

Installation Manual for SCG Roman Tiles

Roof Fiber Cement Safe and Asbestos Free



SCG Roman Tiles, Safe and Asbestos Free

Special properties

· Long-lasting color, non-peel

With 2 layers of coating produced by color curtaining system which is considered as the world-class technology.

(except Cement Grey color)

• Save on structure cost and installation cost With 100 cm. batten spacing for 120 cm. length.

· Seemless elegant roof

SCG Dry Ridge System is a dry way of installation without the plastering. Your roof will be clean without plastering stain.

Leak Proof

With a complete set of SCG Roof Accessory

3 Qualities of Excellent Roof Tile

Safe & Asbestos Free

 Since there is no Asbestos in the product composition, it is safe to use. You can be worry free.

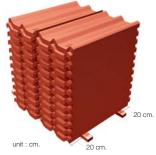
5.5 mm. Thickness

SCG Roman Tiles provides 5.5 mm. thickness. Therefore, the roof is more robust and strong compared to lighter model (4.4 mm. thickness). Moreover, the product is worth the price, since it is hardly requires replacement.



 You can trust in quality of the SCG Brand, qualified by TIS 1407-2540 for Asbestos free Fiber Cement Roof.

Storing of roof tile at site



- Pile the tiles on smooth, dry, and strong surface that can bear weight load.
- 2. Provide hard timber piece of 1.5" x 3" size to support both sides of tiles at 20 cm. from each edge.
 - For 120 cm. length tile, use 2 pieces of timber
 - For 150 cm. length tile, use 3 pieces of timber by putting 1 piece at the center
- Maximum stock is 150 tiles.
- 4. Alternate each layer by 5 tiles for convenience of counting or transporting.
- 5. Store under roof or covered area to avoid the rain.

TECHNICAL INFORMATION

Detail Specification	Size : width x length (cm.)	
Detail Specification	50 × 120	50 × 150
Thickness (mm.)	5.5	5.5
Weight (kg. / tile)	6.7	8.4
Tile/sq.m.	2.2	1.7
Roof slope (degree)	15 - 40	15 - 40
Batten spacing (cm.)	100	130
Industrial standard	TIS.1407-2540	
color	Cement grey, Red, Green, Brown, Cocoa, Light blue, Marine green, Shiny pearl blue, Shiny pearl green, Shiny pearl red, Shiny pearl purple, Shiny pearl orange	

Safety Regulation during operation



Always wear personal protection equipments, such as safety helmet, rubber shoes, and gloves, etc.



Always wear dust protection equipments, such as dust protection goggle, dust protection mask during tiles cutting in order to prevent dust from entering your eyes and nose.



When walking on the roof tiles, always step on where battens are placed directly beneath it. To ensure safety, place 1.5"×4" timber pieces on tiles which are in the same batten alignment when walking on roof.



Whenever working on the roof, always wear a safety belt that can be firmly hold the structures.



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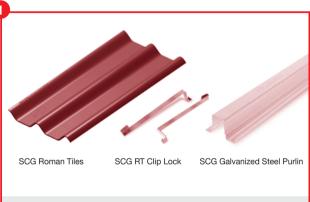


Installation equipment and recommendation for installation of SCG Roman Tiles

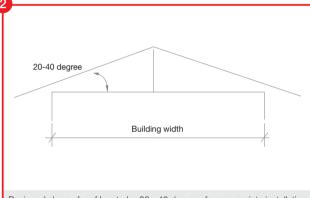
TOOLS



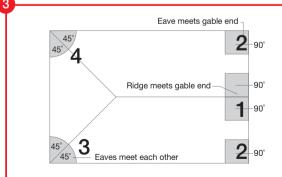
Installation Method



It is recommended to install SCG Roman Tiles by using SCG galvanized Steel Purlin and SCG RT Clip Lock to have a long-lasting roof. This also time saving for installation and reduces any damage cost.

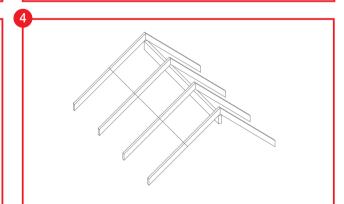


Designed slope of roof has to be 20 - 40 degrees for appropriate installation of SCG RT Clip Lock together with SCG Dry Ridge System. If the slope is 15 - 20 degree, it is recommended to use SCG corner fixing set.



Ensure that the roof structures are all in right angles, by inspecting the following 4 points :

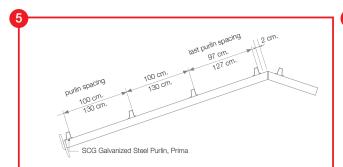
- 1. Point at ridge meets gable end
- 2. Point at eave meets gable end
- 3. Point at 2 eaves meeting each other
- 4. Align of the ridge must divide equal angle of eaves



Ensure that the whole roof plane is in level, inspect both lines of rafter by:

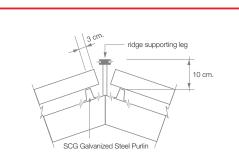
- 1. No bending of the rafter line
- Levels of each rafter should be equal. If roof structures are in plane, installation of SCG Roman Tiles shall be done neatly, this will make the roof look elegant and can prevent leakage.



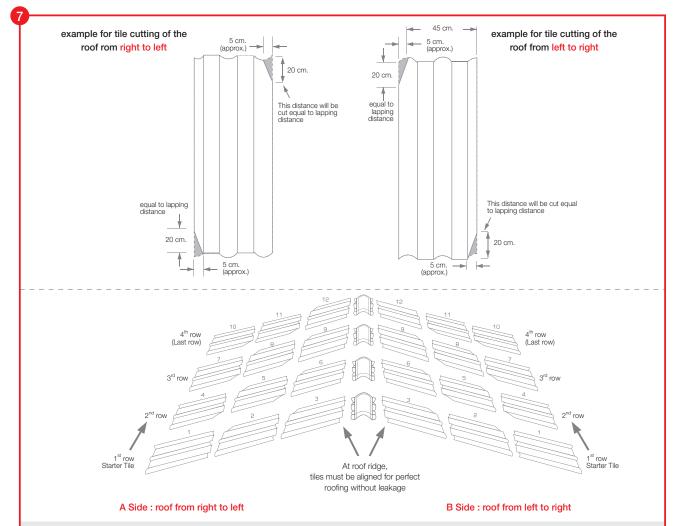


Purlin Spacing

- 1. 120 cm. length tile, 100 cm. purlin typical spacing, 97 cm. for last purlin
- 150 cm. length tile, 130 cm. purlin typical spacing, 127 cm. for last purlin Lapping tile distance = 20 cm.



Tiles in last row: install tile edge 3 cm. further from purlin Install as close as possible to the right supporting leg in order to provide tiles the covering space for SCG Roman Tiles round ridge.



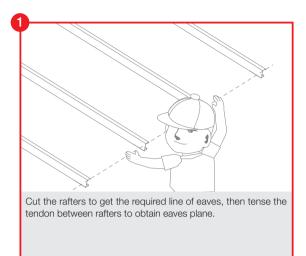
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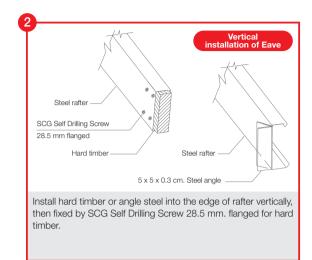
Installation of SCG Roman Tiles:

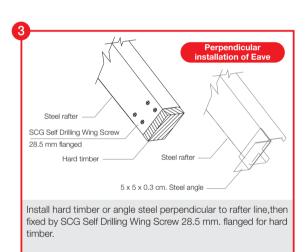
The tile corners and roofing in typical form without alternating the tile to allow complete lapping, which will make the roof look elegant and prevent leakage problem, following the charts for trimming of Roman Tiles.

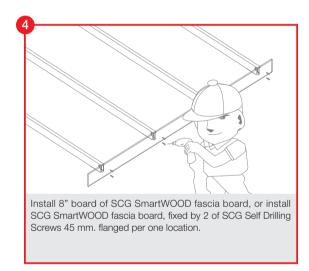
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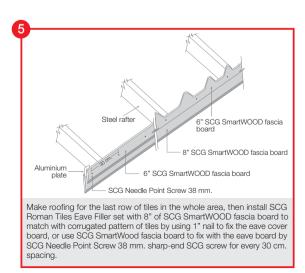
Installation of SCG SmartWOOD fascia board, and SCG Roman Tiles eave cover set

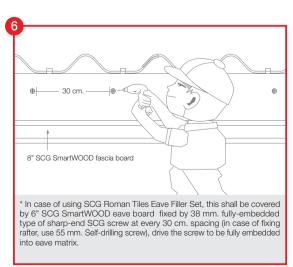










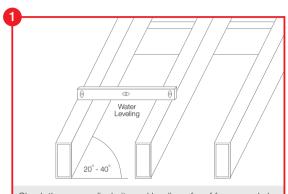


^{*} In case of using 6" SCG SmartWOOD eave board in the first row, it shall be covered by 4" SCG SmartWOOD eave board for aesthetic concern.

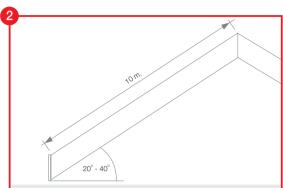


3. Installation of SCG Roman Tiles

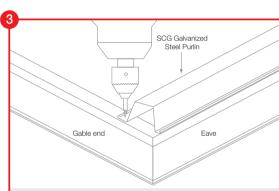
Tip: SCG Galvanized Steeel Purlin and SCG Self Drilling Screw 13 mm. (pin-head type) are rust free and endure (see details in pages 15 - 16)



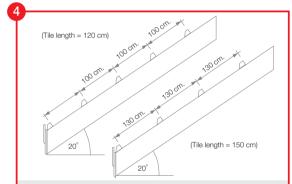
Check the perpendicularity and leveling of roof frame, and also the slope of roof to ensure that the Slope is between 20 - 40 degree (in case it is less than 15 degree, please consult the manufacturer).



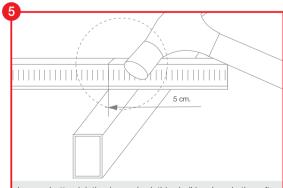
Roof with 20 degree slope is suited with the rafter with maximum ength of 10 m. In case the rafter with length is longer than 10 m, the slope shall be increased to be more than 15 degrees.



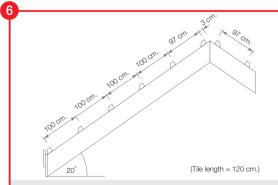
Start installation of first piece of SCG Galvanized Steel Purlin on the eave by turning the side with hook upward, fix the purlin to steel rafter by using SCG Self Drilling Screw 13 mm. (pin-head type).



Use SCG Self Drilling Screw 13 mm. to install the next purlin with space at 100 cm. (tile length = 120 cm.) or 130 cm. (tile length = 150 cm.)



In case batten jointing is required, this shall be done in the rafter area only, with 5 cm. lapping distance. Hit the batten leg in lapping area evenly, then fix by SCG Self Drilling Screw 13 mm .

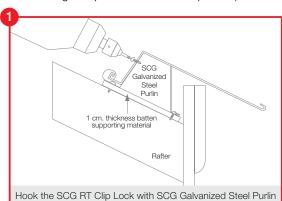


Provide 97 cm. spacing for the last batten, and leave 3 cm. distance from rafter's end for the uppermost batten.



Gable form roof: Installation of roman tile by using SCG RT Clip Lock

Tip: SCG Galvanized Steel Purlin has been designed for rafter with 1.2 m of maximum spacing, provided with a flange for fixing with particular SCG RT Clip Lock (see details in page 15 - 16)



following the figure. One of double corrugated tile will require

2 of SCG RT Clip Lock. At the first row of purlin, fix it by SCG RT

Clip Lock and SCG Self Drilling Screw 13 mm.

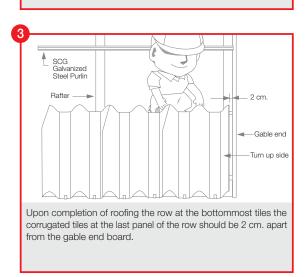
Gable end

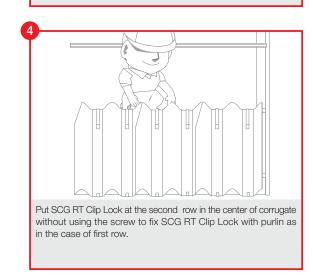
SCG Galvanized Steel Purlin

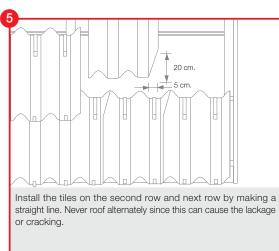
Rafter

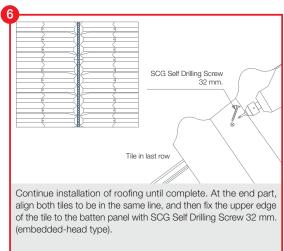
SCG SmartWOOD eave

Start roofing the first tile by making the inverted side of tile aligned with the gable end (use 2 SCG RT Clip Lock per panel).





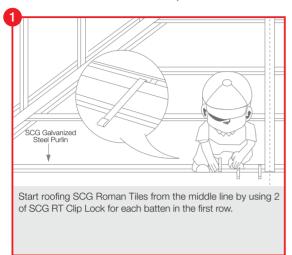


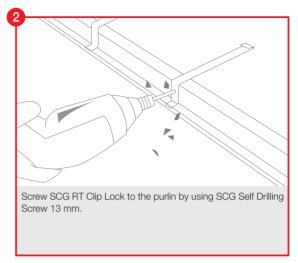


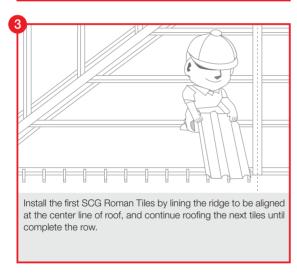


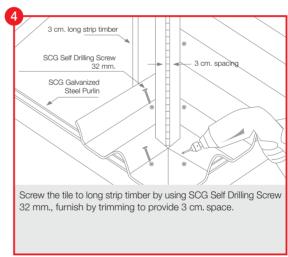
5. Hip form roof: Installation of SCG Galvanized Steel Purlin and SCG RT Clip Lock

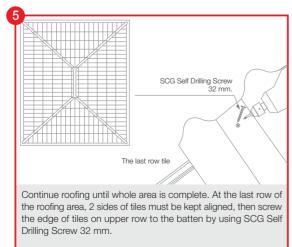
Tip: Roof is elegant without any extruding equipments on it by using SCG RT Clip Lock to fix with SCG Galvanized Steel Purlin for easier and more rapid work.

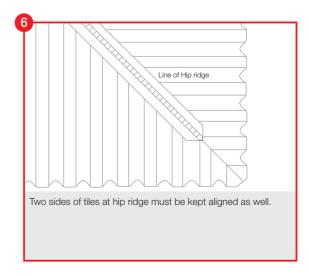






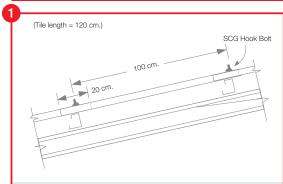




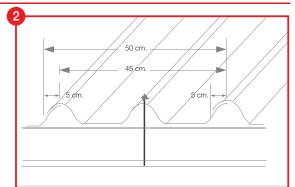


Installation of SCG Roman Tiles, for other types of steel purlin

Steel Purlin C75 x 45 x 2.3

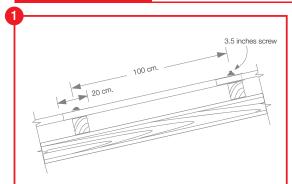


In case of C75 x 45 x 2.4 mm. batten, roofing must be done 5 cm. away from the batten in order to fix both upper and lower tiles and to prevent the tile from falling.

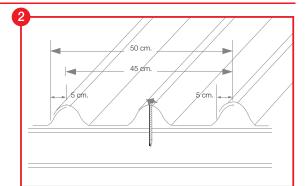


Fix SCG Roman Tiles at the center of the corrugated by using SCG hook set.

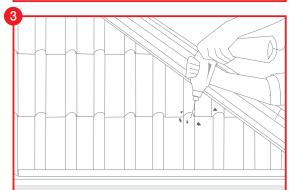
Timber Purlin 1.5 x 3"



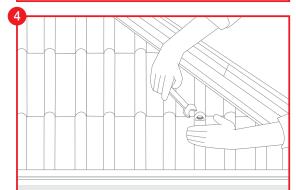
In case of 1.5 x 3 inches timber batten, roofing must be done 5 cm. away from the batten in order to fix both upper and lower tiles and to prevent the tile from falling.



Screw SCG Roman Tiles at the center of the corrugated.



Install SCG Roman Tiles by using C shape purlin, and timber purlin, a 6 mm. diameter drill will be used penetrate the roof tile.



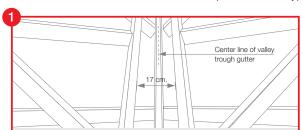
Use No.10 open-end wrench to tighten the knot or screw just until you feel tense at hand, and then release it out half-round.



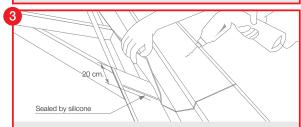
7.

Installation of SCG Valley Trough

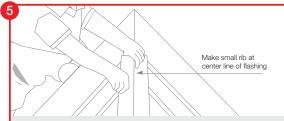
Tip: Use SCG Valley Trough to end a problem of trough spill over, because of deep valley which holds higher water volume, and allows faster drain when compared to other types (see details in page 15-16)



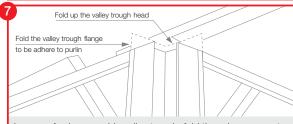
For installation of SCG Valley Trough for roman tiles, make the pair of long strip timbers with 17 cm. valley trough width or it, 8.5 cm. measured from centerline of the valley trough to inner edge of strip timber. Use similar material with purlin, and install it at the spacing specified in the installation manual.



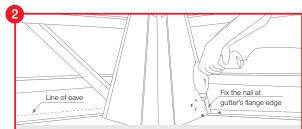
For jointing the SCG Valley Trough, place the upper valley trough over lower valley trough with at least 20 cm. of lapping distance. Seal the joint with silicone, and fix both sides of valley trough flanges by using screw or binding wire.



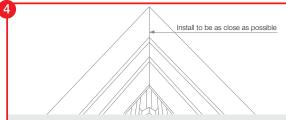
Cut into half the SCG Flashing along longitudinal axis to get 2 plates of 17.5×50 cm. flashing. Use these SCG Flashings to cover the joint areas of gutters. Start attaching the first flashing from the flange edge of the lower gutter along the joint, and compress the flashing to be completely attached with the gutter.



In case of using one side valley trough, fold the edge near water receptor valley of SCG Valley Trough in order to make water barrier. Fix both edges of valley trough lange to the upper pair of purlin by screw for steel purlin, or nail for timber purlin.



Place SCG Valley Trough from lower edge. Make the flange edge of valley trough to be aligned with the eave's line. Fix both sides of valley trough flanges to the purlin by using screw for steel purlin, or nail for timber purlin at 100 cm. spacing.



For jointing SCG Valley Trough, in case 2 sides of valley trough meet each other. Cut the edge of SCG Valley Trough both sides at 45 degree inclination for to make the corners be jointed to valley trough by using a by zinc scissor. Then install as close as possible.



After that, attach the second flashing with 10 cm. lapping distance over the first flashing until the farthest upper edge. Compress the SCG Flashing it to be completely attached with the valley trough along the line.

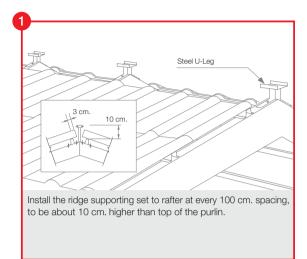


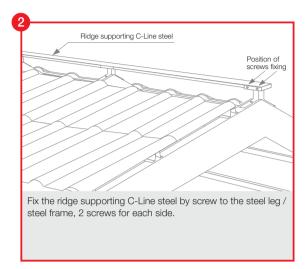
For furnishing or trimming of SCG Valley Trough in case the valley trough edge is on the tile. Cut the valley trough edge in order to cover the lower tile for at least 20 cm., and then bend valley trough edge flatly.

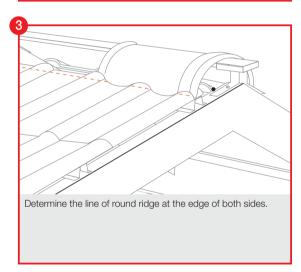
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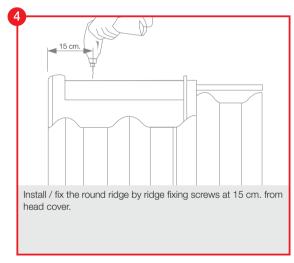
Installation of ridge in the area of roof ridge by SCG Dry Ridge System

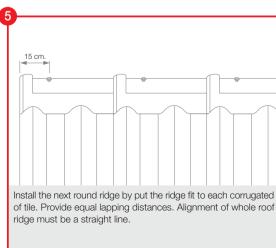
TIp: No more problem of blown ridge cover, unleveled cover, by using SCG Dry Ridge System(see details in page 15 - 16)

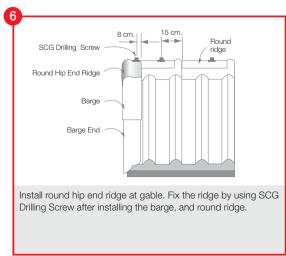








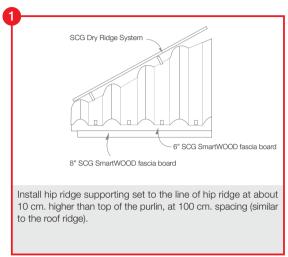


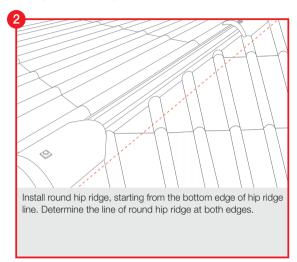


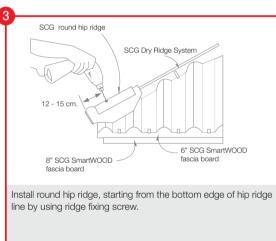


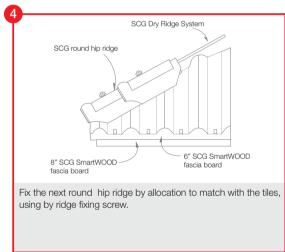
Installation of the ridge at the hip by using SCG Dry Ridge System

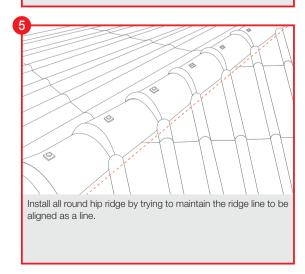
Tip: Solve the problem of blown ridge cover, unleveled cover by using SCG Dry Ridge System (see details in page 15-16)

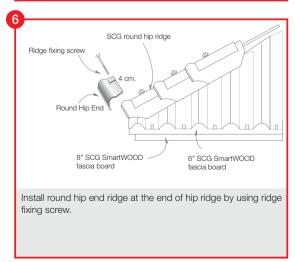




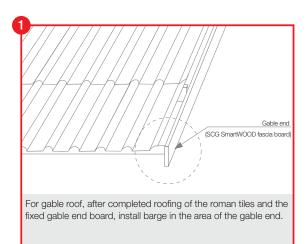


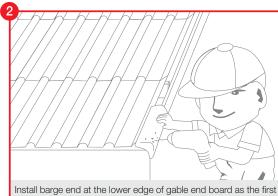




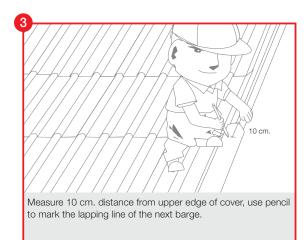


Installation of Barge by using SCG Dry Ridge System

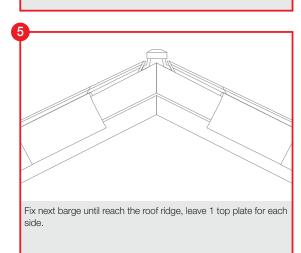


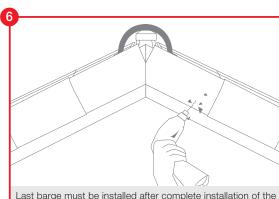


Install barge end at the lower edge of gable end board as the first barge. Fix the barge to gable end board by using SCG Needle Point Screw 38 mm.







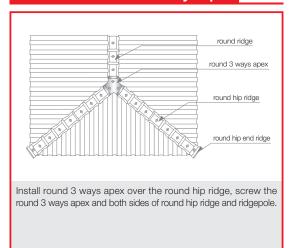


Last barge must be installed after complete installation of the round ridge. Trim the side and front edges (measure & cut at site) in order to make a perfect fit to the round ridge.

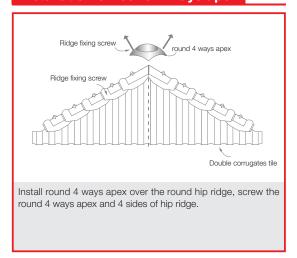


Installation of round 3 ways apex, 4 ways apex and wall ridge by using SCG Dry Ridge System

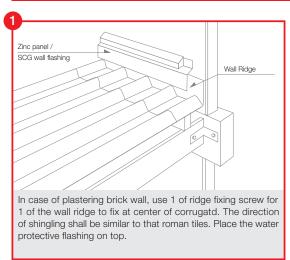
Installation of round 3 ways apex

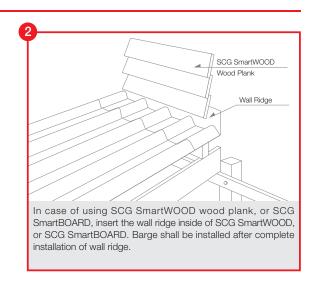


Installation of round 4 ways apex



Installation of Wall Ridge

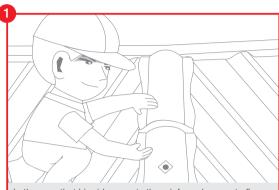




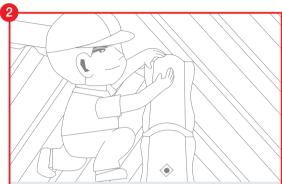


Installation of SCG Flashing

- TIp: Use SCG Flashing with 35 cm. width, 50 cm. length, for SCG Roman Tiles only. The product can be used to cover the wide joint, because of its langer size.
 - · Perfectly adhered to corrugate shape without peeling by putting adhesive glue at the flashing, including reinforced aluminum at middle core. (see details in pages 15-16)



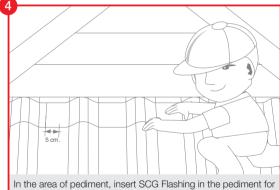
In the area that hip ridge meets the reinforced concrete flange, leave gap between round ridge and RC flange about 3 cm. Fold the edge of SCG Flashing and insert under RC flange, compress SCG Flashing to perfectly adhere with round ridge and tile panel.



In the area that hip ridge meets the gable end, insert SCG Flashing under the gable end and cover the round ridge. Compress SCG Flashing to perfectly adhere with round ridge and tile panel.



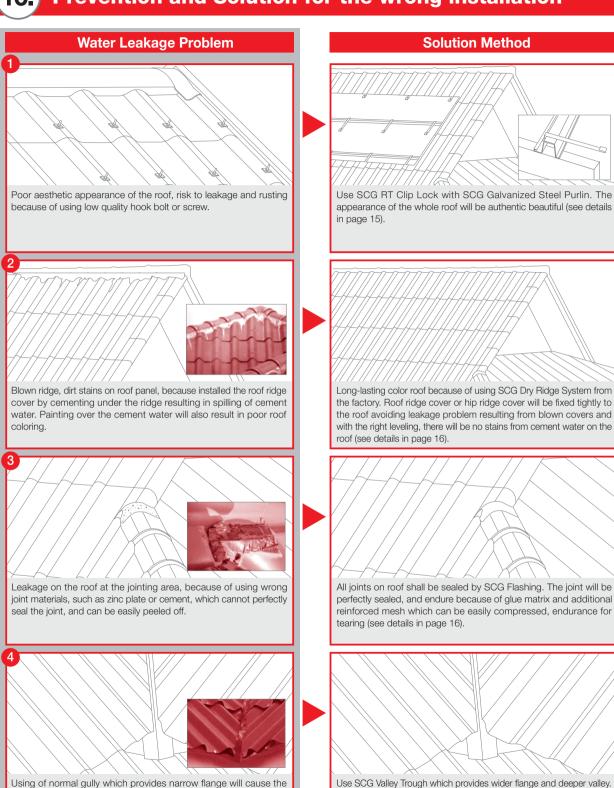
In the area that roof ridge meets the reinforced concrete flange, install the round ridge to line of RC flange. Leave gap between round ridge and RC flange about 3 cm. Slightly fold the edge of SCG Flashing and insert under RC flange, compress SCG Flashing to perfectly adhere with round ridge and tile panel.



about 20 cm. height, with 5 cm. of side lapping distance.



10. Prevention and Solution for the wrong installation



(see details in page 16).

over spilling, roof leakage and easily can corrosion because of using

low quality zinc gully.

SCG Cover Set a

SCG Curve cover set

Used for roof with 20 - 40 degree slope



Round Ridge

Cover along whole roof ridge (2.2 panels/1 m. of roof ridge)



Round Hip Ridge

Cover along whole hip ridge (2.5 panels/1 m. of hip ridge)





Round Hip End Ridge

Cover gable of gable roof or cover edge of hip ridge



Round 3 ways Apex

Cover point where roof ridge joins hip ridges, for hip form roof





Round 4 ways Apex

Cover point where 4 sides of hip ridge joined together, for hip form roof



Barge

Cover gable end of gable form roof (2 panel/1 m. of gable end)





Barge End

Continue from last rake cover at gable end area of gable form roof



Wall Ridge

Cover at tile edge jointing with the wall panel (2.2 panel / 1 m. of wall)

SCG Corner Cover Set

Used for roof with 15 - 40 degree slope



Adjustable Angle Ridge

Cover roof ridge for roof with 15 - 40 degree slope



Adjustable End Ridge

Cover gable for gable form roof

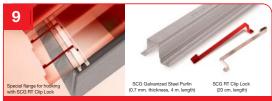


Ridge (15 & 20 degree)

Cover roof ridge for roof with 15 and 20 degree slope (available only cement gray color)



SCG Accessories



SCG Galvanized Steel Purlin and Clip Lock

For installation with roof tile without necessity of tile's penetration, easily installed, rust free, no roof leakage, high strength and safe Containment: 5 piece / wrap



SCG Roman 1

Used for install the roof tiles with tim roof leakage problem Length: 5, 6, 7, 8, 9 and 10 inches Containment: 300 set / box

nd Accessories







SCG Valley Trough

For valley trough gutter, wide and deep, allow rapid drain (stainless steel)

Length : 2 m. / palen Flange width : 18.4 cm. Valley depth : 5 cm.



SCG Flashing

Used for seal joints on roof, prevent roof leakage, adhere to the corrugate form

Contain :1 piece / box 35 cm. width, 50 cm. length,

0.2 cm. thickness



SCG Roman Tiles Eave Filler Set

Used for cover the eave, prevent small animal Contain: 10 pieces / box, including screws cover for 4.5 m. length of eave



SCG Roman Tiles Roofing Paint

Used for immediate repair of roof color, same color shade with SCG Roman Tiles Contain: 2 kg. / can





SCG Needle Point Screw 38 mm.

Used to fix the eave board in the area of eave and gable end in order to strengthen the installation. The screw is embedded-head type, perfectly match with the cover's surface after advanced drill, sharp-end, enduranced, high strength.

Contain: 250 pieces / box

16



SCG Self Drilling Screw 38 mm.

Used for fixing of SCG Galvanized Steel Purlin with steel rafter, and fix SCG RT Clip Lock and SCG Galvanized Steel Purlin in the edge row of all sides, in order to strengthen. The screw is pin-head type, endurance, Self-drilling, easy for operation without advanced drill.

Contain: 500 pieces / box



iles Hook Belt

ber batten or C-steel batten, no more



SCG Dry Ridge System

Used for installation with curve ridge cover and curve hip ridge cover Contain: 1 set can be used for installation of round ridge or round hip ridge for 3 m. length





SCG Self Drilling Screw 32 mm.

Used for fixing of roman tiles in the edge row of all sides, roof ridge side, gable end side, eave side, and hip ridge side. The screw will enhance strength, Self-drilling embedded-head type, easy for operation without advanced drill.

Contain: 500 pieces / box

Specification for installation of SCG Roman Tiles



 Do not use as structural part of any building, or other purposes. Installation shall follow installation manual, and use only qualified standard equipments from manufacturer.



Do not eat



Do not inhale



Precaution to avoid danger

• SCG fiber cement roof product has been designed and specified for the operation method which suits the condition of application in Thailand only. Application outside Thailand shall be underdirect responsibility of the designer, construction supervisor and installer.

For Designer

- Any qualification specified in this document is the average value derived from testing of product under specified standard by sampling from group of products
 during period prior distribution only.
- Specifications for any installation are the fundamental recommendations for residential house, or any building with height from ground to roof ridge less than 23 m. only. For any other buildings, or building with considerable risk shall consider the wind load effect in structural design and joint method. If the design calculation is required with no certified document from any reliable institute, unit wind load following Item No. 17 of 6th Edition of the Ministry Regulation (1984) as designated by the Act of Building (1979).
- · Application of the products other than those specified in this installation manual shall be under the direct responsibility of the designer, construction supervisor.

For Installer and User

- Any installation specification are the fundamental recommendations for normal application only. For determination of the installation method, and applicable
 structure, shall consider standard for Structural Steel EIT 1015-40, and Design Specification following the 6th Edition of the Ministry Regulation (1984) as
 designated by the Act of Building (1979).
- · Product application other than those specified in this installation manual shall be consulted with the design architect design engineer.

A

Recommendation for safety operation

- Fiber cement SCG roof is compose of cement materials. Cutting, grinding, penetration, or polishing of products may cause blowing dust. If this dust is eaten,
 or inhaled to human body at considerable amount, and time, this may cause danger to the respiratory system and body.
- Cutting, grinding, penetration, or polishing of products shall be carried out in an area with good ventilation. Avoid using the machine for cutting, grinding, penetration, or polishing of products that can cause high amount of dust.
- Do not work during storm or heavy rain, or when roof is wet.
- Wear personal protection equipments, such as dust protection mask, safety goggle, clothes, gloves, shoes.
- Any personnel without personnal protection equipments or is not related to the operation, shall approach working area in order to avoid possible danger.
- Lifting or relocation of products shall be carried out with special attention. Do not bend one's back down for lifting, nor twist one's body or never change
 direction during lifting. In addition, avoid working in long period to prevent injury and fatigue.
- Whenever the lifting is required, one must lift by lowering knee down, and hold firmly. Then use strength from your leg to lift up.
- Cleaning of working area after cutting, grinding, penetration, or polishing of products shall be carried out by vacuum machine. Dust container shall be sealed tightly or cleaned by water. Do not clean by sweeping which will cause dust scattering.
- Separate and collect any debris from the installation, repair, dismantle of products with special attention. Eliminate those by appropriate and sanitarian method specified by the government.
- Clean one's body by using clean water after cutting, grinding, penetration, or polishing any products.

First Aid

• If any dust or material debris enters one's eye, do not rub or scratch the eyes. Immediately, clean with water several times, and bring to the physician.

Verify that the installation manual of product is the latest one

• Installation manual of product is always improved. The designer, construction supervisor, and installer shall always verify that the installation manual of product being used is the latest version. In case of uncertainty, verify or inspect at www.siamfibrecement.com



