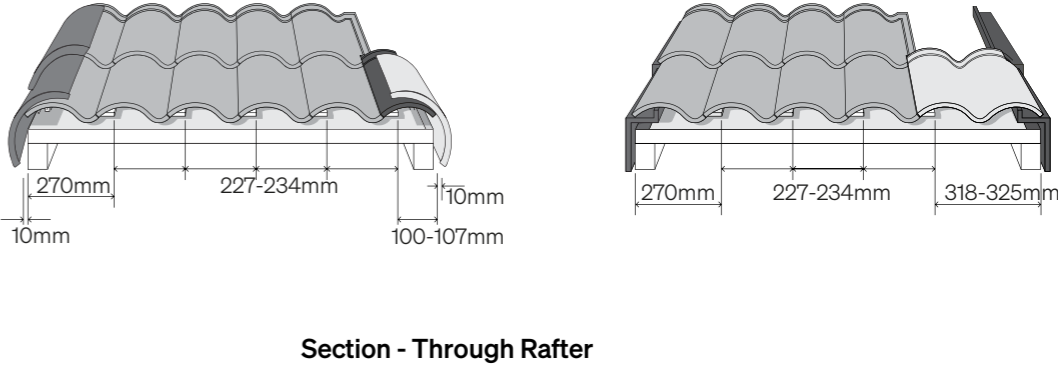


Curvado Glazed half tile roof laying

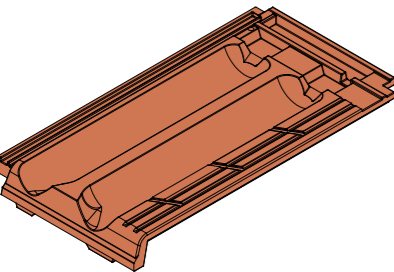
- Curvado roof tile
- Q12 round LHS course
- Q13 round RHS course
- Half tile (cut on site)

Curvado Glazed double roll roof tile laying

- Curvado roof tile
- Q10 straight LHS course
- Q33 double roll tile
- Q11 straight RSH course



Marseille



Originating from France, the Marseille tile offers versatility and simplicity in a classic style terracotta roof tile. 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 terracotta, the Marseille is ideal for homes of distinction.

Marseille Product Specifications

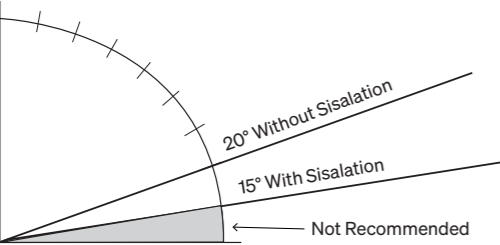
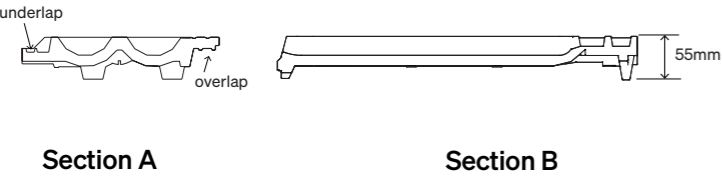
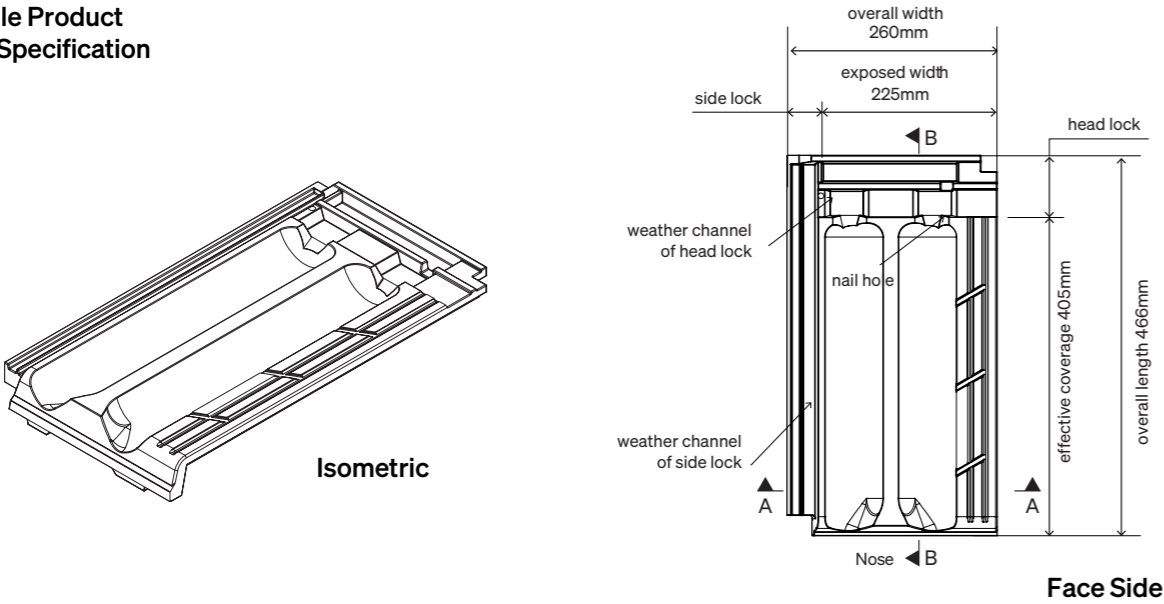
Min Pitch:	15 Degrees with Sarking, 20 Degrees without Sarking
Optimum Set Out:	398mm (+/- 5mm)
First Batten:	370mm (top of batten)
Sarking:	As noted in “Min Pitch” above
Dimensions:	466mm x 260mm x 55mm
Weight:	3.6kg
Layed:	Cross Bonded
Tiles Per m²:	11.1
Weight per m²:	39.96kg
Cuts per LM:	3
Ridges per LM:	2.5
Betten per m²:	2.9
Batten:	600 Centres - 40 × 25 HWD (QLD) / 38 × 38 Pine (NSW, ACT, VIC, SA, TAS) / 38 × 25 Karri (WA) 900 Centres - 50 × 38 HWD (QLD, NSW, ACT, VIC, SA, TAS)
Fixing:	Head Lap Clip or Nailed
Pallet Quantity:	240/180

Marseille Glazed Fittings

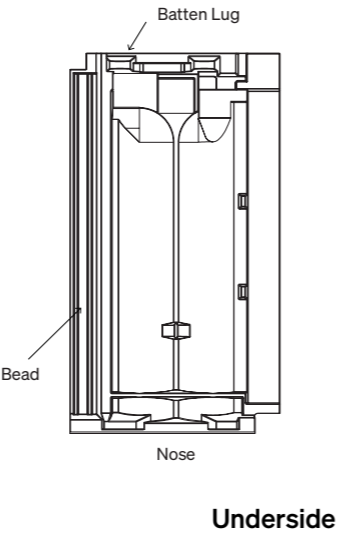
Ridges	Apex	End Cap	Double Roll	Barges	Extras
			N/A		
Q90 Collarless Ridge	Q111 Collarless 3 Way End Ridge	Q109 Collarless Hip End Ridge	N/A	Q91 Pyramid Ridge	Q21 Ventilation Tile

Marseille Product Information

Marseille Product & Test Specification



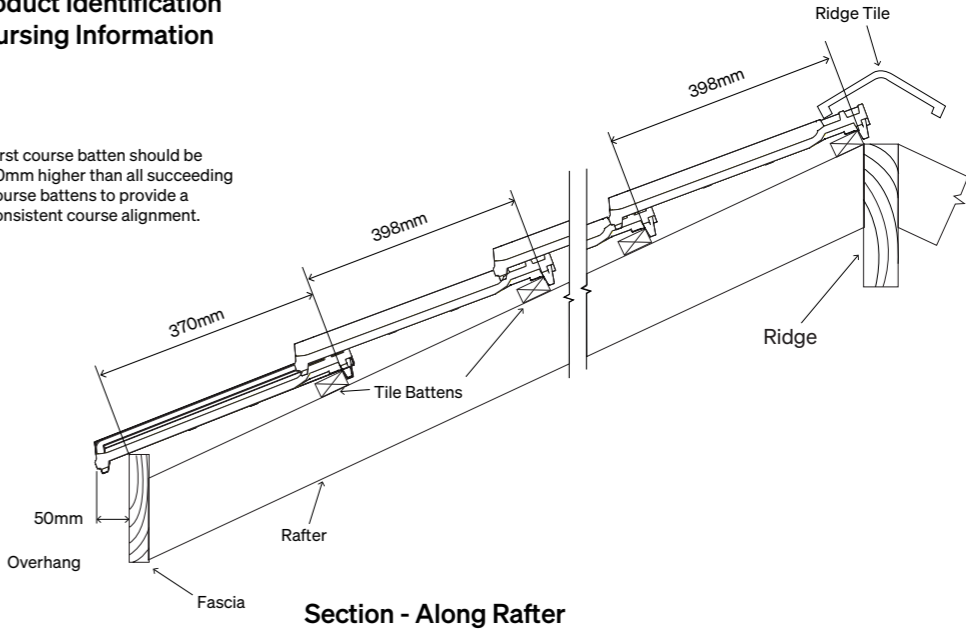
Roof Pitch



Testing Standard	Test Description	Standard Tolerance	Average Marseille Result
AS - 4046.1	Distortion & Warpage	< 8mm	All Marseille 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	

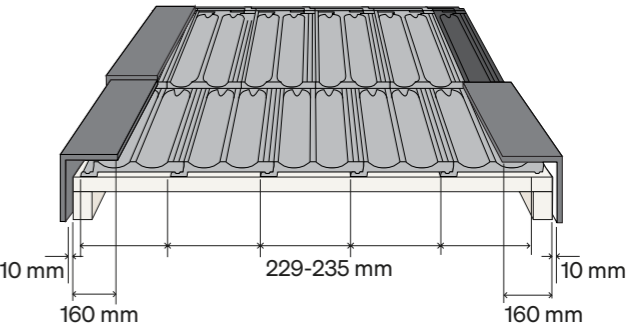
Marseille Product Information

Marseille Product Identification & Layout Coursing Information

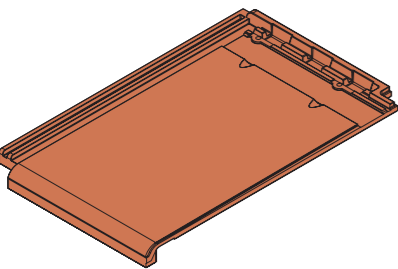
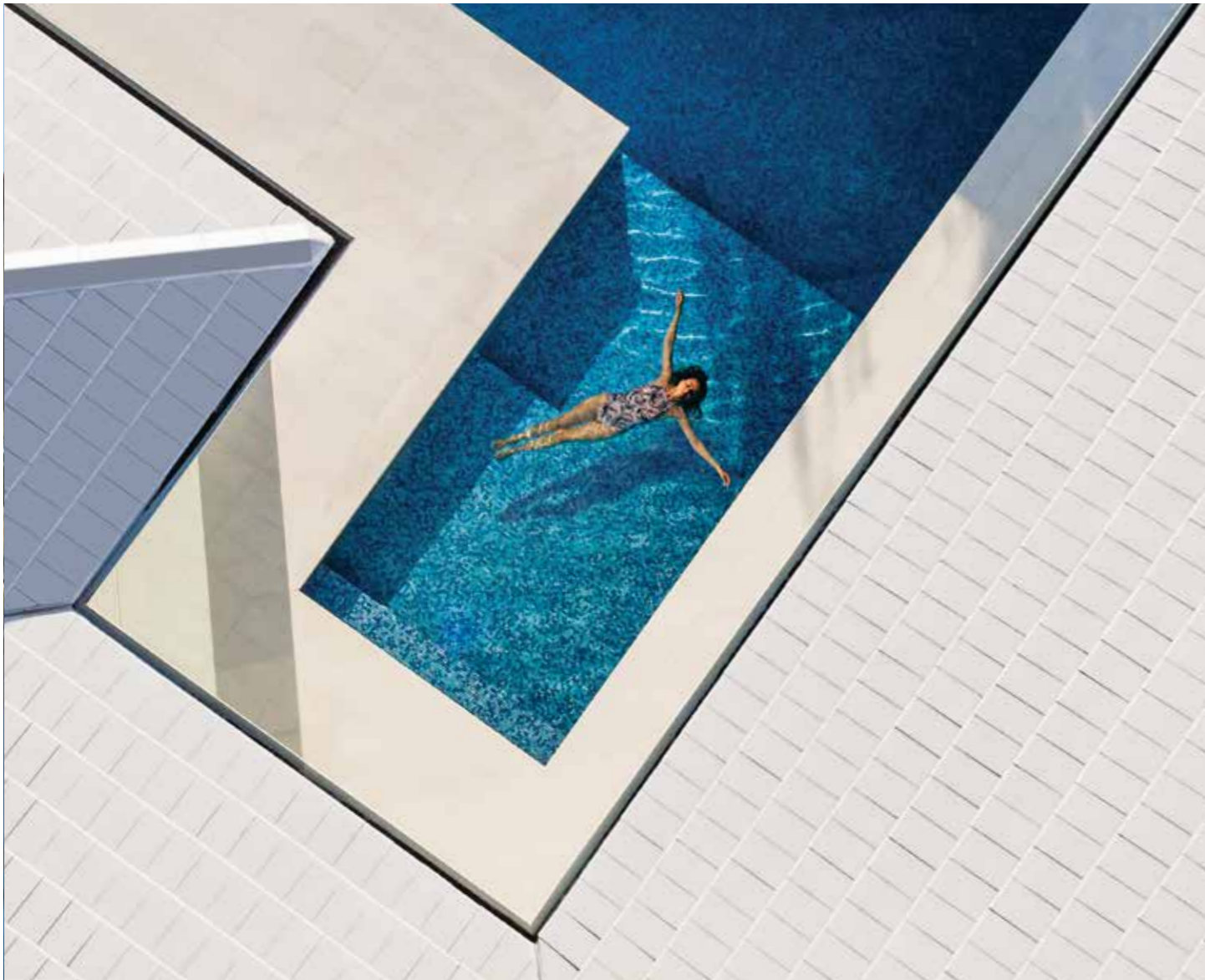


Marseille cross bonded roof tile laying

- Marseille Roof tile
- Q91 Pyramid Ridge
- Half tile (Cut on site)



Planum



Planum creates a look of simplicity and elegance with contemporary colour options developed to complement the sleek, refined shape of the tile. Due to it's innovative design and size, the Planum tile is faster and easier to install. Furthermore the highly weatherproof design means it can be applied to roof pitches as low as fifteen degrees.

Planum Product Specifications

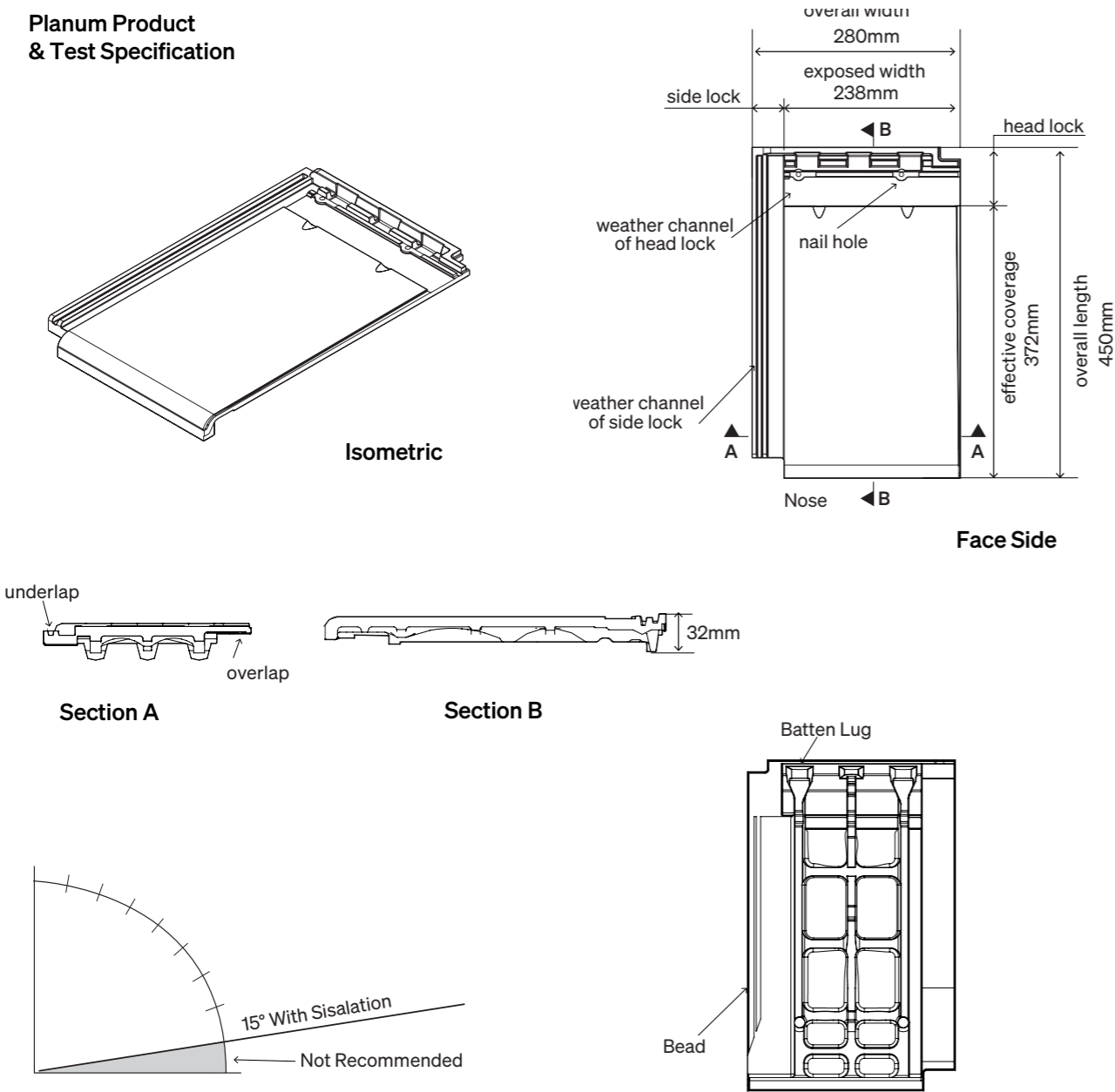
Min Pitch:	15 Degrees with Sarking, 20 degrees without Sarking
Optimum Set Out:	365mm (+5/-50mm) Effective for stock dated after March 2019
First Batten:	360mm (top of batten)
Sarking:	As noted in "Min Pitch" above
Dimensions:	440mm x 280mm x 32mm
Weight:	3.5kg
Layed:	Cross Bonded
Tiles Per m²:	11.7
Weight per m²:	38.5kg
Cuts per LM:	3.5
Ridges per LM:	2.5
Batten per m²:	3.2
Batten:	600 Centres - 40 × 25 HWD (QLD) / 38 × 38 Pine (NSW, ACT, VIC, SA, TAS) 38 × 25 Karri (WA) 900 Centres - 50 × 38 HWD (QLD, NSW, ACT, VIC, SA, TAS)
Fixing:	Head Lap Clip or Nailed
Pallet Quantity:	240 / 320

Planum Glazed Fittings

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

Planum Product Information

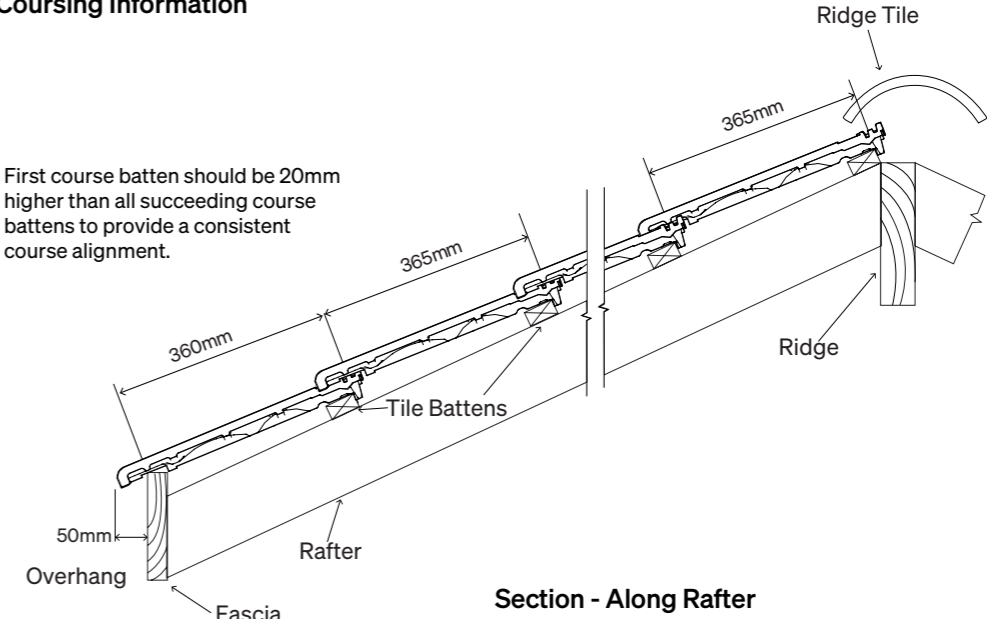
Planum Product & Test Specification



Testing Standard	Test Description	Standard 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	

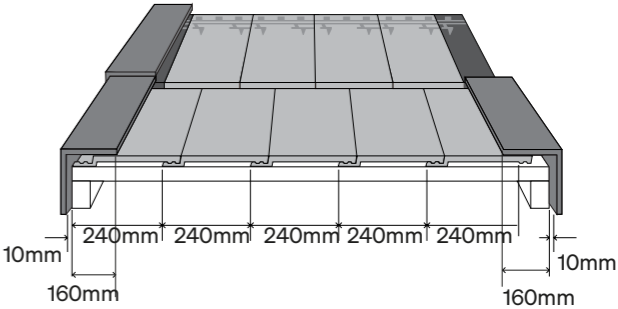
Planum Product Information

Planum Product Identification & Layout Coursing Information



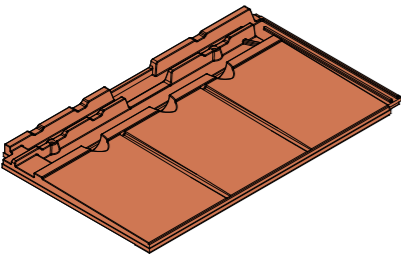
Planum cross bonded roof tile laying

- Marseille Roof tile
- Q91 Pyramid Ridge
- Half tile (Cut on site)



Section - Through Rafter

Visum3



Featuring a truly revolutionary interlocking design, the Visum3 has been designed to replicate smaller slate and terracotta tiles. Introduced with a 20 year patent, the Visum3 provides an affordable alternative for those desiring a shingle roof. Featuring a slim 9mm nose, the Visum3 achieves ultra flat laying for the ultimate shingle and slate appearance.

Visum3 Product Specifications

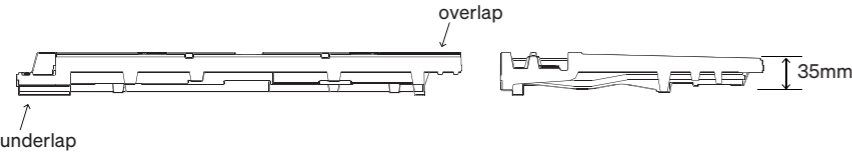
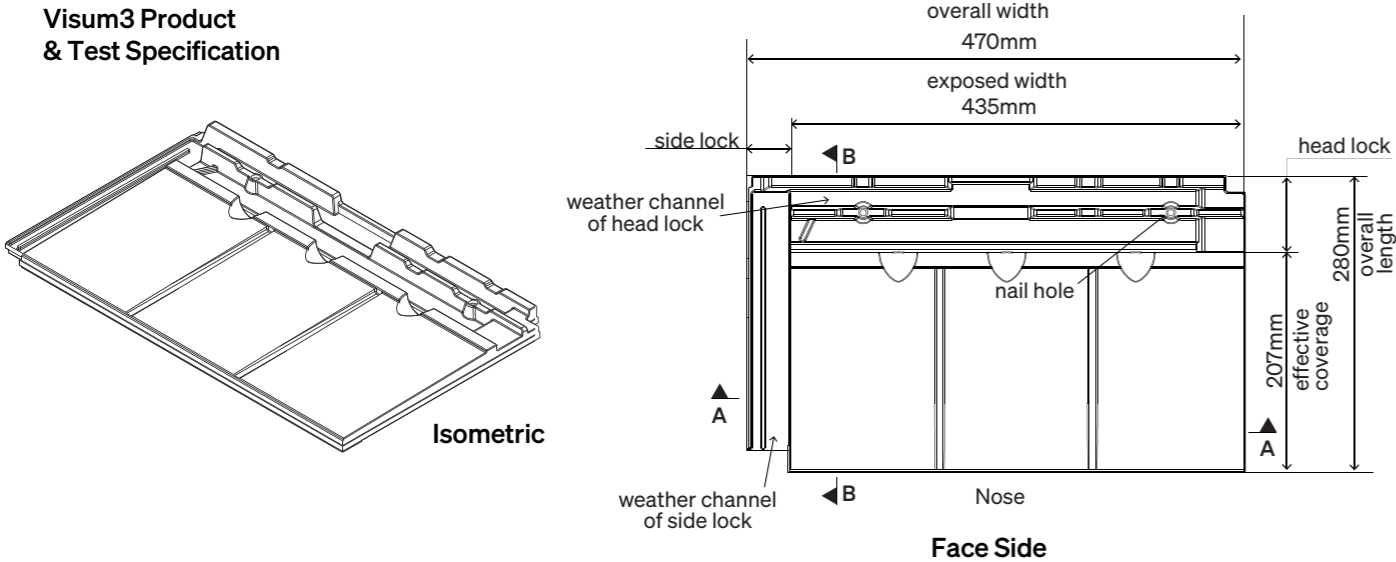
Min Pitch:	30 Degrees with Breathable Membrane
Optimum Set Out:	187mm (+/- 5mm)
First Batten:	206mm (top of batten)
Sarking:	Mandatory (Breathable membrane to be used)
Dimensions:	280mm x 480mm x 35mm
Weight:	3.85kg
Layed:	Cross Bonded (watercourse high bead in line with central frog)
Tiles Per m²:	11.9
Weight per m²:	44.27kg
Cuts per LM:	8
Ridges per LM:	2.5
Batten per m²:	5.8
Batten:	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)
Fixing:	Head Lap Clip or Nailed
Pallet Quantity:	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	N/A	Q91 Pyramid Ridge	Q96 Ventiation Tile

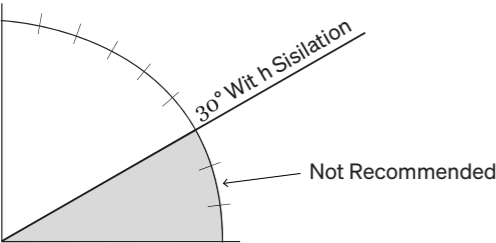
Visum3 Product Information

Visum3 Product & Test Specification

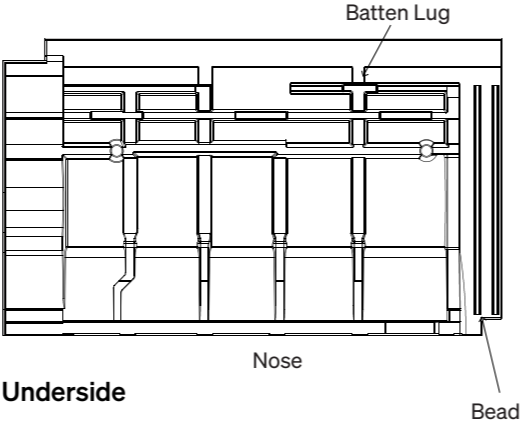


Section A

Section B



Roof Pitch

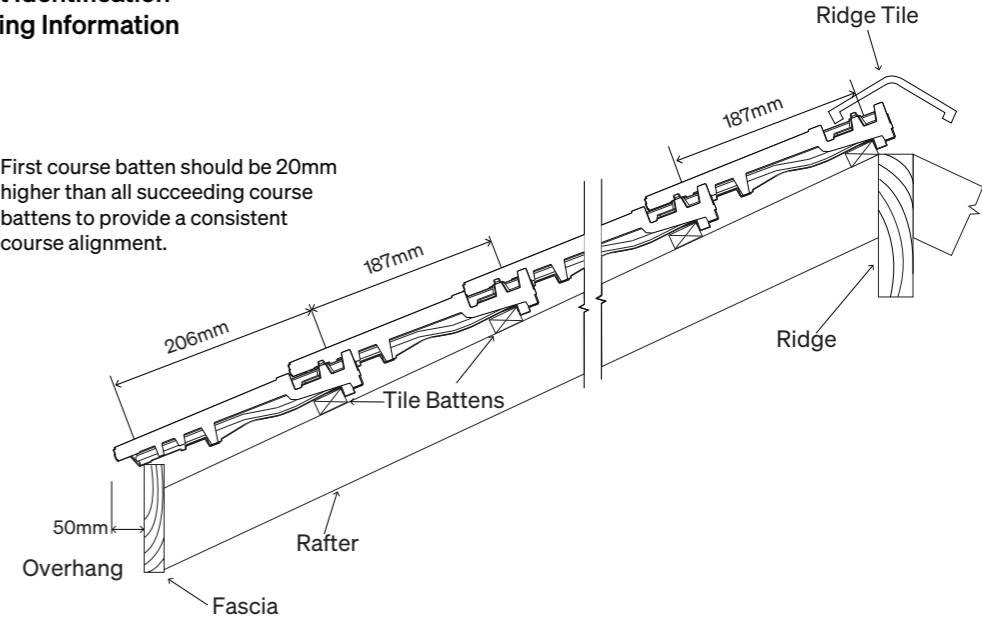


Underside

Testing Standard	Test Description	Standard 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	

Visum3 Product Information

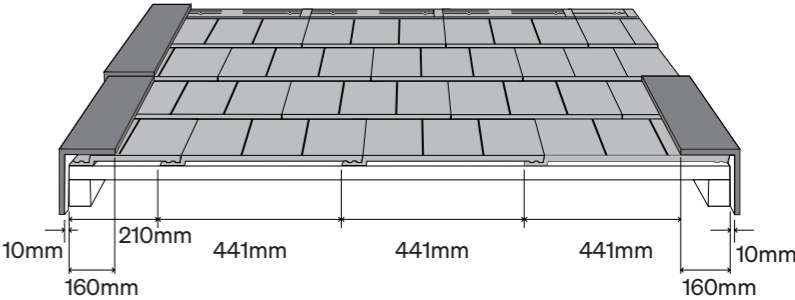
Visum3 Product Identification & Layout Coursing Information



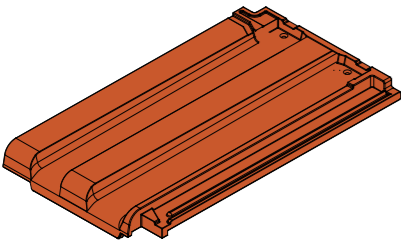
Section - Along Rafter

Visum3 roof tile laying

- Visum3 roof tile
- Q91 Pyramid Ridge



Innova



The combination of it’s sharp clean lines and modern colour palette result in a roof tile with a timeless look and unmistakeable style. Offering the colour longevity, strength, and durability of terracotta, the Innova suits a range of house designs.

Innova Product Specifications

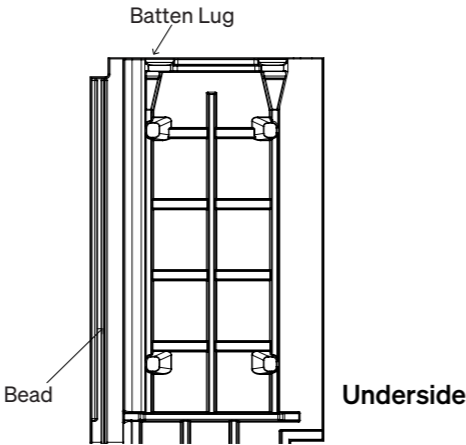
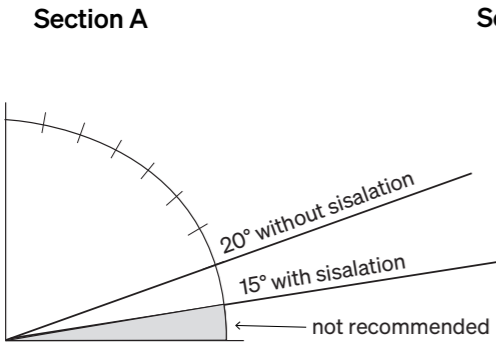
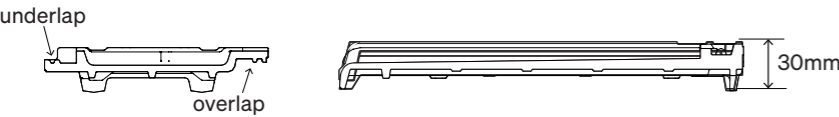
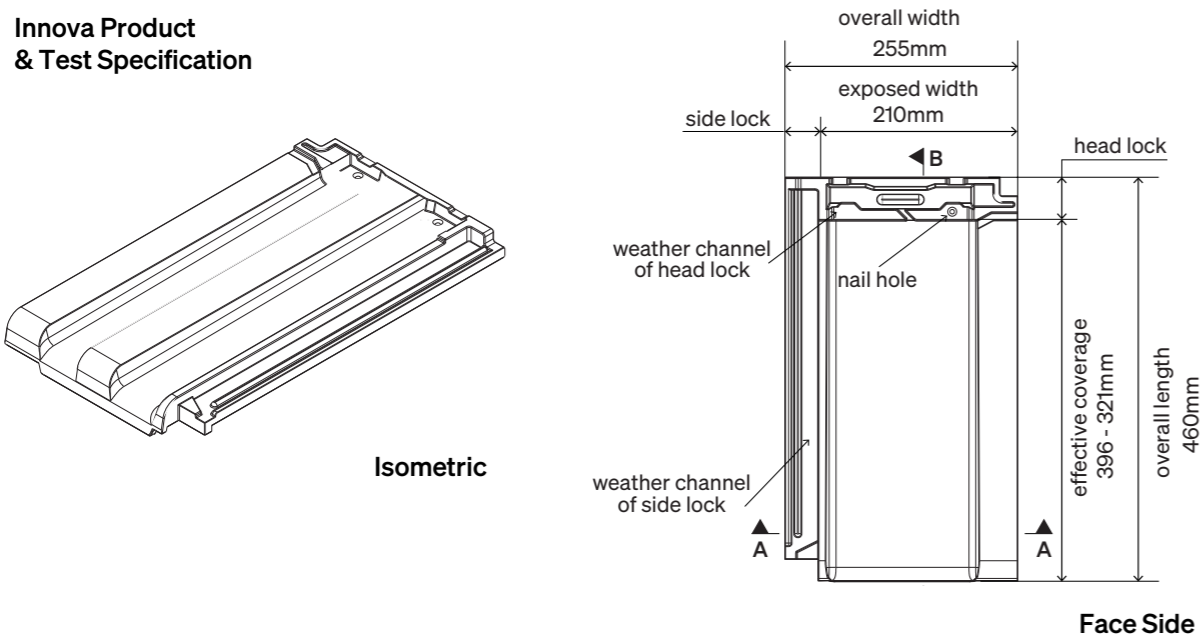
Min Pitch:	15 Degrees with Sarking, 20 Degrees without Sarking
Optimum Set Out:	390mm (+5mm/-70mm)
First Batten:	380mm (top of batten)
Sarking:	As noted in “Min Pitch” below
Dimensions:	4560mm x 255mm x 30mm
Weight:	3.4kg
Layed:	Straight or Cross Bonded
Tiles Per m²:	12.1
Weight per m²:	39.1kg (Tiles 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	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

Innova Product Information

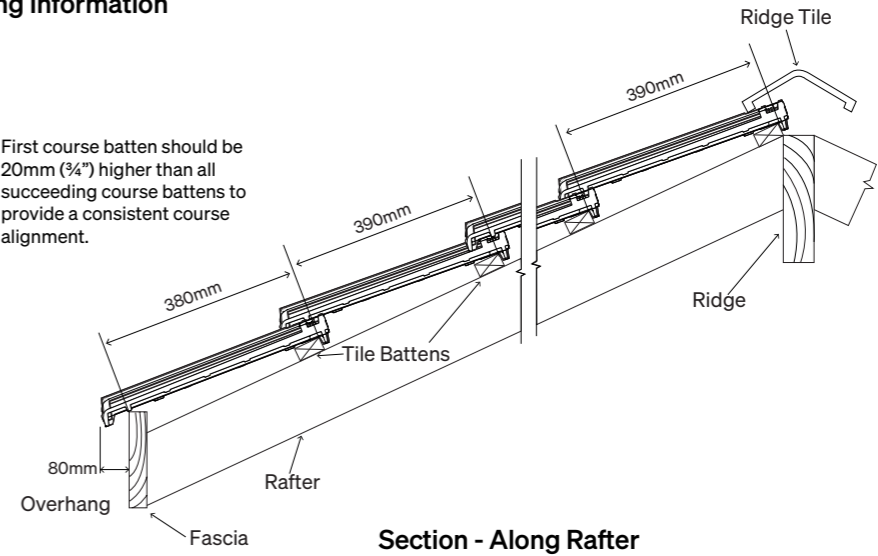
Innova Product & Test Specification



Testing Standard	Test Description	Standard 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	

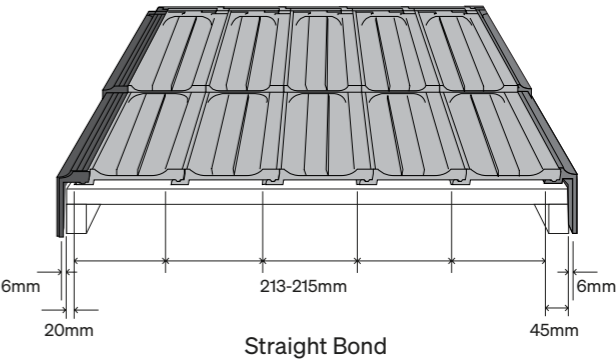
Innova Product Information

Innova Product Identification & Layout Coursing Information

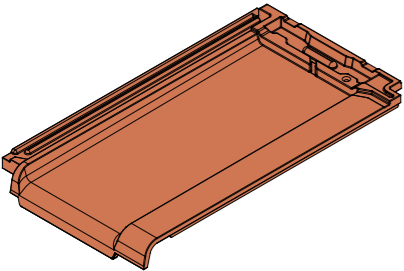


Innova bond pattern / Continuous joints laying

- Innova roof tile
- Q91 Pyramid Ridge



Vienna



With sharp lines and bold pastel colours the Vienna range is designed for contemporary homes. A tile to complement today’s varied architectural styles, the pace and diversity of modern city living is reflected in the strong, straight lines of this tile.

Vienna Product Specifications

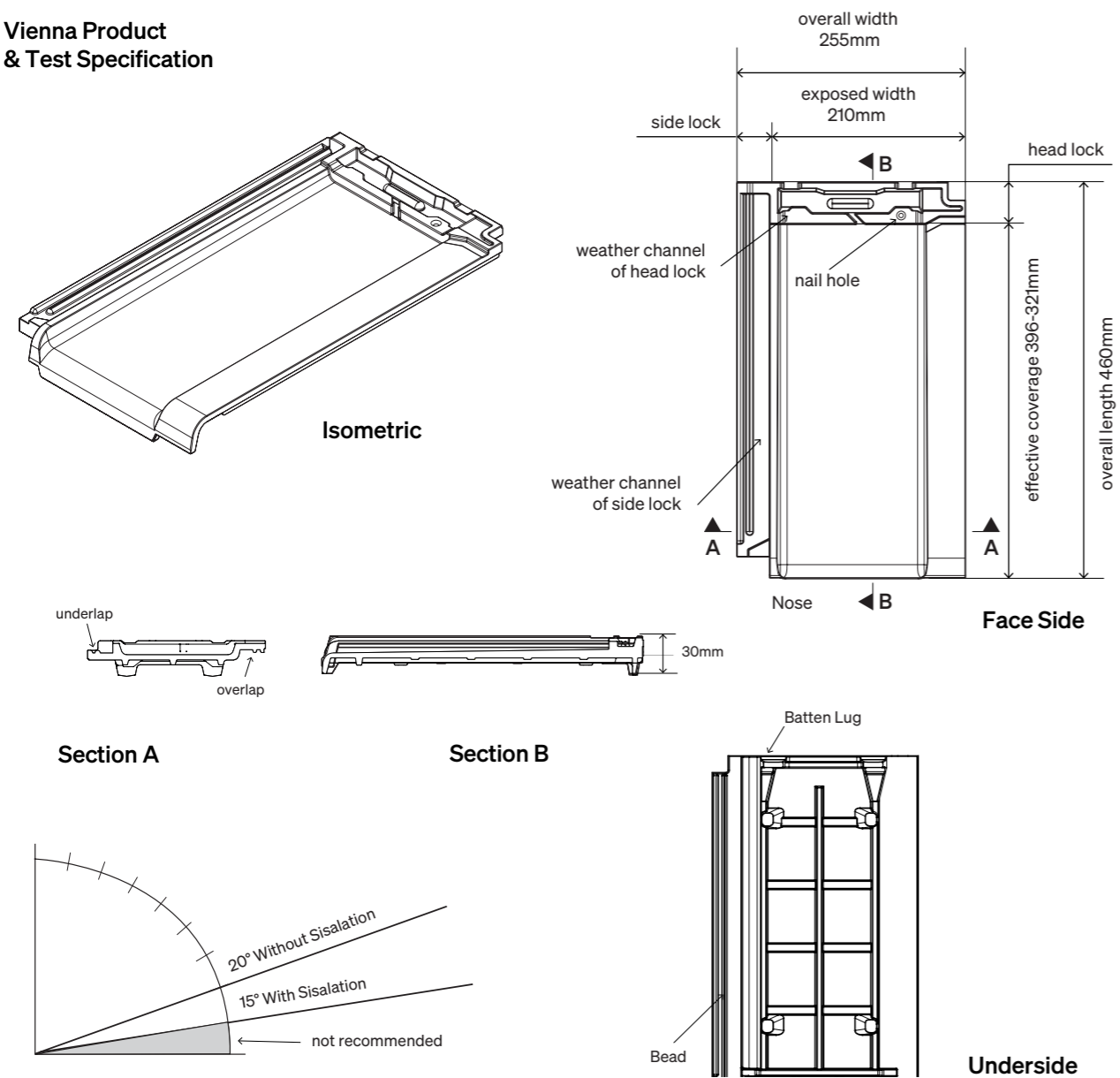
Min Pitch:	15 Degrees with Sarking, 20 Degrees without Sarking
Optimum Set Out:	390mm (+5/- 70mm)
First Batten:	380mm (top of batten)
Sarking:	As noted in “Min Pitch” below
Dimensions:	460mm x 255mm x 30mm
Weight:	3.3kg
Layed:	Straight Bonded
Tiles Per m²:	12.1
Weight per m²:	37.95kg (Tiles Only)
Weight per LM:	3
Ridgers per LM:	2.5
Batten per m²:	2.9
Batten:	600 Centres - 40 × 25 HWD (QLD) / 38 × 38 Pine (NSW, ACT, VIC, SA, TAS) 38 × 25 Karri (WA) 900 Centres - 50 × 38 HWD (QLD, NSW, ACT, VIC, SA, TAS)
Fixing:	Head Lap Clip or Nailed
Pallet Quantity:	180 / 240

Vienna Fittings

Ridges	Apex	Hip End	Double Roll	Barges	Extras
					
Q90 Collarless Ridge	Q111 Collarless 3 Way End Ridge	(QLD Only) Q109 Collarless Hip End Ridge	N/A	Q91 Pyramid Ridge	N/A

Vienna Product Information

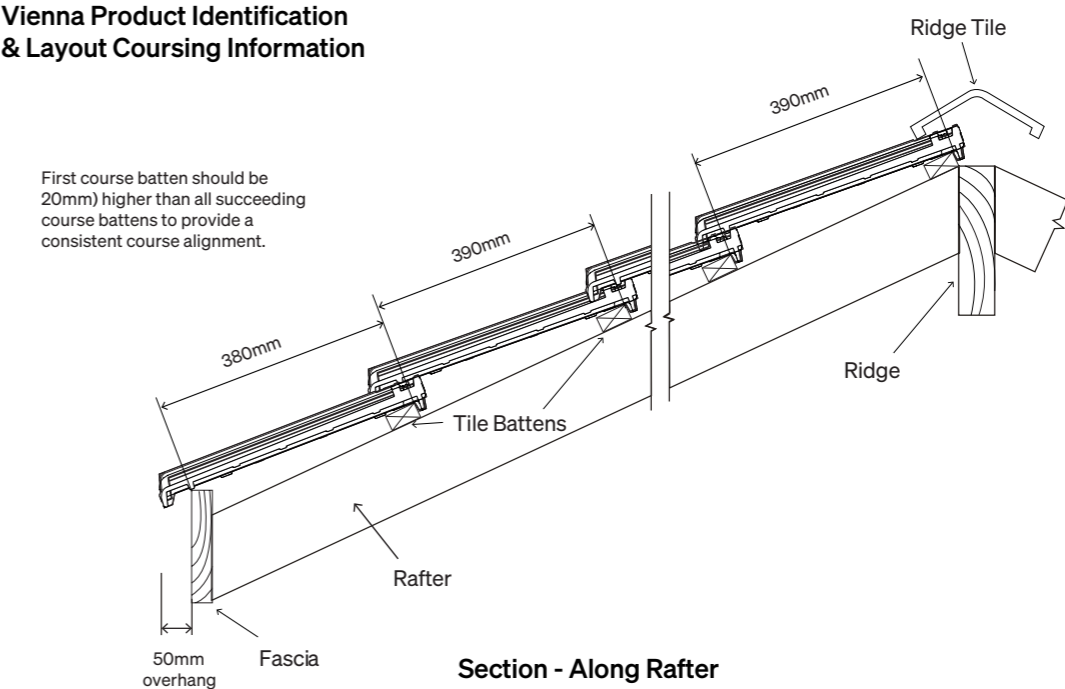
Vienna Product
& Test Specification



Testing Standard	Test Description	Standard Tolerance	Average Vienna Result
AS - 4046.1	Distortion & Warpage	< 8mm	All Vienna 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	

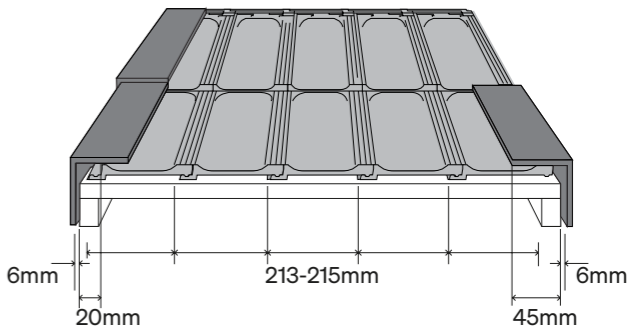
Vienna Product Information

Vienna Product Identification
& Layout Coursing Information

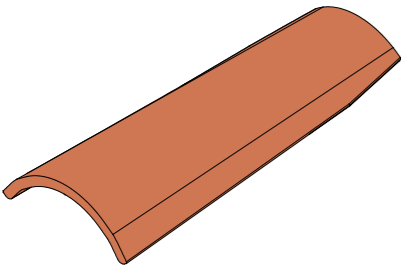


Vienna cross bonded
roof tile laying

- Vienna Roof tile
- Q91 Pyramid Ridge



Medio Curva







With sharp lines and bold pastel colours the Vienna range is designed for contemporary homes. A tile to complement today’s varied architectural styles, the pace and diversity of modern city living is reflected in the strong, straight lines of this tile.

Medio Curva Product Specifications

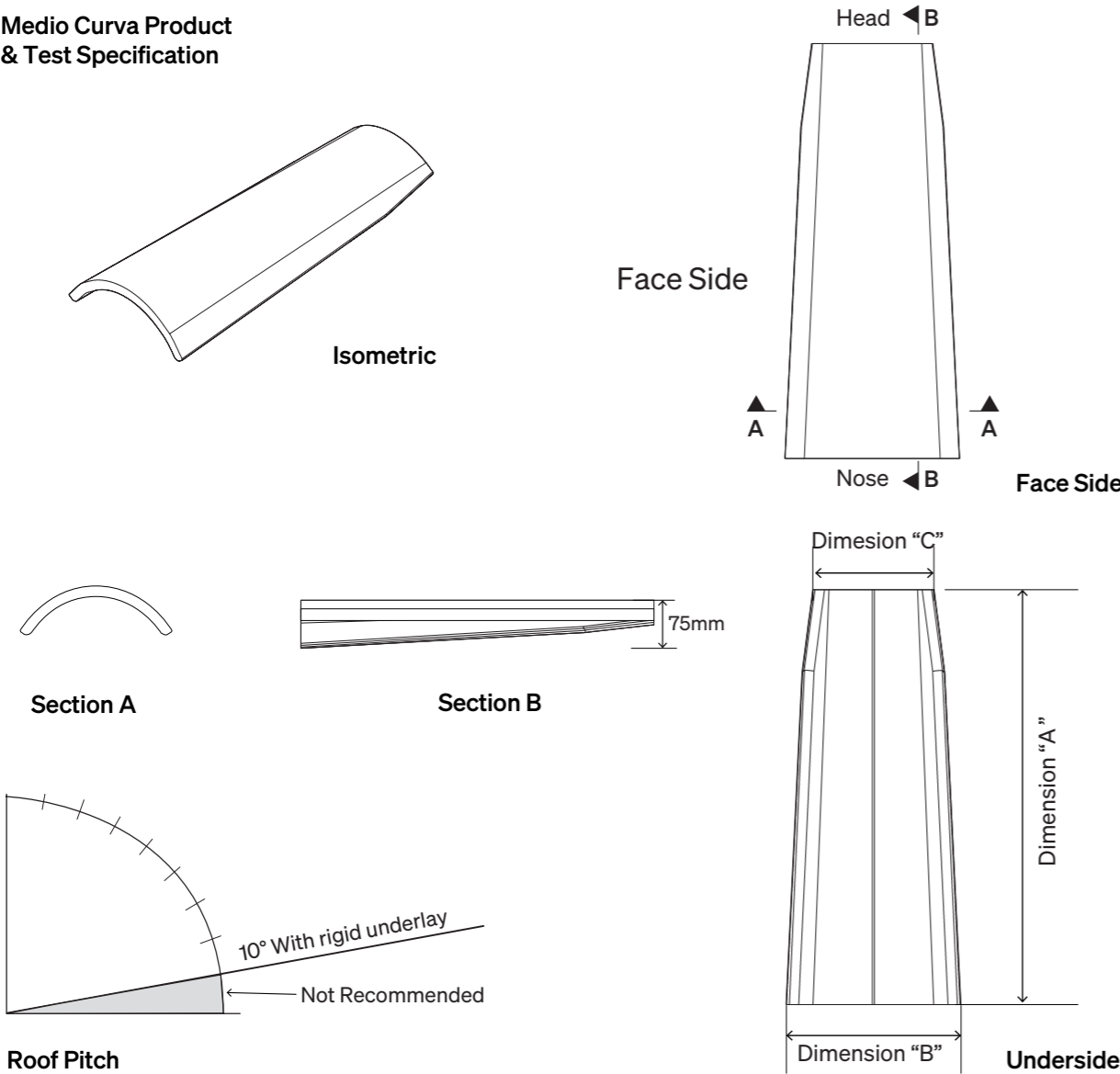
Min Pitch:	10-27 degrees with roof sheets, 27.1+ degrees with batten installation
Optimum Set Out:	See Longitudinal fit information on page 39
First Batten:	See Longitudinal fit information on page 39
Sarking:	N/A
Dimensions:	See Longitudinal fit information on page 39
Weight:	See Longitudinal fit information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

Medio Curva Product Information

Medio Curva Product & Test Specification



Testing Standard	Test Description	Standard 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	

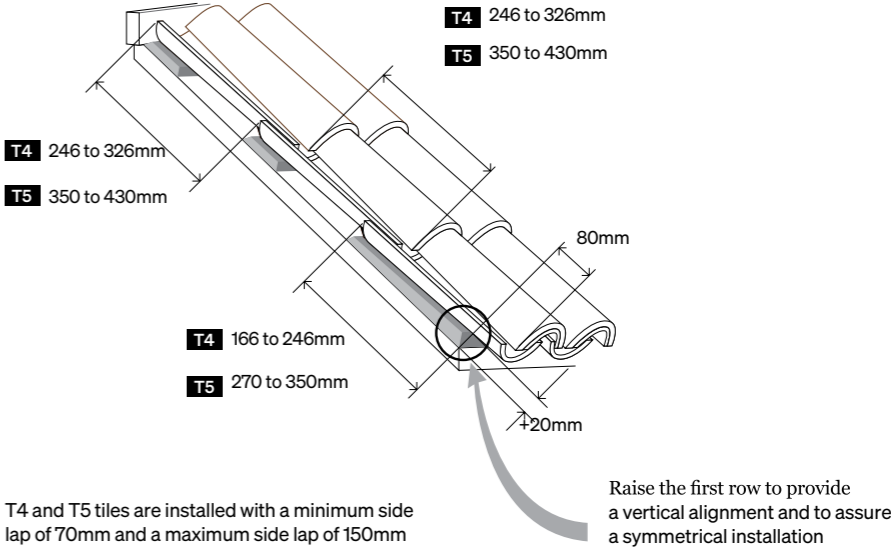
Medio Curva Product Information

Medio Curva Product Specification Table

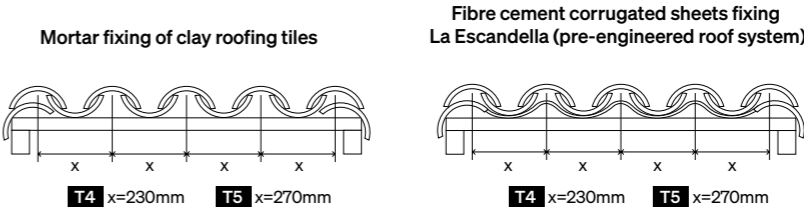
	T4 Red Clay	T4 White Clay	T5 Red Clay	T5 White Clay
Dimensions	a: 396 mm b: 182 mm c: 130 mm	a: 400 mm b: 185 mm c: 134 mm	a: 500 mm b: 210 mm c: 160 mm	a: 500 mm b: 215 mm c: 165 mm
Pieces /m ² Weight piece	28 1.6 kg	28 1.5 kg	18 2.55 kg	18 2.4 kg
Pieces /pallet	648 / 660	648 / 660	275	275
Average weight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

Medio Curva Product Specification Laying Method

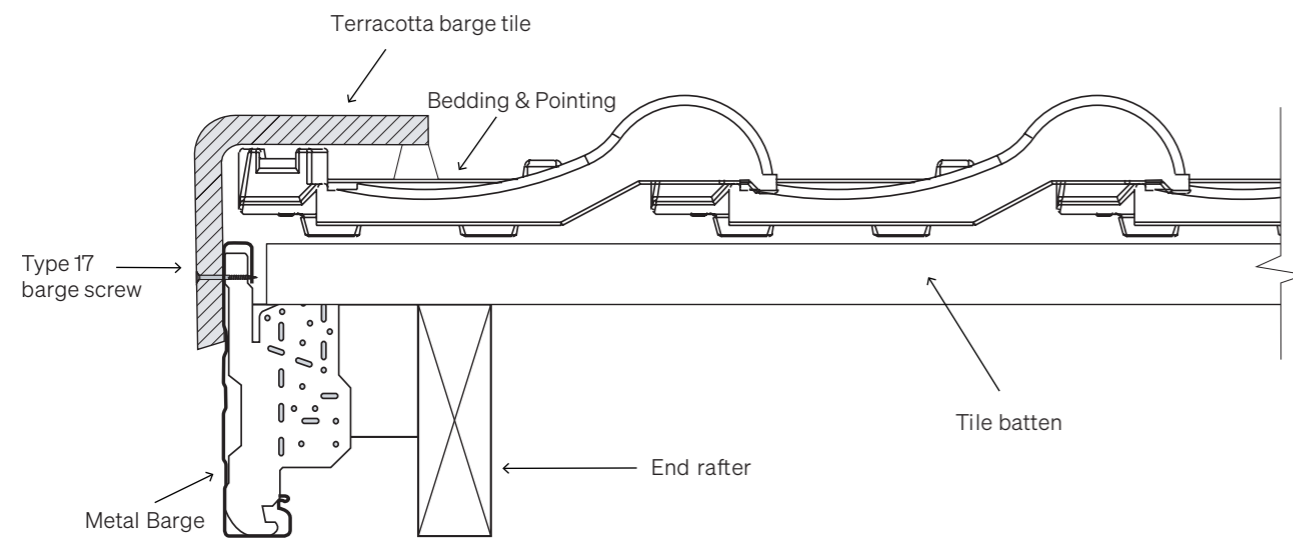
Longitudinal fit



Transversal fit



Clay tile barge



Drawing No. BTR012
Not to scale Author: Bristle Roofing



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Design Studios	Sydney Tel. 02 9611 4200 2 Barrack Street Sydney NSW 4807 Melbourne Tel. 03 8621 7777 Ground Floor 367 Collins Street Melbourne VIC 3000	Perth Tel. 08 6332 5800 67 King Street Perth WA 6000 Adelaide Tel. 08 8443 2222 Ground Floor 70 Hindmarsh Square Adelaide SA 5000	Brisbane Tel. 07 3634 5604 27 James Street Fortitude Valley QLD 4006	Hobart Tel. 03 6212 9120 7-9 Franklin Wharf Hobart TAS 7000
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