

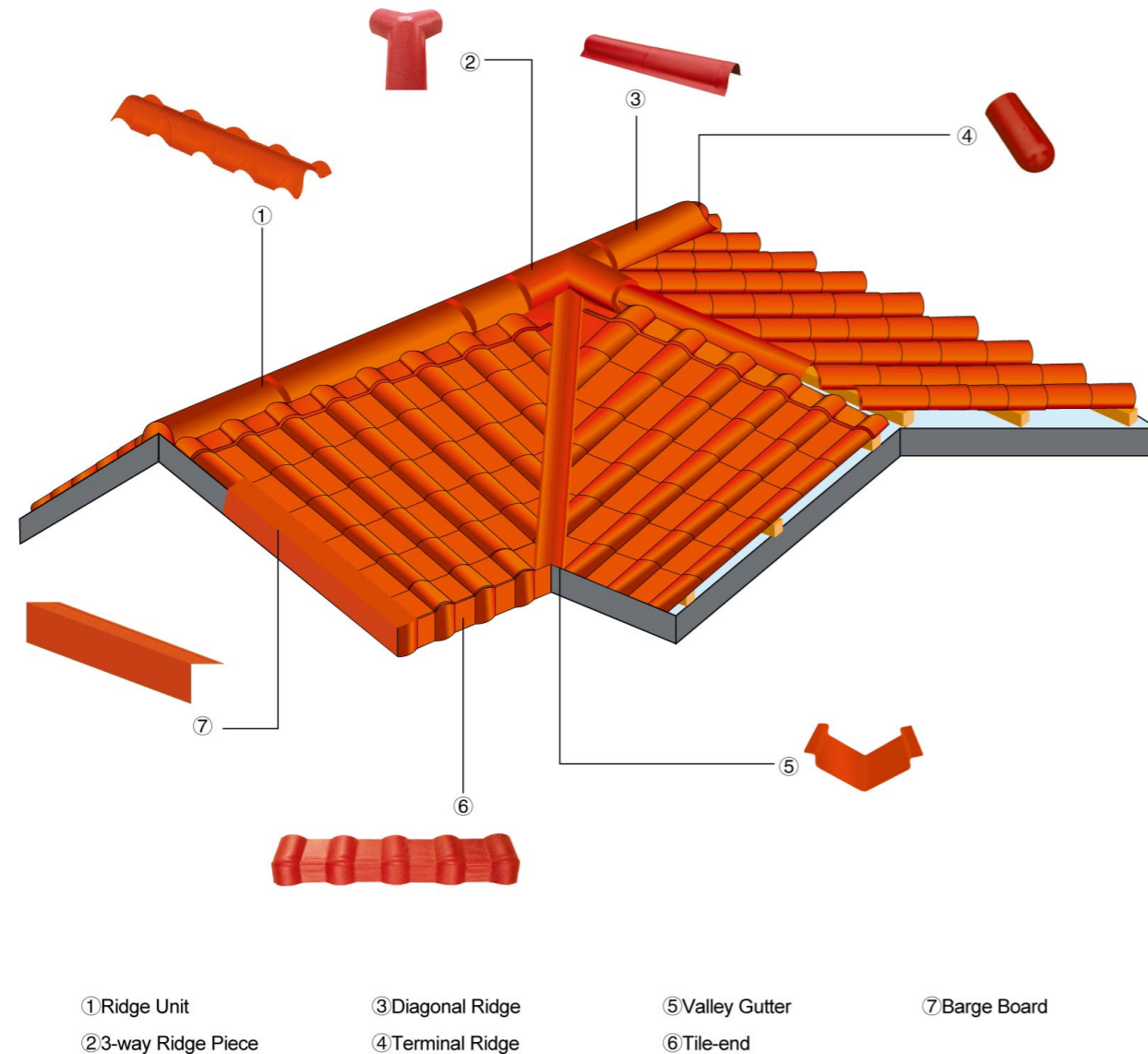
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Golden
World
Trading
Group

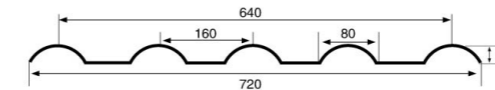
www.GoldenWTG.org

Synthetic resin roofing and wall cladding coated with ASA resin are special 3-layer co-extruded sheets. As the top layer material, ASA anti-climate engineering resin is extraordinarily suitable for outdoor use. Even exposed to ultra-violet radiation, dampness, heat, chillness and impact, the products remain the stability of color and physical properties. Tests held in Aging Test Center of Arizona and Florida by GE prove that ΔE is less than 5 within 10 years, which means the color will preserve for more than 10 years in nature. Moreover, it has excellent performance on anti-corrosion. They offer a wide range of advantages over traditional roof covering. The specific technical performances permit installation of the tile and wall cladding in both industrial and residential applications.

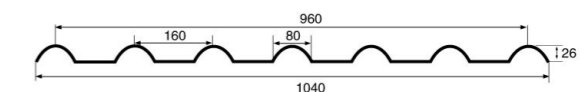


FANGXING ROYAL TILE

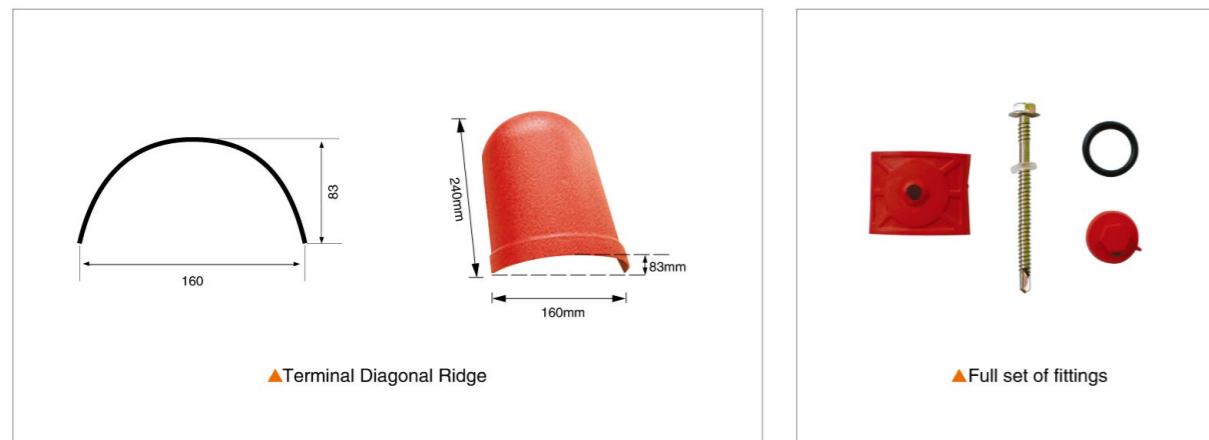
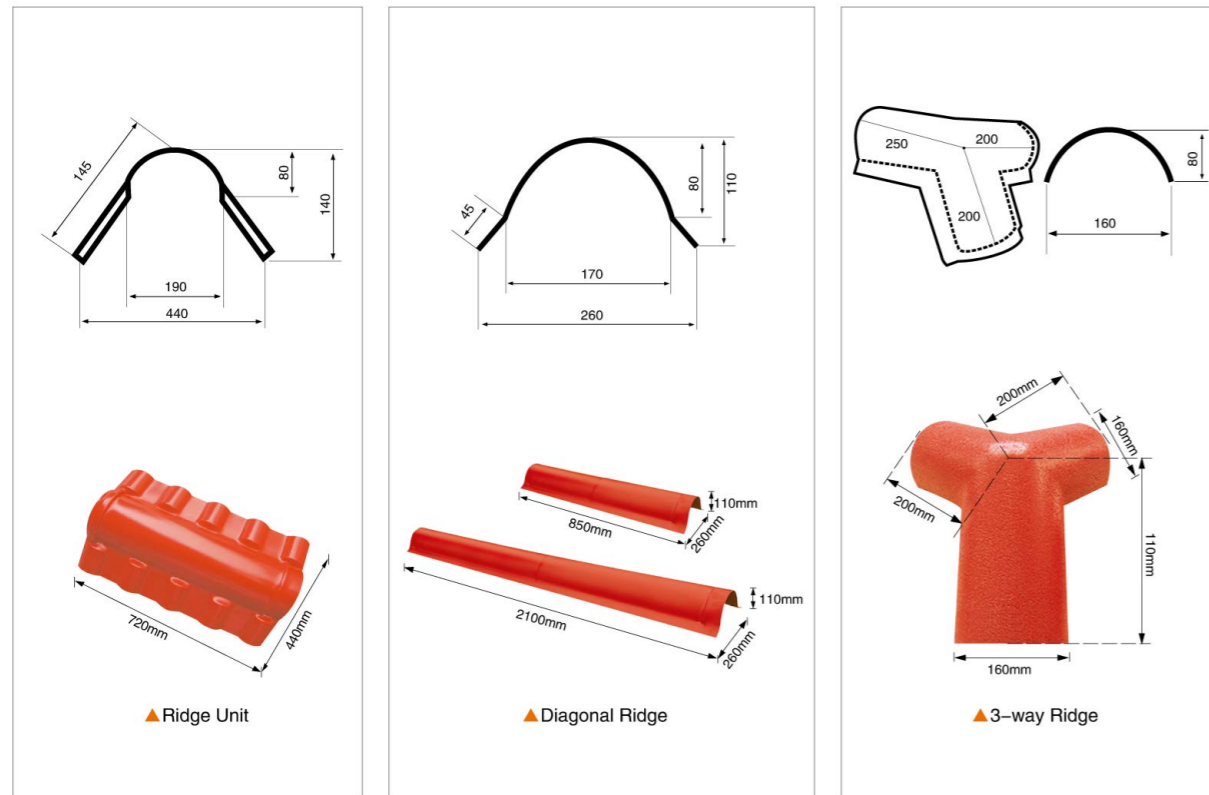
Wave Length	218mm
Standard length of tile*	2180mm (10 waves)
Width	720mm
Working Width	640mm
Thickness**	3.0 ± 0.1mm
Weight	5.8 ± 0.2kg / m ²
Color Available***	Bright red, Wine red, Brown, Grey, Black, Blue, Terracotta
Purlin Space	660mm
Head lap	218mm (1 wave)



- * Length 2180mm (10 waves) is suggested package on pallets. It can also be packed in PP woven bags, with the max. length 5668mm (26 waves) for 20ft. container load.
- ** 2.0mm and 2.5mm thickness can also be processed.
- *** Special color can be processed according to your color swatch, but minimum order quantity is required no less than 2000 square meters.

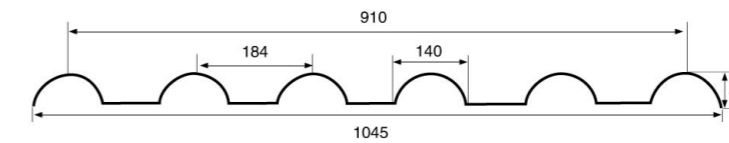


Fittings & Accessories



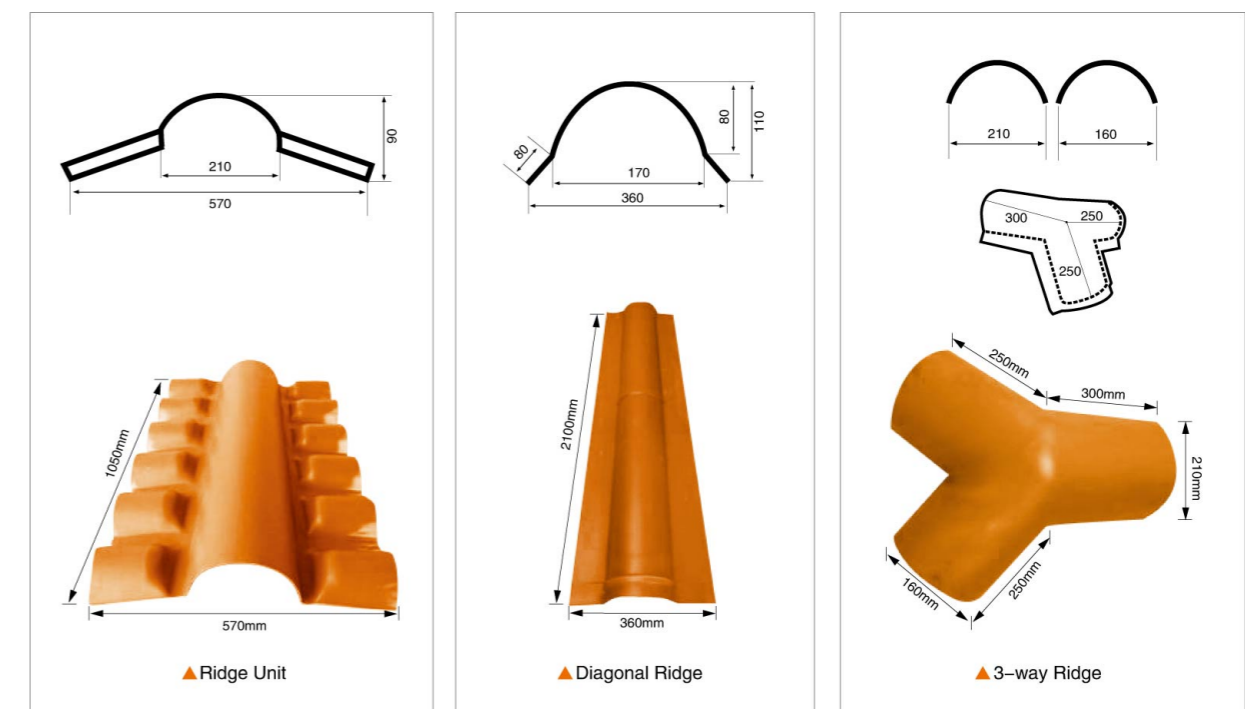
FANGXING ROMA TILE

Wave Length	328mm
Standard length of tile*	1968mm (6 waves)
Width	1045mm
Working Width	910mm
Thickness**	3.0 ± 0.1mm
Weight	6.1 ± 0.2kg / m ²
Color Available***	Bright red, Wine red, Brown, Grey, Black, Blue, Terracotta
Purlin Space	990mm
Head lap	328mm (1 wave)



- * Length 1968mm (10 waves) is suggested package on pallets. It can also be packed in PP woven bags, with the max. length 5576mm (17 waves) for 20ft. container loading.
- ** 2.5mm thickness can also be processed.
- *** Special color can be processed according to your color swatch, but minimum order quantity is required no less than 2000 square meters.

Fittings & Accessories



UNDERNEATH STRUCTURE



1. Deck structure

The surface of the deck should be smooth, the material of the deck should be of small deformation, the deck should be more than 12mm thick (according to the purlin span).

A 3-5mm gap between two decks is essential for deformation.

The waterproof rolls should be unrolled smoothly and vertically with accurate overlaps.

2. Steel structure

The angles of steel structure should be precisely controlled during processing, which will influence the pitch of the roof. The deviation of angles will cause an uneven roof.

All the steels should be anti-corrosion treated.

3. Reinforced concrete structure

The underlay of concrete has no crucial influence on the evenness of the roof, while the embedded inserts and purlins should be very neat and in a plane.

Both steel and wood embedded inserts and purlins should be anti-corrosion treated to extend the life of roof structure.

Steel purlins should be welded to the steel embedded inserts and wood purlins can be nailed to the wood embedded inserts directly.

Attention! No roof tile can completely solve the problem of waterproofing by itself, for normal houses, there should be underneath structure with good waterproofing treatment.

PURLIN

1. Anti-corrosion treatment: Metal purlins should be coated with one layer of anti-rust paint and two layers of finishing coatings. Wood purlins should be coated with anti-corrosion or asphalt oil.
2. The top purlin should have 180mm distance from the ridge line in order to install the ridge tiles.
3. The bottom purlin should have 50-70mm distance from the eave.
4. The purlin space is 660mm for Royal Tile and 990mm for Roma Tile.

VENTILATION

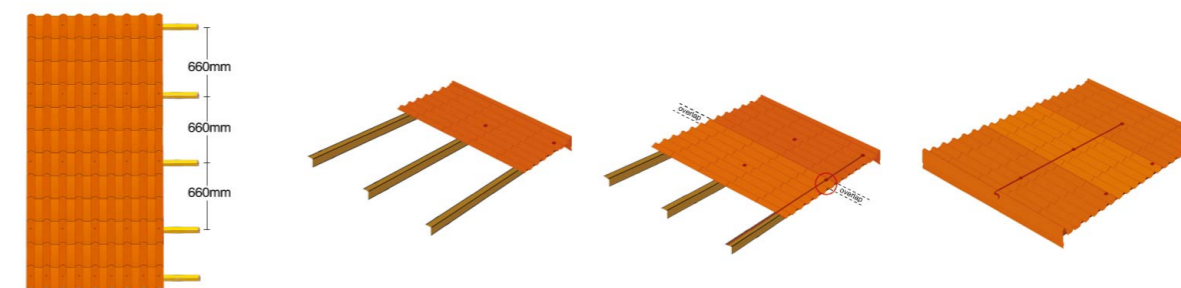
Fangxing synthetic resin roof tile is a kind of thermal-plastic, which carries out its best functions within a wide range of temperatures: from -30°C to +80°C. To prevent a roof temperature of more than 80°C, it is necessary to have ventilation space below the sheet itself and as a consequence, sufficient openings on the gutter line and the ridge.

The pitch and length of the roof is highly relevant to the functioning of ventilation. The more inclined the pitch and the shorter the roof, the more accentuated the movement of hot air. A long roof only slightly inclined, in order to have enough ventilation, needs to increase the air volume below the roof sheet.

LINEAR HEAT EXPANSION

Fangxing synthetic resin roof tile has a coefficient of linear expansion of 0.0000493/°C. In order to allow normal linear expansion of the sheet, we advise to drill a hole with diameter 2-3mm bigger than that of the screw, and then make the fixing to avoid any dilatation of the sheet. Please don't make the fixing too tightly.

INSTALLATION OF MAIN TILE



Correct alignment is very important to no matter what kind of roof structure, only this can the sheets be assembled closely and straightly. The vertical line should be 50~70mm to the interior of sidewall for a gabled roof, and horizontal line 150mm to the bottom purlin.

Place the first sheet as close as possible to the vertical construction line, fix onto the first tile of the second vertical row, according to the supporting framework. The first row must under no circumstances be perforated.

Fixings should be assembled at the wave crest of tile.

Particular care needs to be taken when aligning the first row because on long sheets even an off lining of a few millimeters for each sheet can create problems.

Then go on to do the second fixing, overlap the second sheet laterally onto the first and fix with self screws on the first lowest tile which corresponds to the overlap.

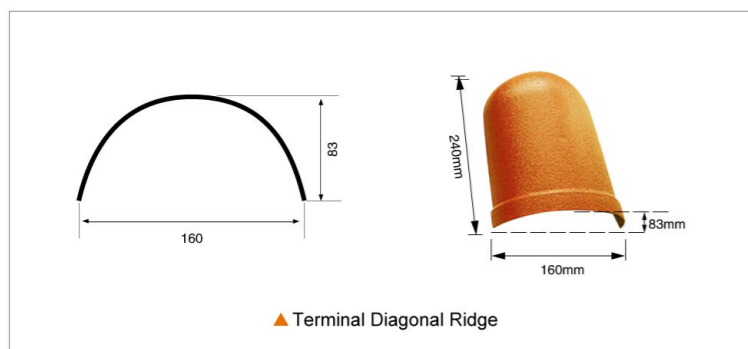
To keep the correct alignment of the fixings we recommend the use of a line of reference fixed to the extreme of the rafter.

Continue in the same way with the third and fourth sheets, and re-check the condition of the four sheets, then fix on every other tile. Assemble the sheets in the same way until the final one, if necessary, the width of the final sheet may have to be cut accordingly.


Attention! Every sheet should be assembled as close as possible to the one overlapped.

For the second row we recommend as always that you begin from the left with a sheet that is cut in half lengthways (three rows of tiles). This allows you to continue with a horizontal overlap of staggered rows, and as such you avoid a crossover of four sheets on the overlap.





Zinc coated self-tapping screw

For wood purlin	
	mm 6,3 x 35
	mm 6,3 x 55
	mm 6,3 x 65
	mm 6,3 x 75
	mm 6,3 x 85
	mm 6,3 x 90
	mm 6,3 x 100
	mm 6,3 x 115
	mm 6,3 x 125
	mm 6,3 x 135
	mm 6,3 x 150
	mm 6,3 x 165
	mm 6,3 x 180


For steel purlin	
	mm 6,3 x 35
	mm 6,3 x 55
	mm 6,3 x 65
	mm 6,3 x 75
	mm 6,3 x 85
	mm 6,3 x 90
	mm 6,3 x 100
	mm 6,3 x 115
	mm 6,3 x 125
	mm 6,3 x 135
	mm 6,3 x 150
	mm 6,3 x 165
	mm 6,3 x 180

Table Lengths for Roma Tile

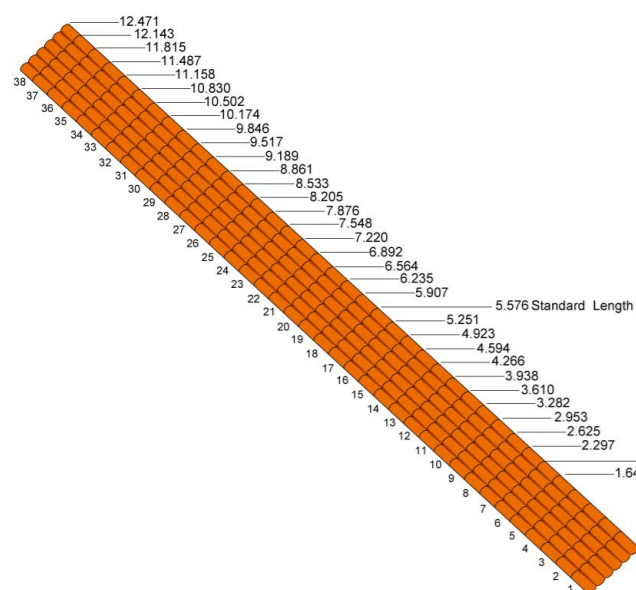
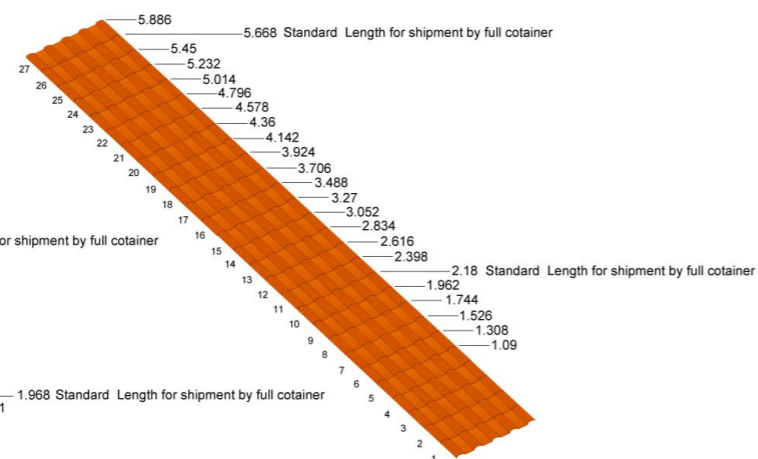


Table Lengths for Royal Tile



HANDLING

During handling, the products must not be thrown rudely to avoid damaging or scratching the product surface. For single sheet longer than 8m, enough supporting points are essential to avoid the cracking of tile.

STORAGE

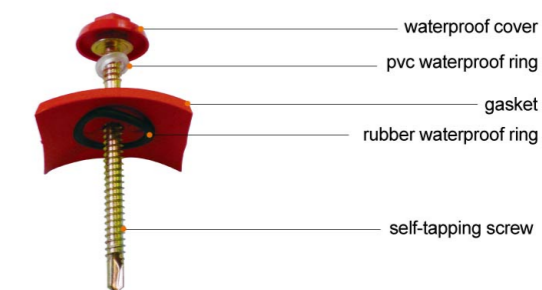
Store the tiles in dry and flat site with good ventilation. Products should be protected by coverings with good air permeability. Ridge units should be stored vertically.

INSTALLATION TOOLS

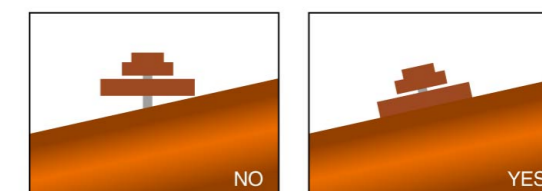


FITTINGS

Please assemble the rubber waterproof ring into the gasket before fixing the roof. The screws must not be fastened too tightly. Finally push the waterproof cover onto the screws tightly.



Screws must be fixed vertically to the sheet surface. Screws with length of 75mm (90mm for Roma Tile) and diameter of 6.3mm are needed to fix the main tile.

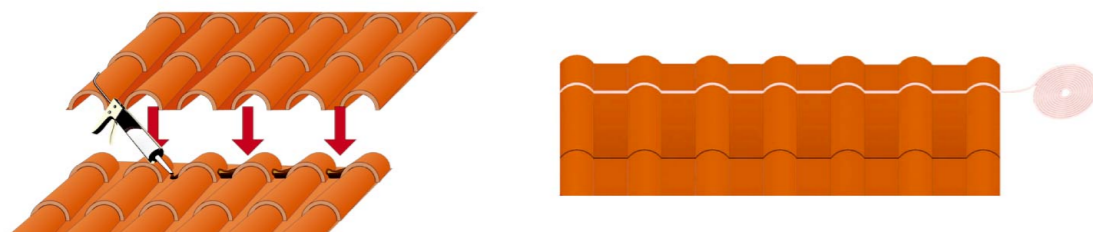


PITCH

Fangxing Royal&Roma Tile are applicable to roof pitches from 20° to 80°. For the pitch beyond this range, special measures should be taken during installation.

The remaining sheets cut at the beginning are not wasted as they can be used at the end of the roofing as adjustments. Complete the opposite side in the same way.

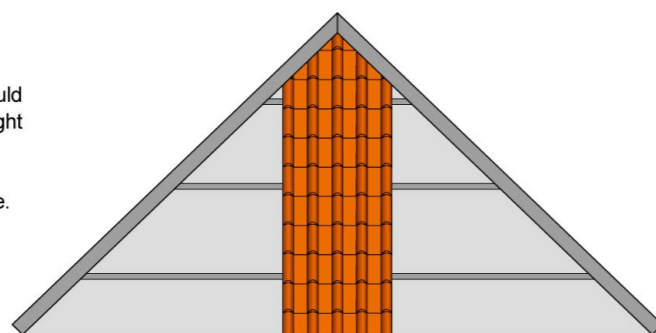
Line up the vertical rows of tiles on the opposite side with those of the first, in order to assemble the ridge tile.



Attention! For lower slope or in particularly windy or rainy zones it is appropriate to seal the overlap by resin sealant or silicon sealant.

For the triangle side of a four slope roof, the first sheet should be started from the middle, then continue to both left and right directions.

Cut the sheets along the hip line to assemble diagonal ridge.

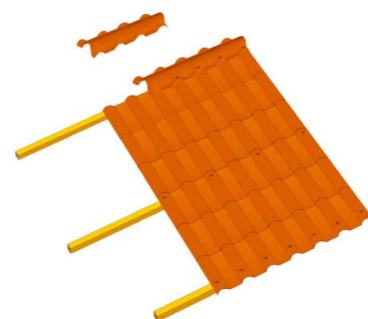


RIDGE TILE

The installation of ridge tile should begin from one side. For the first tile, it should be half cut to avoid the crossover of four sheets on the overlap.

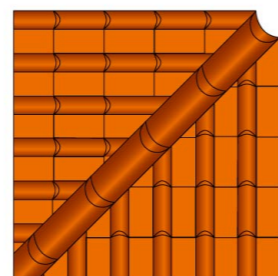
Self-screws with length of 75mm and diameter of 6.3mm will be needed to fix the ridge tile into the main tile. Take care not to fix the ridge near to the edge and therefore not to have infiltration problems.

Attention! For lower slope or in particularly windy or rainy zones it is appropriate to seal the overlap using the resin sealant or silicon sealant.



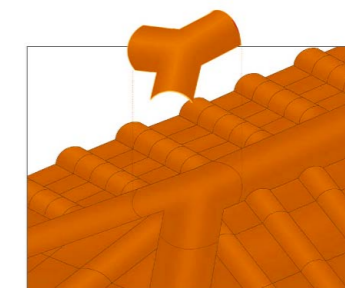
DIAGONAL RIDGE

As to the installation of diagonal ridge, it should be aligned to keep straight with the hip line. Self-screws with length of 75mm and diameter of 6.3mm are needed to fix the prefabricated edges to the main tile. Diagonal Ridge tile must be installed from bottom to top with an overlap of 50mm.



THREE-WAY RIDGE

A three-way connection is used as the joining element between the linear ridge and the diagonal one for a four slope roof.



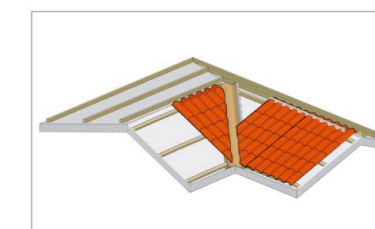
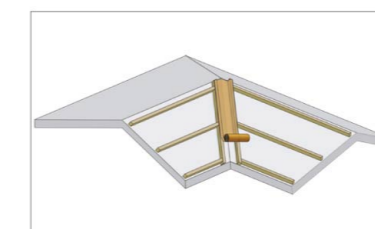
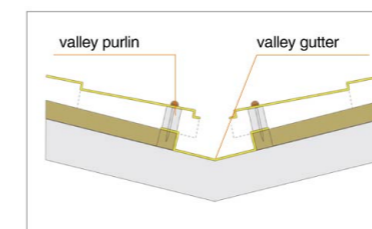
VALLEY

The corner created by joining two converging pitches is called the valley. Position and fix two parallel strips, 240 mm from the centre of the corner, parallel to the corner of the valley.

Fix the valley gutter made in synthetic resin panel or metal on the strips using self-screws or nails.

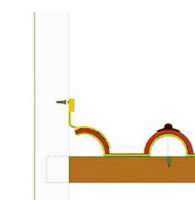
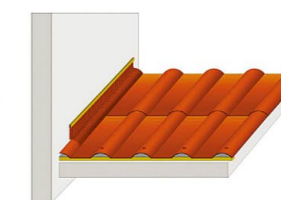
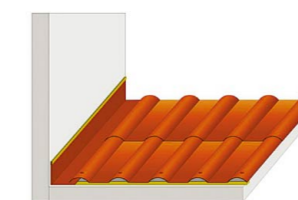
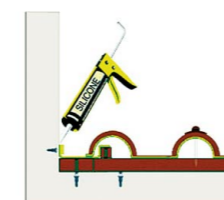
Galvanized valley roll can also be used for valley gutter. Position it on the corner starting from the ridge line, setting it down carefully on the slab. Begin to fix the extreme edges of the valley on the strips using self-screws or nails.

The sheets corresponding to the valley line must be pre-shaped before positioning, but leaving the possibility to hang them again, after fixing, to have a perfectly straight valley line.



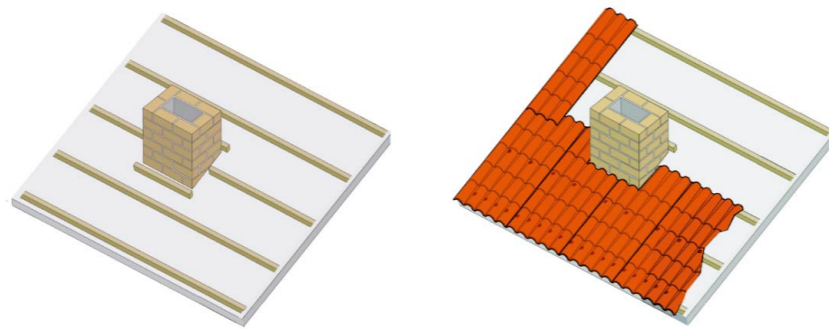
CONNECTION WITH WALL

Use sidewall flashing made in synthetic resin panel or metal, stick the flashing board to the wall and tiles by self-screws or nails and seal the higher end of flashing with silicon sealant.



CONNECTION WITH CHIMNEYS

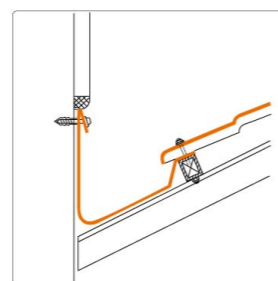
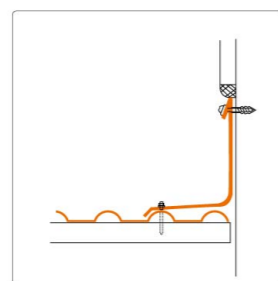
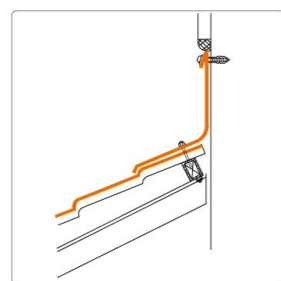
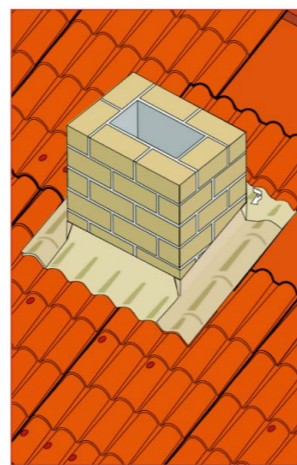
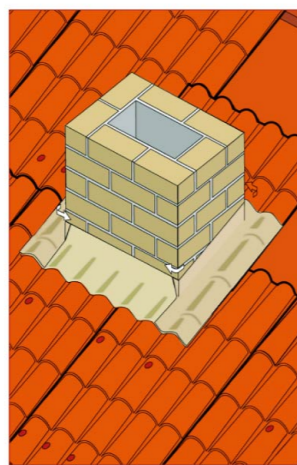
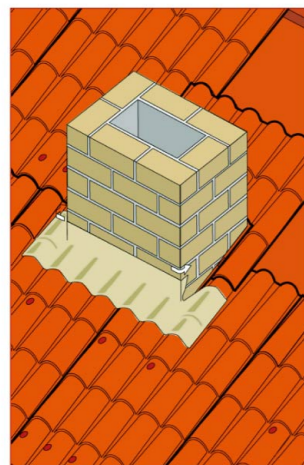
Assemble the sheets from one side normally until they get close to the chimney. Cut the sheets around the chimney accordingly. Add extra purlins next to the chimney if necessary to fix roof sheets.



Use synthetic resin or metal flashings, stick the flashing board to the wall and tiles by self-screws or nails and seal the higher end of flashing with silicon sealant. (See diagrams above)

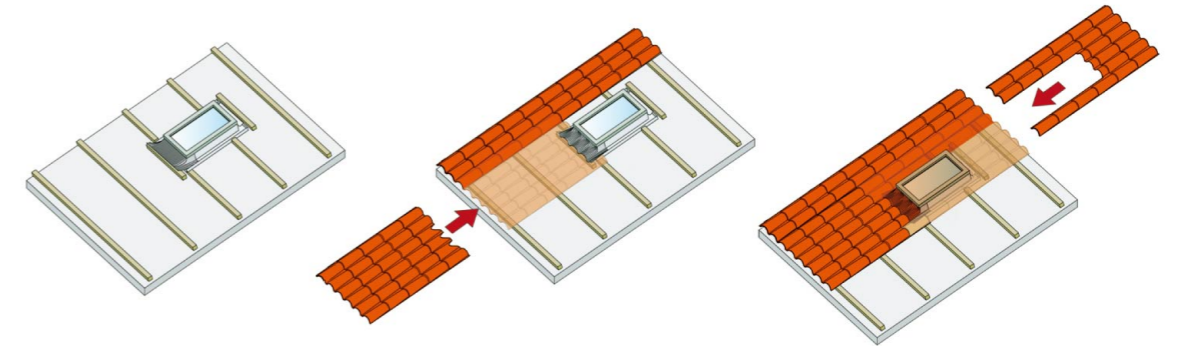
Flashings are recommended to be processed at site by metal board, as the roof pitches and position of chimneys are variable for different roofs.

Aluminum or galvanized rolls can also be used for the connection between tiles and chimney. Stick the rolls to the sheets all around the chimney. Fix the other end of rolls to chimney by nails and then seal the higher end.



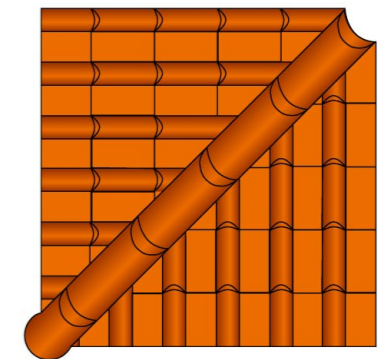
CONNECTION WITH SKYLIGHT

The sheets must be assembled in the usual way until getting close to the skylight. Take exact measurements of the skylight, make an exact slot on the sheet with a flexible polisher or a portable thin-tooth saw. Overlap the lead hinge for the lower connection on the tiled sheet and shape it with your hands to fit the sheet well. Then, place the shaped sheet, fitting it well to the side and upper connections and overlap in part, with extremity of the inferior elements, the lead hinge on the lower side of the skylight.



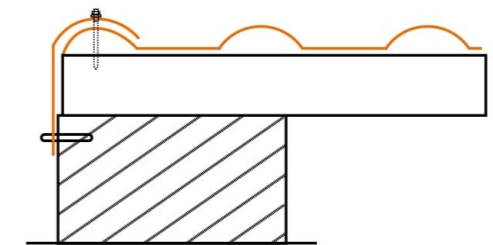
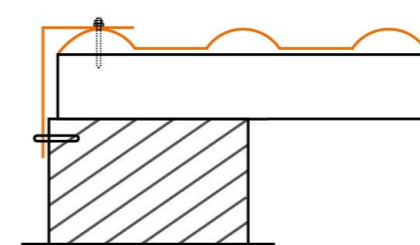
TERMINAL DIAGONAL RIDGE

After finishing the assembling of diagonal ridge, insert the terminal diagonal ridge piece into the bottom end of diagonal ridge, and fix to the diagonal ridge by rivets.



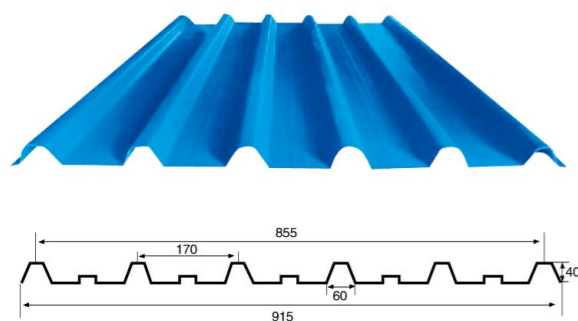
BARGE BOARD

After finishing assembling of main tiles, fix the barge board on the last row of tiles by our supplied fittings. The dimension and shape of barge board can be processed customized.

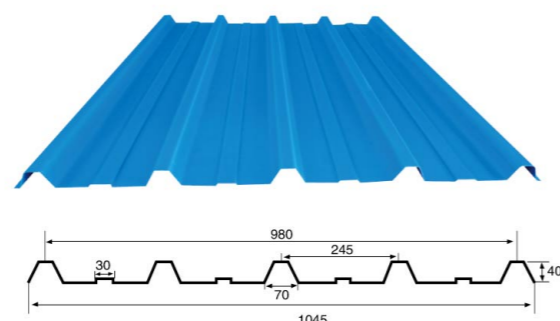


TRAPEZOIDAL ROOFING SHEETS FOR INDUSTRIAL BUILDINGS

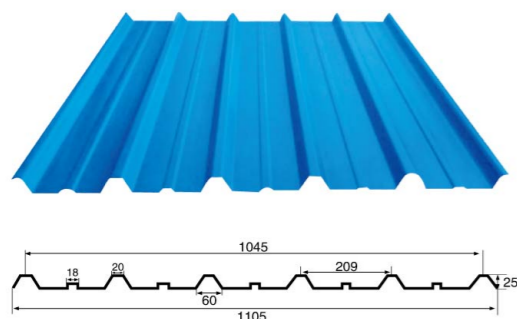
915-T



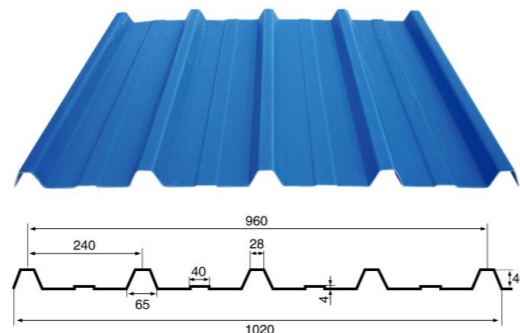
1045-T



1105-T



1020-T



▲ Ridge Unit



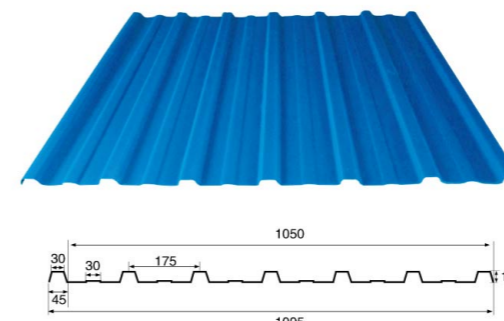
▲ Multi-functional ridge unit



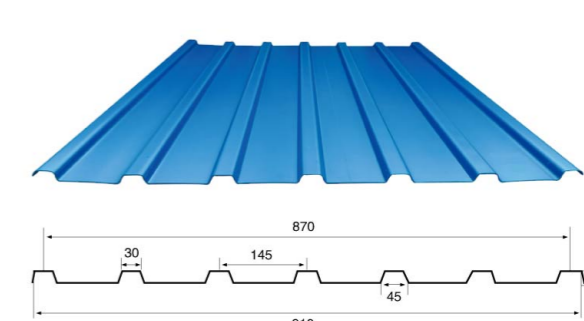
▲ Fittings

WALL CLADDINGS

1095-W



910-W



◀ Fittings

Installation Guideline

- Trapezoidal roofing sheets are applicable to roof pitches from 6° to 22°, with purlin span no more than 1200mm.
1105-T roof sheets are applicable to roof pitches from 18° to 22°, with purlin span no more than 800mm.
Wall claddings are applicable to the interior and exterior wall of buildings, with purlin space no more than 1200mm.
- Thermal insulating material can not be used directly under the sheet.
- Installation:
Please use a ladder or other required facilities during installation.
Please don't stand between two purlins during installation.
For a gabled roof, sheets on each side should be installed at the same time with the ridge tile.
Installation is not recommended to be carried out at the temperature below -5°C.
Install by professional roofers to ensure the quality of installation.
- Overlap
Horizontal overlap by one wave and vertical overlap no less than 100mm.
- Fixing
The roofing sheets and wall claddings can be fixed by supplied hooks or self-tapping screws.
For every sheet, two sets of hooks should be fixed properly on one purlin, passing through the wave crest.
Every wave crest at vertical overlapping area should be fixed to the purlin by hooks, and reinforcing method should be taken in areas with heavy wind.
For wall claddings, the overlaps between two purlins should be fixed by two rivets.
Rubber cushions should be used under the sheet if fixing by hooks, the screw nuts should be tightened properly, not over-tight.
- Roofing sheets should be cut by toothless saw.

8. Drilling holes

Using electrical drill to drill holes.
Please make sure the sheets have been put correctly on purlins before drilling holes.
The hole diameter should be 2mm wider than that of hook mandrel.
Please use PVC glue to seal for mis-drilled holes.

9. Storage and Handling

The sheets should be stored on a plane stably, which should be longer than the sheet.
Shorter sheets should be put on longer sheets to avoid the deformation.
Don't stack different profiles of sheets together.
Please store the sheets in the shade.
Avoid breaking, rubbing or scratching the surface during handling.

SAFETY

1. Before installation, check whether the purlins are stable and firm. Roofing sheets should be stacked along the direction of slope, and no more than 3 pieces per pile. Don't put any roofing material on unstable purlins to avoid sliding off the roof.
2. Use an anti-slide ladder during installation, and installers should wear belts.
3. Stop installation in the weather of rain, frost and strong winds.

OTHERS

1. Please contact us for what's not covered in this manual. Only products in correct following of the instructions provided in this manual are covered by FANGXING guarantee.
2. There will not be an advance notification for any change of this installation manual caused by product changes etc.
3. FANGXING reserves the sole right to interpret all contents in this manual. All contents in this manual are not allowed to be copied or used without FANGXING's authorization.

ASA STANDARD COLORS

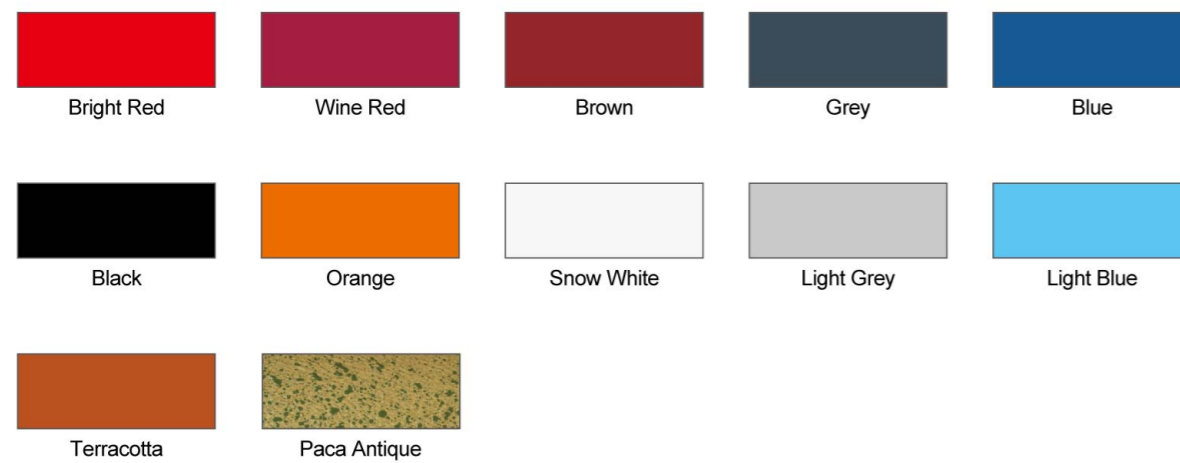


PHOTO GALLERIES



PHOTO GALLERIES



PHOTO GALLERIES

