SPANISH ROOF TILES

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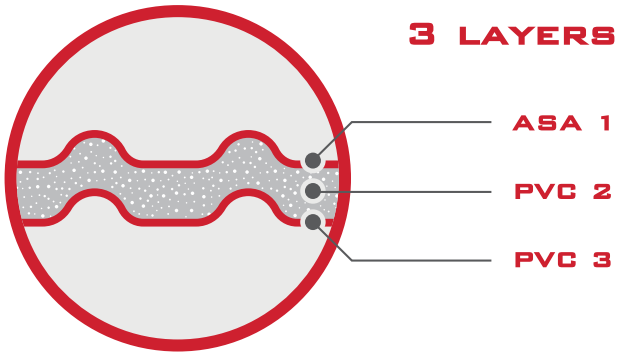
Lightweight 6 Kg/m2, acoustic and thermal insulation 40%, 100 Kg loading capacity with dollys at 60 - 90 cms away from each other, proven with fire, water, humidity and corrosion. Certified by ISO9001 and ISO14001.

CHEMICAL COMPOSITION



Our roof tiles are only warranted for manufacturing defects, we do not offer warranty on damage due to improper installation or deterioration over time.

AVAILABLE COLOURS

Grey Blue | Indigo Blue | Terracotta | Green | Light Grey

VIRGIN RAW MATERIAL

THICKNESS	MINIMUM INCLINATION	STROLLERS SEPARATION	REQUIRED SCREWS PER TILE (18.68')
3 MM	21 %	60-90 CM	16

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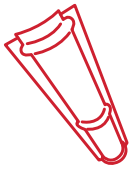
QUALITY CONTROLS

QUALITY CONTROL	ASSESSED METHOD	TRIAL CONDITIONS		RESULT	
UV Exposure	ASTM-G154-12	Phase 1, Lamp type UV-340		E*ab=0,50	
	ASTM-D2244-11	Exposure time: 200 hours			
Traction resistance	ASTM-D638-10	Trial velocity: 50mm/min		28 Mpa	
Flexion resistance	ASTM-D790-10	Trial Velocity: 1,30mm/min; Light: 48mm		50 Mpa	
	Procedure A				
Impact resistance	ASTM-D5420-10	Geometry GE		Energy breaking	Type of failure
				3,000 Joules	A
Thermal conductivity	ASTM-C518-10	Average temperature	Difference temperature	0,325 [W/(mK)]	
		25,48°C	9,36°C		
Flammability	UL 94-2013	Sample Dimensions:		V-0	
		129,00 mm x 12,50 mm x 3,00 mm			
Extreme temperature performance	-	Exposure to extreme temperatures for 6 consecutive hours until notice changes of appearance.		Minimum	Maximum
				-36°C	60°C
Chemical resistance	-	Immersion in ethanol solution at 70% (V/V) to 23C for 2 hours		No apparent changes	
		Immersion in NaOh solution at 10% (M/M) to 23C for 2 hours			
		Immersion in saturated solution of NaCl to 23C for 2 hours			

SPANISH ROOF TILES

TECHNICAL SPECIFICATIONS

PRODUCT	DESCRIPTION	WEIGHT	LENGTH / WIDTH	FEATURES
	PANA ROOF® SPANISH	6 KG/M²	18.68' x 41''	ASA/PVC 3MM THICK SYNTHETIC ROOF TILE.
	PANA ROOF® TRANSLUCENT SPANISH	3 KG/M²	18.68' x 41''	2 MM UPVC ROOF TILE.
	MAIN RIDGE	4 KG/ML	1.05 M. X 0.47 M.	RIDGE-SHAPED TOOL USED TO COVE EDGES OF PANA ROOF® TILES TO TWO OR MORE WATERS, AT ITS HIGHEST POINT. ANGULAR RANGE OF USE: 100 TO 145 DEGREES.
	3 WATERS UNION	4 KG/ML	-	UNION-SHAPED TOOL USED FOR 3 WATERS ROOFS. ANGULAR RANGE OF USE: 80 TO 120 DEGREES.
	SIDE RIDGE	4 KG/ML	1.05 M. X 0.37 M.	RIDGE-SHAPED TOOL USED TO COVE EDGES OF PANA ROOF® TILES TO TWO OR MORE WATERS, AT ITS HIGHEST POINT. ANGULAR RANGE OF USE: 100 TO 145 DEGREES.
	SIDE RIDGE END CAP	1 KG/PIECE	40 / 10 CM.	ELEMENT USED TO COVER THE ENDS OF THE SIDE RIDGES.

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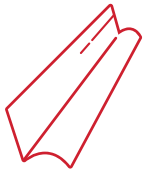
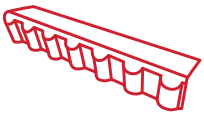
	Gable Flashing	-	1.08 m. x 0.23 m.	Tool that allows the correct union between the ceiling and a wall in a horizontal way.
	U-Form Channel	-	2.1 m.	Tool that allows joining 2 roof drops internally.
	Vertical Wall Flashing	-	1.05 m.	Tool that allows the correct union between the ceiling and a vertical wall.
	4 Waters Union	1 Kg/Piece	0.60 m.	Union-shaped accessory used for 4 waters roofs. Angular range of use: 80 to 120 degrees.
	Terminal Ridge	-	1.05 m.	Accessory used to seal tile ridges when there is no wall down.
	Main Ridge End Cap	1 Kg/Piece.	-	Element used to cover the ends of the main ridges.

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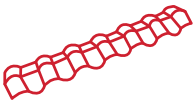
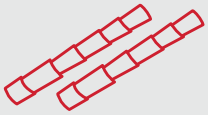
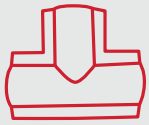
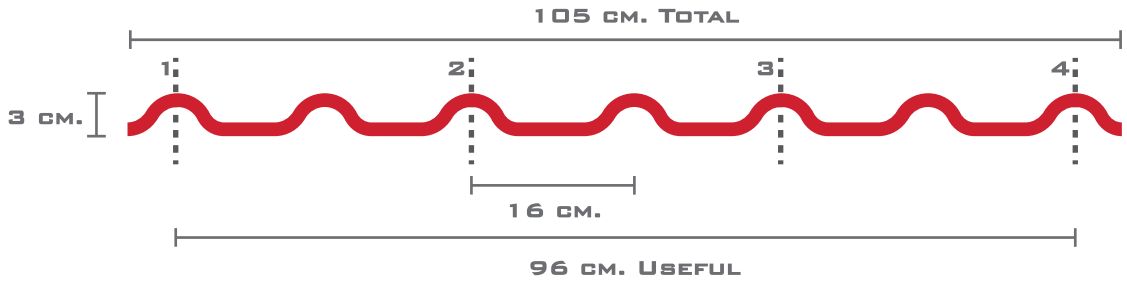
	Impact Weatherboard	-	1.05 ml.	Element used to decorate the front of the ceiling
	Eave Board	-	1.2 ml.	Accessory that allows to close the side spaces of the roof.
	U Ridge	-	-	Accessory used to join ridge tiles.
	T Ridge	-	-	Accessory used to join ridge tiles.
	Birds Cover	-	-	Metal accessory to be used under the initial front part of the tile to prevent the passage of animals.
	UPVC screws kit	0.10 Kg/Piece	2.5" length 3" length 4" length	Tool which allows securing of roof tiles and accessories.

ROOF TILES DIMENSIONS (TOTAL AND USEFUL)

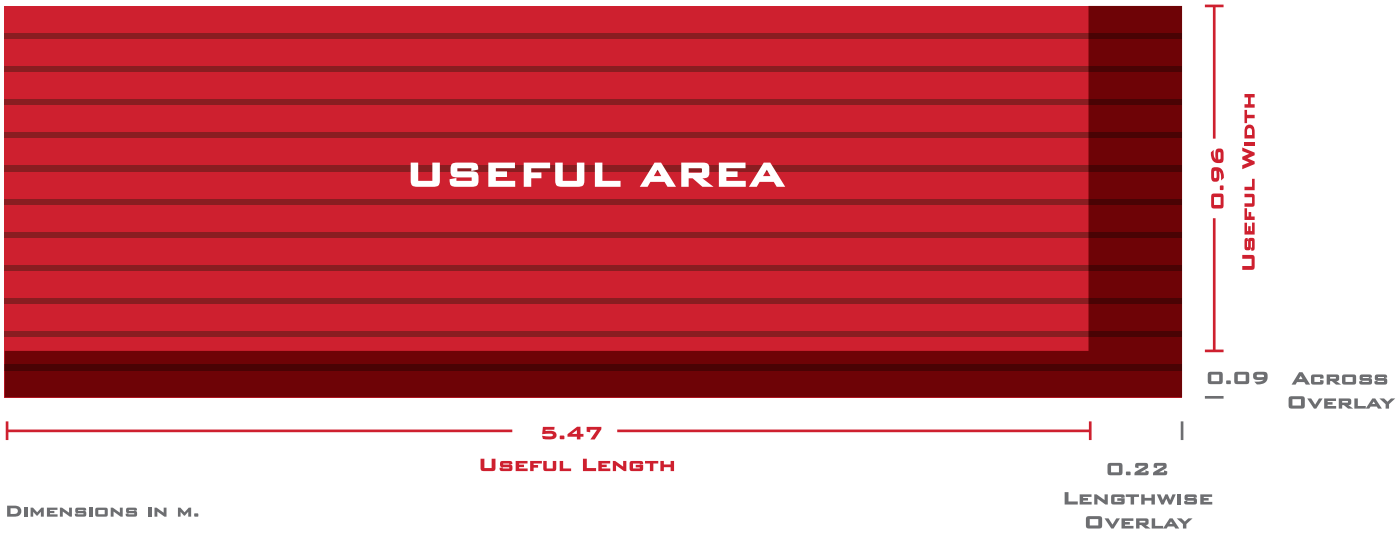


DIMENSIONS TABLE

Spanish Roof Tile									
Length		Width		Overlay (m)		Total area (m2)	Useful area (m2)	Weight (kg)	Caliber
ft	mts	in	mts	long	transversal				
18.68'	5.694	41"	1.05	0.09	0.22	5.92	5.20	36.5	3 mm
18.68'	5.694	41"	1.05	0.18	0.22	5.92	4.76	36.5	3 mm

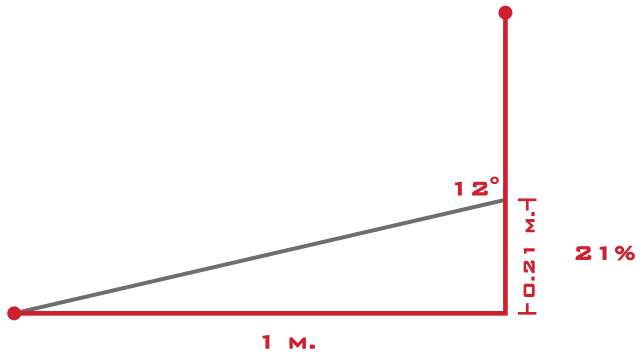
*It's recommended to use double overlapping in beach areas.

USEFUL AREA OF THE ROOF TILE



*It's recommended to use double overlapping in beach areas (useful area: 4.76 m2).

MINIMUM INCLINATION OF ROOF TILE

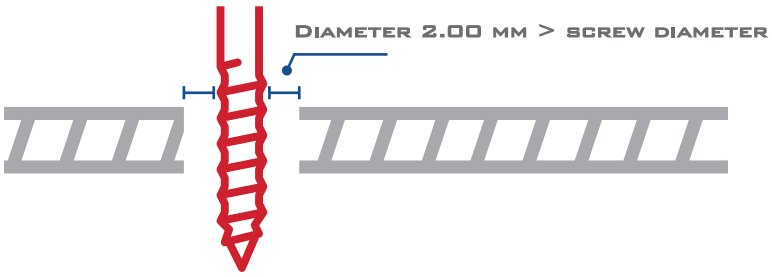


DISTANCE BETWEEN STROLLERS

The distance between strollers should be between 60-90 cm apart.

PRE-DRILLING

It is recommended to pre-drill holes prior to installing the fasteners, ensuring that the hole is at least 2 mm larger than the screw diameter. This will prevent damage or problems such as cracks and/or deformations, which are exacerbated by the expansion and contraction of the material due to temperature changes.

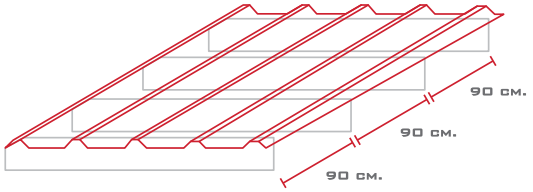


VENTILATION

The ventilation of the roof tile is very important. **You MUST NOT place additional thermal insulation** or any material that does not allow proper ventilation of the roof. In case of using a ceiling, remember to maintain a minimum distance of 40 cm between the lowest part of the tile and the ceiling.

STROLLERS

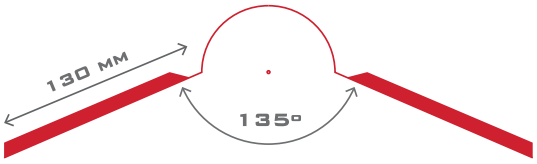
Verifique las dimensiones y requerimientos técnicos del proyecto. Revise que las carriolas a utilizar sean de 4" y que la distancia entre ellas esten entre 60-90 cm de separación.



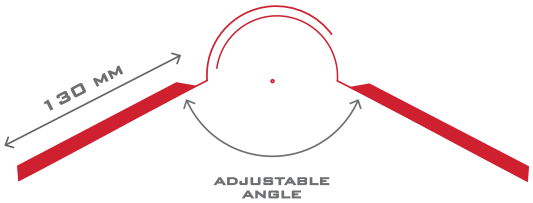
RIDGES

El maximo de tornillos que se deben utilizar son 6 por cumbrera (3 por cada lado). Se recomienda utilizar tornillos de 4" para lograr obtener una mejor flexibilidad. Estos mismos no deben estar muy apretados porque pueden generar rupturas en horas de dilatación volumétrica.

Traditional ridge dimensions

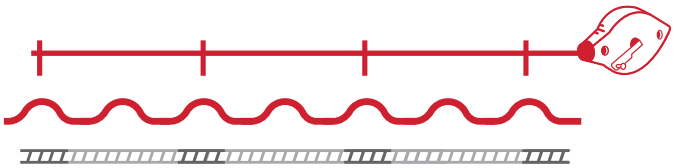


Adjustable ridge dimensions

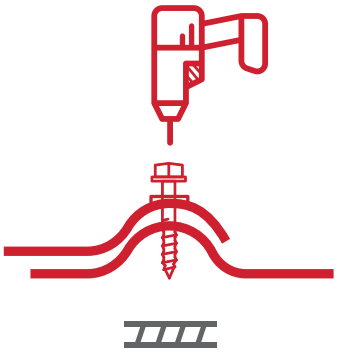


INSTALLATION INSTRUCTIONS

1. Once first roof tile spot is defined, use measuring tape to set where **PANA Roof®** self-tapping screws will go. As long as possible, have screws placed over the ridges of corrugations. Consider that every interspersed dolly needs at least four (4) screws.



2. Drill with the drill through hole of rubber sealant, until complete piercing of 2 roof tiles and dolly. The diameter of the drill holes should be 2 mm larger than the screws.



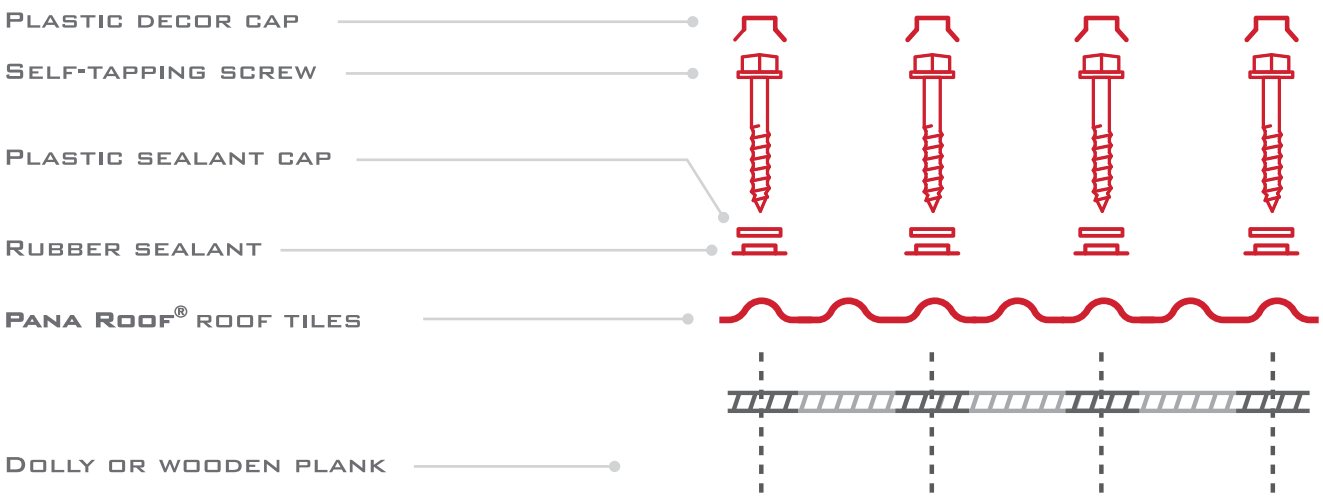
3. Once the screw is installed, cover the screw head with the decorative plastic cover provided. It is recommended to tighten the screws before finishing the installation. The screws should not be too tight or too loose.

Too tight

Too loose

Fit right

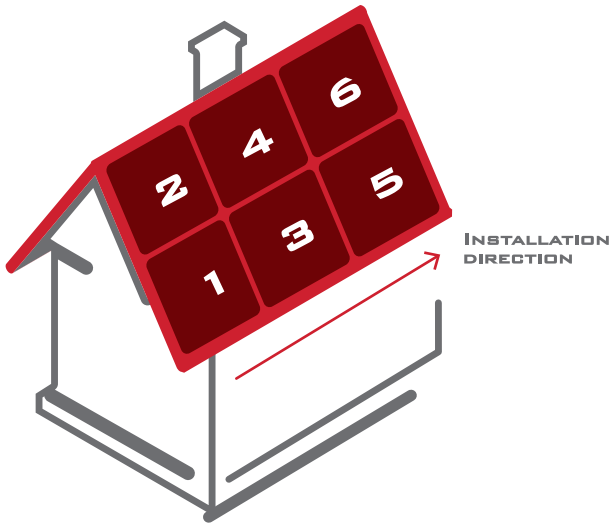
INSTALLATION DRAWING



PLACE DOLLYS 60 - 90 CMS AWAY FROM EACH OTHER ACCORDING TO VARIABLE LOADS

INSTRUCTIONS FOR INSTALLATION OF ROOF TILES

When **Pana Roof®** tiles are about to be placed on rear water side of house, this task must be done from left to right, ideally keeping the same installation order of **Pana Roof®** tiles as on front water side of house.



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Free counseling: (507) 393 8844 / 393 8845

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