TRAPEZOIDAL ROOF TILES

PANA ROOF

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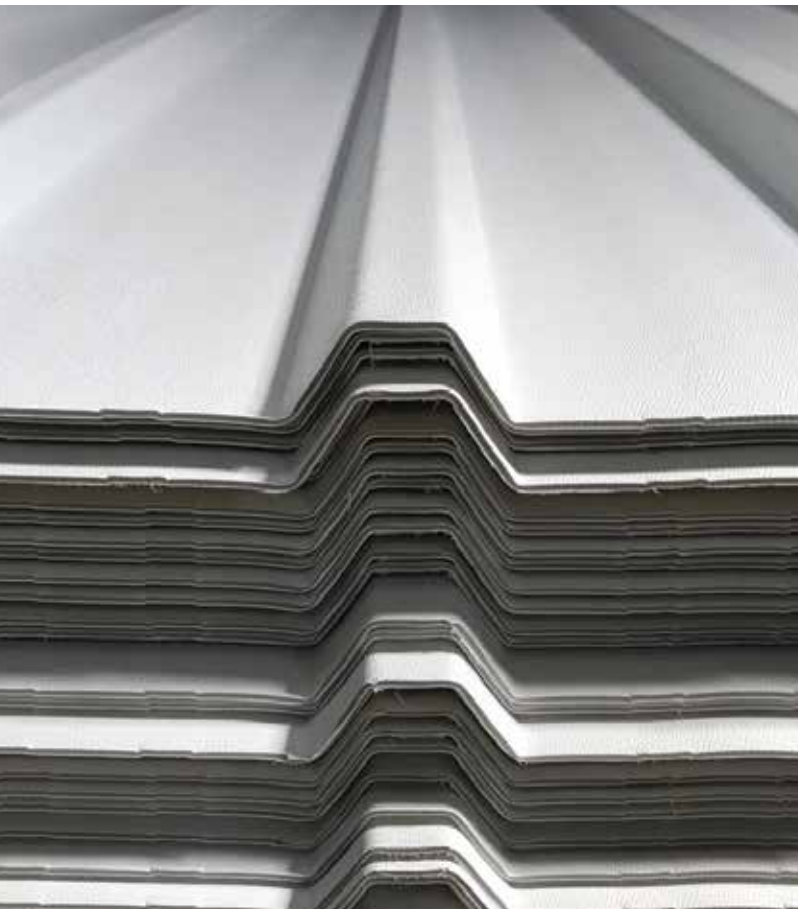
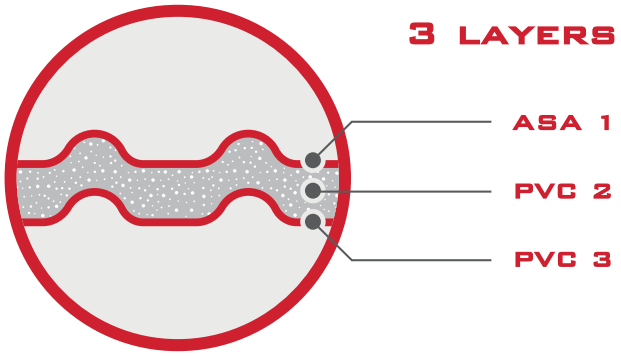


Lightweight 6 Kg/m2, acoustic and thermal insulation 40%, 100 Kg loading capacity with dollys at 60 - 90 cms away from each other, proven with fire, water, humidity and corrosion. Certified by ISO9001 and ISO14001.

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

White | Light Grey | Blue

THICKNESS	MINIMUM INCLINATION	STROLLERS SEPARATION	REQUIRED SCREWS PER TILE (19')
3 MM	14 %	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			

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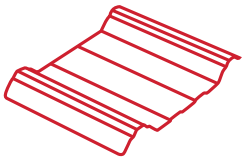
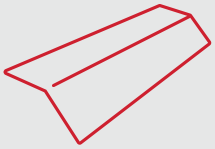
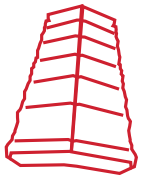
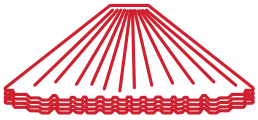
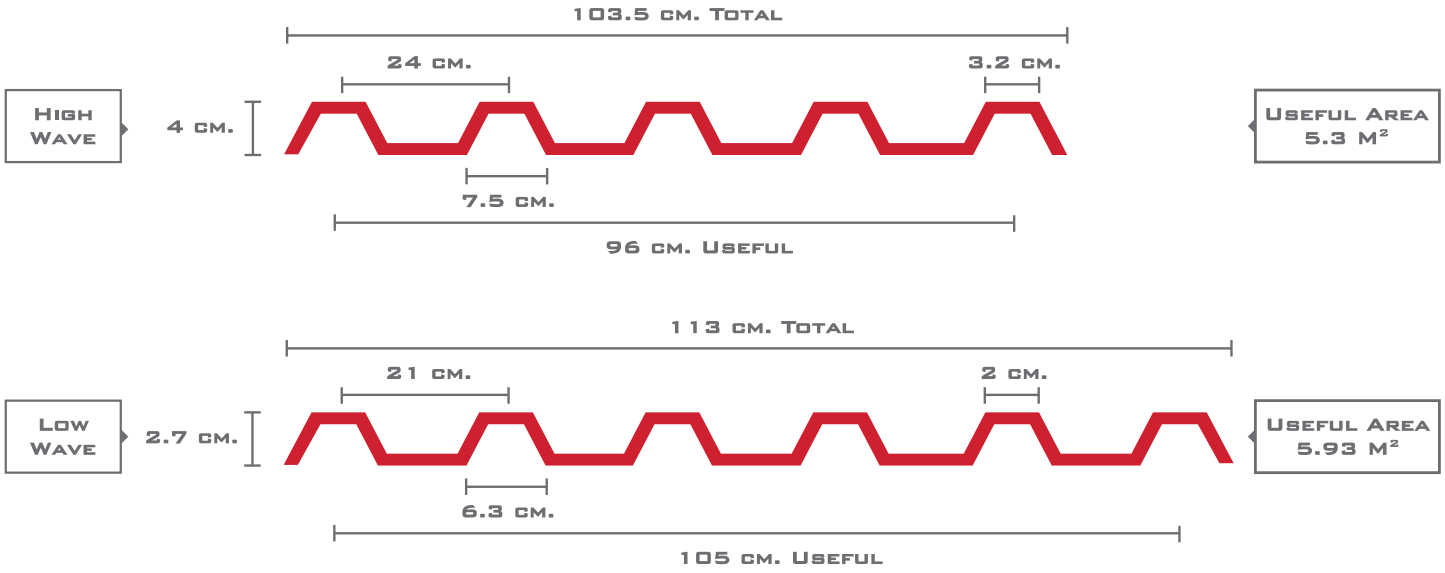
TECHNICAL SPECIFICATIONS

PRODUCT	DESCRIPTION	WEIGHT	LENGTH / WIDTH	FEATURES
	PANA ROOF® TRAPEZOIDAL	5.70 KG/M²	5.80 M. X 1.13 M. 5.80 M. X 1.035 M.	ASA/PVC 3MM THICK SYNTHETIC ROOF TILE.
	FLAT SUPERIOR RIDGE	4 KG/PCE	1.13 M. X 0.30 M. 1.035 M. X 0.30 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: 135 DEGREES.
	MAIN CORRUGATED RIDGE	4 KG/PCE	1.13 M. X 0.30 M. 1.035 M. X 0.30 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: 135 DEGREES.
	VERTICAL WALL FLASHING	2.5 KG/PCE	1.13 M. 1.035 M.	TOOL THAT ALLOWS THE CORRECT UNION BETWEEN THE CEILING AND A VERTICAL WALL.
	TRANSLUCENT TRAPEZOIDAL ROOF TILE	3 KG/M²	5.80 M. X 1.13 M. 5.80 M. X 1.035 M.	2 MM UPVC ROOF TILE.
	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)



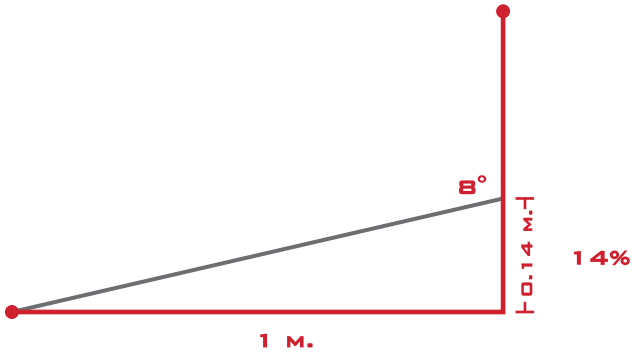
DIMENSIONS TABLE

Trapezoidal Roof Tiles										
Roof Tile	Length		Width		Overlay (m)		Total Area (m2)	Useful Area (m2)	Weight (kg)	Caliber
	ft	mts	in	mts	long	across				
1	19'	5.80	41"	1.035	0.08	0.15	6.003	5.38	36.8	3 mm
1	19'	5.80	44"	1.13	0.08	0.15	6.554	5.9325	37.35	3 mm

USEFUL AREA OF THE ROOF TILE

*The diagram of the area corresponds to the roof tile of 5.80 m. x 1.13 m.

MINIMUM INCLINATION OF ROOF TILE

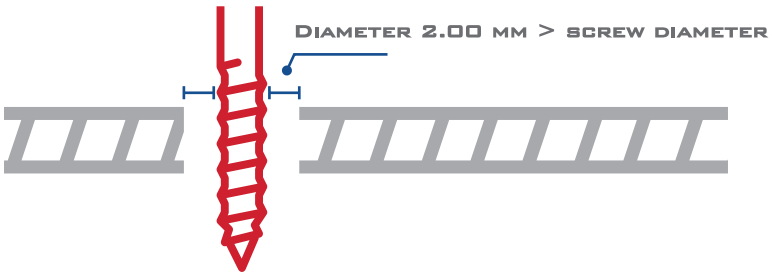


DISTANCE BETWEEN STROLLERS

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.



INSTALLATION EQUIPMENT AND TOOLS

Before starting the installation, make sure to have every required equipment and tool at your disposal.

Ventilation of the tile is very important. THERMAL INSULATION SHOULD NOT BE USED UNDER THE TILE.

- Ladder and/or scaffold
- Wooden planks or dollys
- Die 3/8 for screw
- Drill
- Hand grinder (flexible)
- Measuring Tape
- Drawing pen
- Assembled screws kit

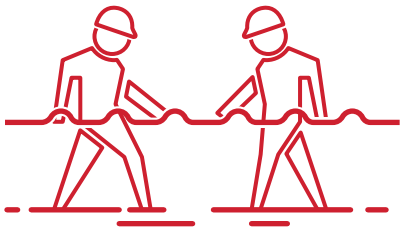
REQUIREMENTS SAFETY EQUIPMENTS

Make sure to make use of required personal safety equipments for this task.

- Helmet
- Gloves
- Protective Sunglasses
- Safety harness
- Ropes

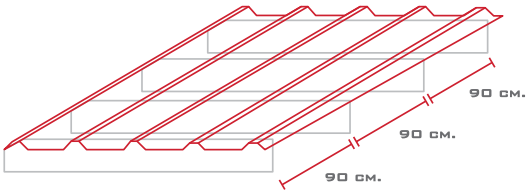
SUGGESTIONS

Perform cutting of roof tiles on a secure site before installation. It is advisable to cut on a flat surface and each roof tile to be moved by at least two persons, in order to avoid any incidents.

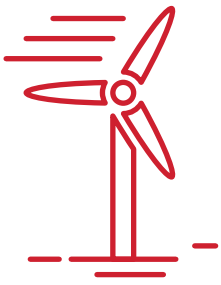


Verify the dimensions and technical requirements of the project, so that you can position each element in the right place.

Check that the strollers to be used are 4" and that the distance between them is between 60-90 cm apart.



Try performing installation in opposite direction of wind. Therefore, following roof tile overlap will stay over the previous one. Preventing wind gusts from lifting or pulling off the roof tiles.



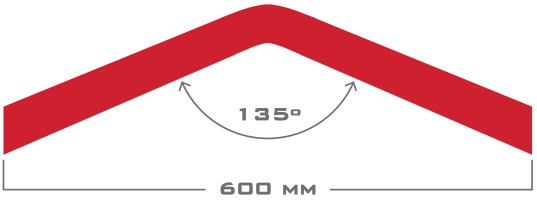
VENTILATION

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.

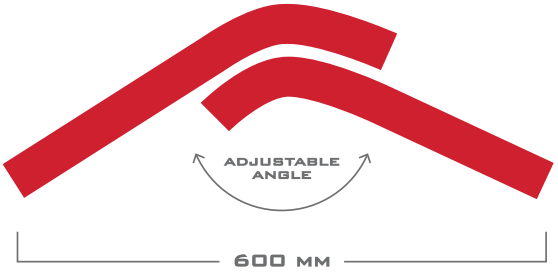
RIDGES

The maximum number of screws to be used is 6 per ridge (3 on each side). It is recommended to use 4" screws for better flexibility. These screws should not be too tight because they can generate ruptures in hours of volumetric expansion.

Traditional ridge dimensions

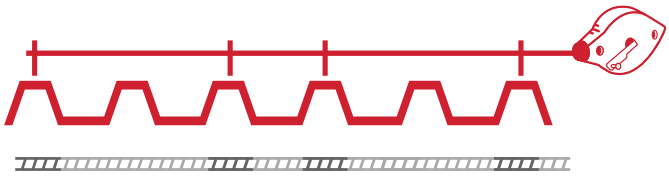


Adjustable ridge dimensions

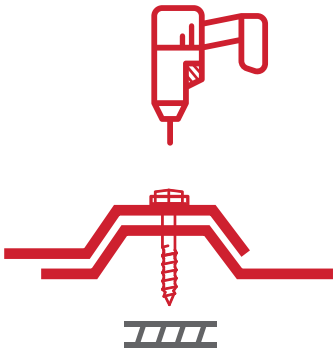


INSTALLATION INSTRUCTIONS

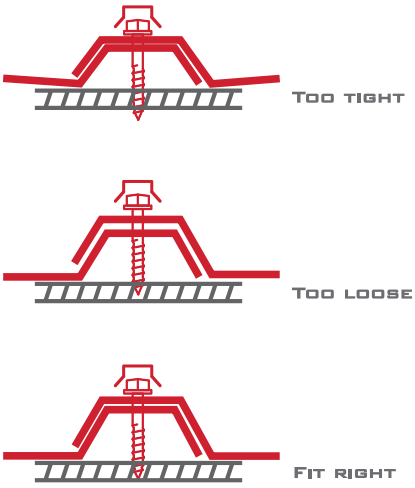
1. Once first roof tile spot is defined, use measuring tape to set where **PANA Roof®** self-tapping screws will go. As long as possible, have screws placed over the ridges of corrugations. Consider that every interspersed dolly needs at least four (4) screws.



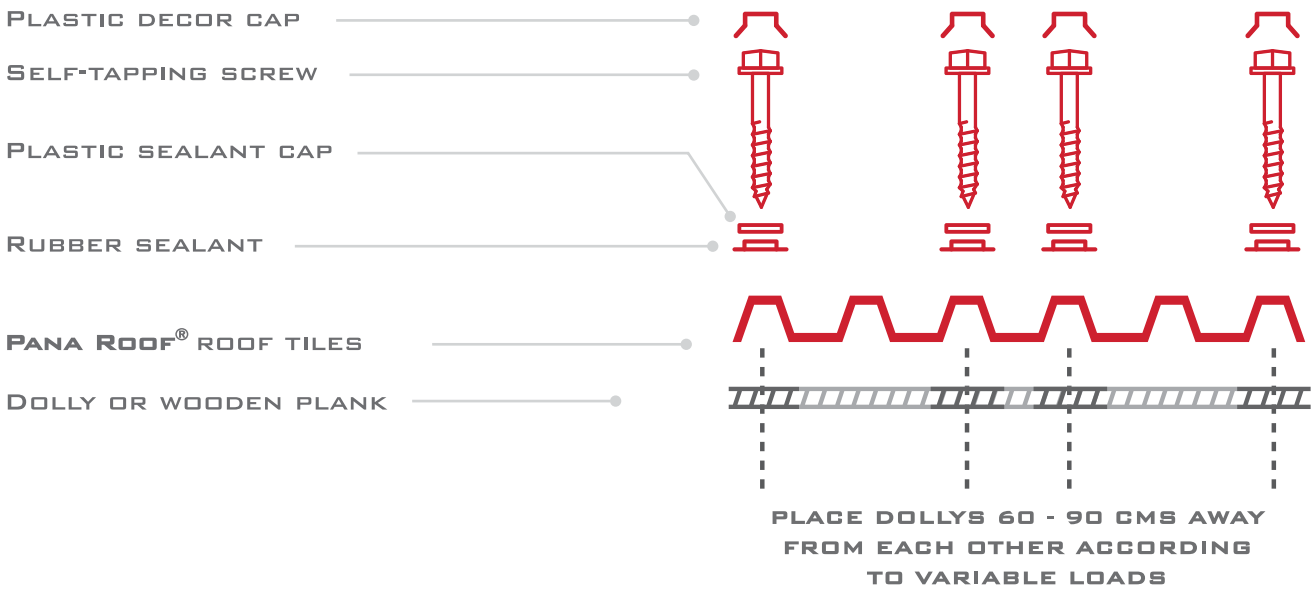
2. Drill with the drill through hole of rubber sealant, until complete piercing of 2 roof tiles and dolly. The diameter of the drill holes should be 2 mm larger than the screws.



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.

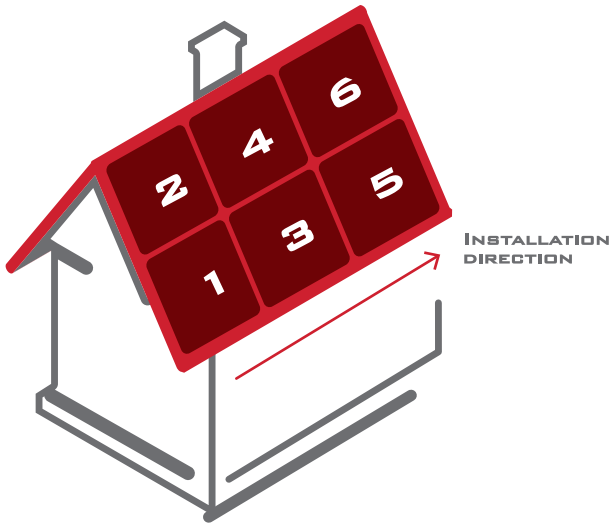


INSTALLATION DRAWING



INSTRUCTIONS FOR INSTALLATION OF ROOF TILES

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



PANA ROOF

Free counseling: (507) 393 8844 / 393 8845

www.panaroof.com