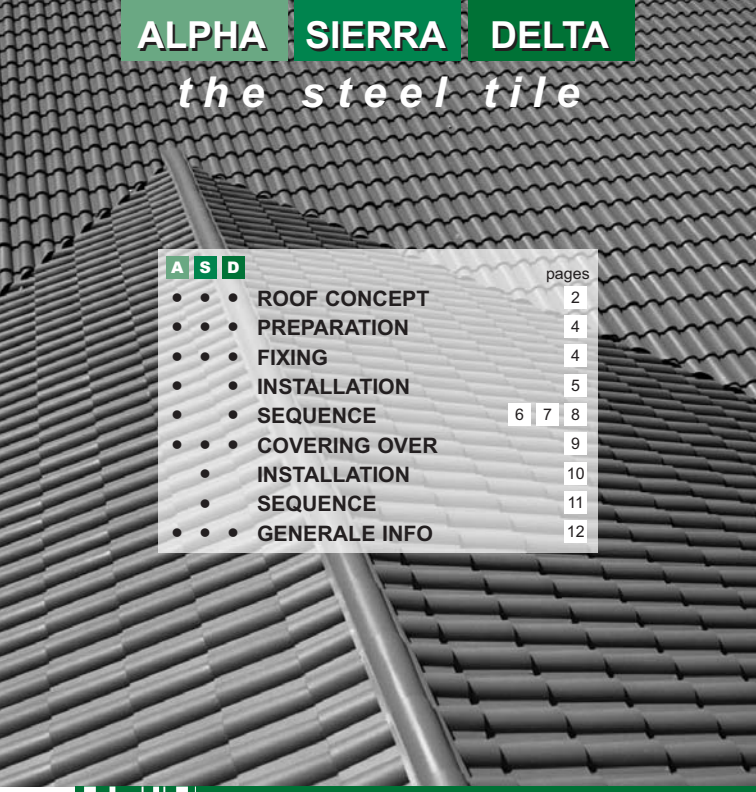
ALPHA SIERRA DELTA

the steel tile



COVERSYS

INSTALLATION GUIDE

COVERSYS

COVERSYS

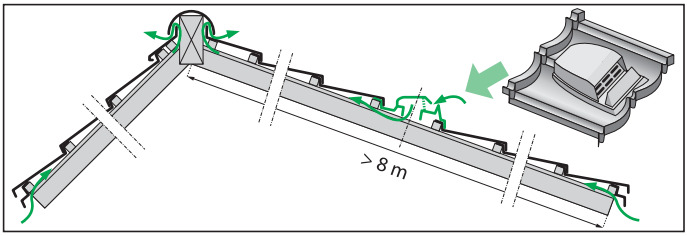
VENTILATION

The discontinuous structure of steel tile roofs, resulting in a net-work of overlaps, will make Coversys roofs much more vapour-open than traditional metal roofs.

Adequate ventilation will help to eliminate condensation moisture and heat accumulation out of the roof.
The benefits are clear: healthy buildings and long-lasting wooden structures.

Coversys tiles	tile profile air section
ALPHA	66 cm²/m
DELTA	102 cm²/m
SIERRA	264 cm²/m

Provide eaves, hips and ridges with adequate air in- and outlets.
For slopes > 8m it is advisable to use ventilation tiles in the middle.
[Check local rules for ventilation and vapour barrier requirements.]



UNDERLAY

The use of an underlay is recommended because of :

- additional protection against accidental water infiltration
- protection of the construction and interior during the building works (especially for renovations)

For renovations the existing roofing material is sometimes kept and in some cases it can be considered as an underlay.
[Consult regulations for the local requirements and types of underlay.]

SLOPES

Coversys products were tested and approved by the CSTC (B) to be used on low slopes starting from 7°(or 12%). Some countries can require slightly different minimum slopes.

For low slope applications outside these limits consult the Coversys Technical Department for possible solutions.
Maximum slope is 90°.
[Check for national approvals on low slopes.]

Country	Slope (in ° degrees)	Slope (in %)	Techn Approval
Belgium	7°	12%	CSTC
Great Britain	10°	18%	BBA
France	14°	25%	CSTB

COVERSYS

BATTENS

batten dimensions	rafter distance
27 x 27 mm	600 mm
38 x 38 mm	900 mm
50 x 32 mm	1000 mm
60 x 40 mm	1200 mm

The size of the battens is decided according to the distance between the rafters and taking into account the lightweight of the Coversys steel tiles. *[Consult the local regulations.]*

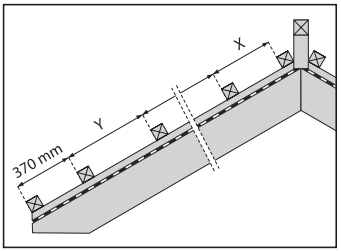
LINING OUT

Checking well the squareness of the roof is indispensable and will facilitate laying. Rigorous lining out of the battens will contribute to perfect finishing and to correct calculating of quantities.

The batten distance is always measured between the lower sides. The first batten is fixed at the end of the rafters. The next one is placed so that the first tile has 30mm overhang in the gutter.

			ALPHA		DELTA		SIERRA
			p/s/f	c	p/s/f/r	c	p/r
length	total	mm	1185	1185	1200	1200	1060
	useful		1104	1104	1140	1140	1000
height	total		455	455	450	450	435
	useful (Y)		398	398	404	402	400
	half tile		170	200	170	200	-
overlap	lateral		81	81	60	60	-
surface	useful	m^2	0.44	0.44	0.46	0.46	0.40

different finishings : p = pearly / s = satiny / c = chips / f = flammé / r = rustic



The following battens are laid towards the ridge, respecting the distance Y as indicated in the table. For the last row several solutions are possible, depending on the final distance to the ridge X :

- full steel tile
- full tile with reduced height of second last row
- full tile cut to measure
- special finishing with Coversys half tiles

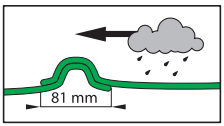
[See the chapter on ridges : page 8]

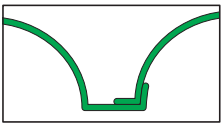
COVERSYS

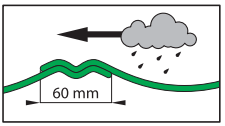
LATERAL OVERLAPS

The direction of lateral overlaps is decided against the dominant direction of wind and rain. Coversys steel tiles are always laid with staggered lateral overlaps.

Coversys products are manufactured with very precise overlaps that will ensure watertightness in low slope applications. In case of extreme wind and rain conditions a full tile can be used as overlap.





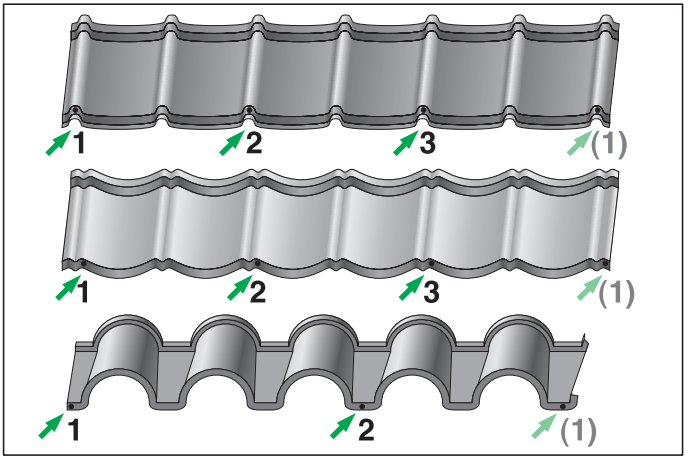


NAILING

Fix the 50 mm nails either by hand (+ nail punch) or with a pneumatic nailer.
The coloured coating of the galvanised nails will create extra sealing when perforating the steel.

The nails are positioned onto the 'tile nose', outside the main water flow.
It is essential to push well down the tile during fixing.

The high number of fastening points per tile element (8 to 12 per m^2) and the extra resistance of the nails fixed perpendicularly to the uplift forces result in resistance to wind of more than 200 km/h.



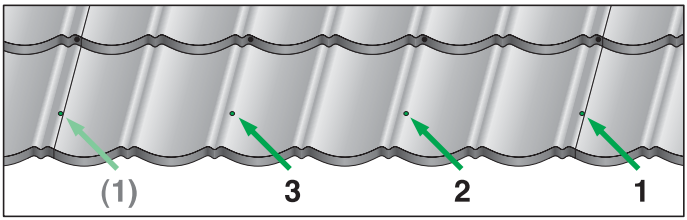
LAYING SEQUENCE

The direction of lateral overlaps is decided according to the dominant direction of wind and rain. Start laying the first row of full tiles at the ridge. Fix provisionally these tiles by 2 nails in the 'tile heel'.

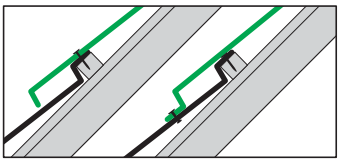
Lift up this row and slide the next row of tiles underneath. Repeat this for the 3rd row. The first 3 rows are then nailed in the 'tile nose'. Continue with the following rows until the second last one.

After the Coversys eaves closure has been placed with 50 mm lateral overlaps the last row can be laid. The fixing will be on top of the tiles, right near the 'tile ridge'.

Push well down the tile when nailing for perfect technical and esthetical finishing. Verify if there is sufficient air-pressure (according to the length and diameter of the hose).



RIDGE COURSE



Always keep the same laying direction on the whole slope.
For the last row of tiles near the ridge several possibilities occur :

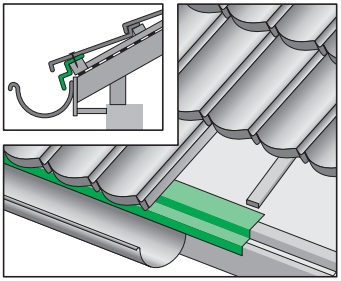
If the height is more than half a tile, a full tile can used :

- ALPHA tiles are fixed with pop-rivets to the second last row
- DELTA tiles are nailed on the top of the tile into the battens.

When the distance to the ridge is less than half a tile :

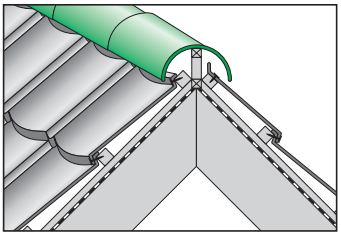
- the special Coversys half tiles for ALPHA and DELTA are used.
- both types will be fastened with pop-rivets onto the second last row.

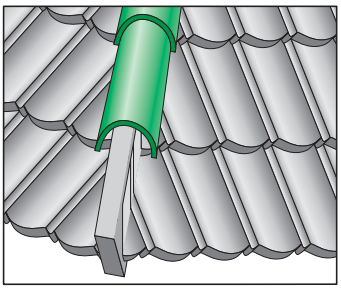
EAVES



For technical and esthetical perfection the use of eaves closures is recommended (with 50 mm overlaps). For renovations on existing roofs it can also be used with the long edge downwards.

HIPS & RIDGES



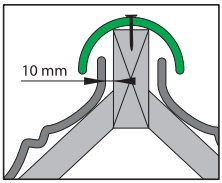


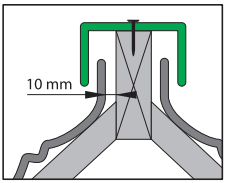
Provide ventilated hips and ridges. Round ridge caps are fixed on a double but separated ridge board (the space in between creating efficient air-outlets).

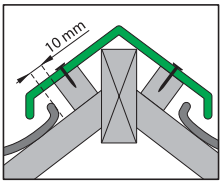
For V-ridge caps superpose discontinuous battens to ensure ventilation. Make overlaps against the dominant wind and rain direction. The first and last ridge caps are finished with a Covercoat° cap end.

The ridge caps are fastened with 1 or 2 nails according to the shape and the type of ridge. All ridge and hip caps have to fit well onto the adjacent tiles.

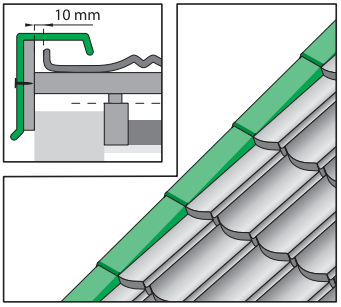
The tiles adjacent to the hip are cut to size and fold upwards for about 40 mm, without exceeding the height of the hip piece. Leave 1 cm of space at each side of the wood to ensure good ventilation.







ROOF EDGE

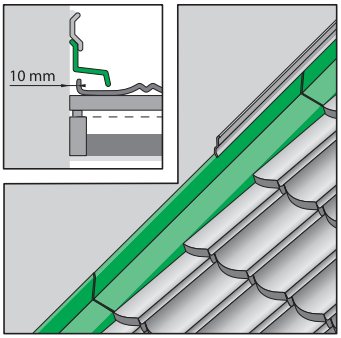


At the roof edge cut the tiles to size and fold the edge 10 to 15 mm upwards without exceeding the edge board. Leave 1 cm space between the tile edge and the wood for efficient ventilation.

For the finishing of the roof edges Coversys is offering 2 alternatives:

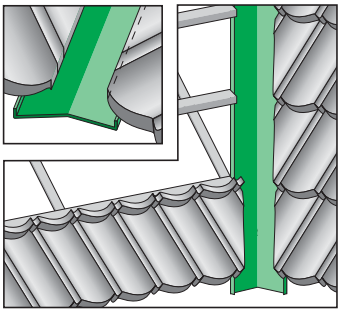
- the rectilinear / economical 3 module barge cover
- the architectural / traditional 1 module barge cover

SIDE WALL FLASHING



Cut the adjacent tiles to size and fold the edge about 10 to 15 mm upwards. Install the Coversys side wall flashing profile. Finish and seal with an aluminium flashing trim.

OPEN VALLEY

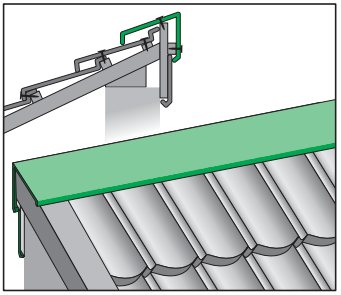


The wide range of Coversys accessories includes a valley with a pearly surface, available in the standard tile colours.

The valley is placed on a solid wooden support. The adjacent tiles are cut to size (keeping a minimum width of 1 tile module) with 60 to 100 mm overhang and 20 mm fold down edges

The principle of an open valley combined with the smooth Covercoat° surface and the fold edges will ensure easy running down of the water, even at low slopes.
[Check the local rules on valleys]

SINGLE SLOPE RIDGES

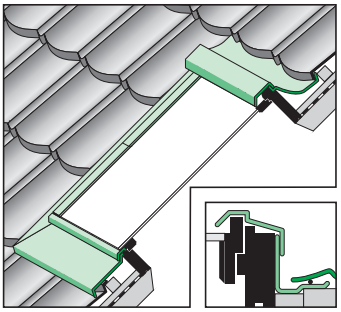


Perfect watertightness and esthetical finishing are ensured by:

- measuring, cutting and bending tiles to suit (upstand 40 to 90 mm)
- using side wall flashing trims and the top course accessory

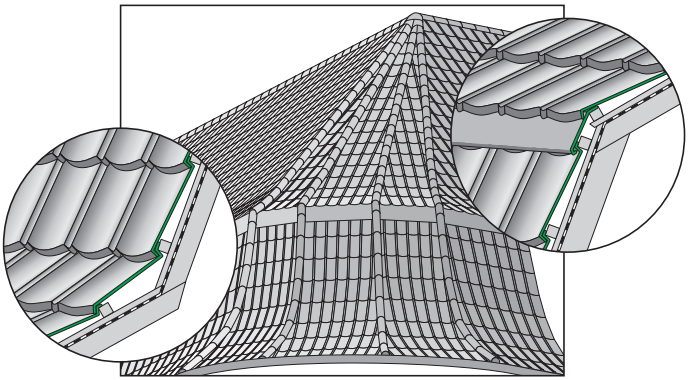
These finishings as well as other roof details go to the domain of the specialised roofer/plumber.
[Consult the local rules, regulations and norms for special requirements.]

ROOF WINDOWS



Use the specific accessories for the different types of roof windows.
Lateral tiles are cut to size (leaving a 10 mm space at the window edge). Apply sealing joints underneath the tile edges.

SPECIAL ROOFS - MANSARDS



‘COVER OVER’ RENOVATIONS

	Weight per tile	Weight per m²
ALPHA	2,1 kg	4,8 kg
DELTA	2,1 kg	4,6 kg
SIERRA	2,6 kg	6,5 kg

Coversys steel tiles combine high resistance with lightweight and rapid installation times.
In some cases the existing roofing material does not need to be removed.

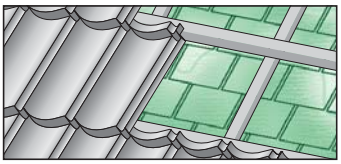
Estimated laying time		
average m² (*)	15 - 20 m²	per hour / person
ridge cap half round	12 m	per hour / person
v-shape	20 - 25 m	per hour / person
rake element (1 module)	12 m	per hour / person
eaves finishing profile	15 - 20 m	per hour / person
open valley	4 m	per hour / person
hip	3 m	per hour / person

(*) depending on complexity / accessibility of the roof / experience of the workers

Some important benefits of covering over the existing roofing material:

- no demolition
- no waste removal
- no new underlay
- interior protected during works
- easier planning of the works

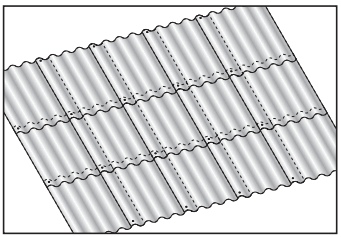
COVERING OVER OF SHINGLES

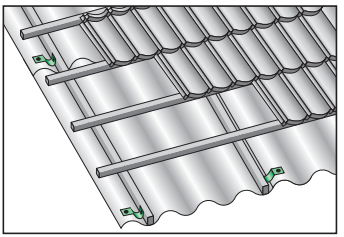


Check if the old roof can be kept.
Create a new structure (counter battens of min 20 mm thickness / batten size : see page 3).
Special details (windows, ventilation pipes…) ask for special attention.

COVERING OVER OF CORRUGATED SHEETS

The Coversys Connect-PRO system permits to fix a new structure (rafters and battens) over the corrugated sheets without having to perforate the old asbestos cement material. At the same time ventilation is created.

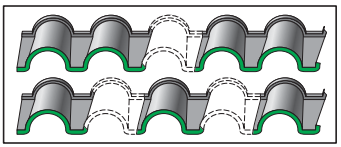




SIERRA

COVERSYS

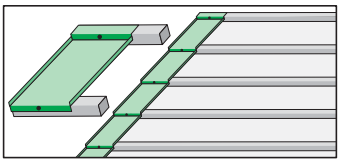
CUTTING TO SIZE



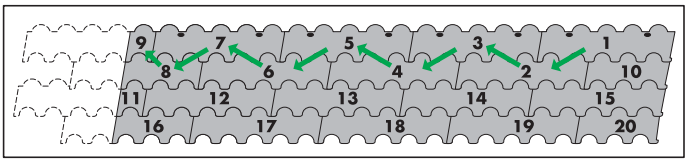
The round shape of the SIERRA tile makes bending less easy. SIERRA tiles are cut to size in well specified places in order to permit adequate overlapping:

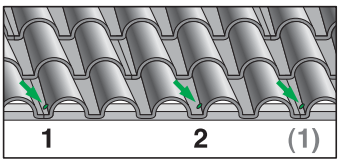
- left side : in the curve
- right side : in the flat part

CHRONOLOGY of INSTALLATION



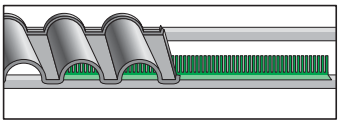
Start from the left by laying the SIERRA verge connector. This exclusive Coversys accessory will permit to adjust the total width of the roof precisely to the size of the SIERRA tiles.



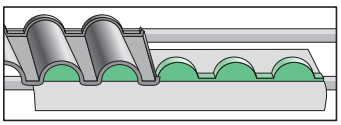


The first row of full tiles near the ridge are temporarily fixed by 2 nails in the tile heel. Than start laying according to the schema :

- from the right to left
- in alternation with the 2nd row



Lay the following row from left to right and than fix the upper 3 rows in the 'nose' of the tile. Continue for all the other rows in the same way.

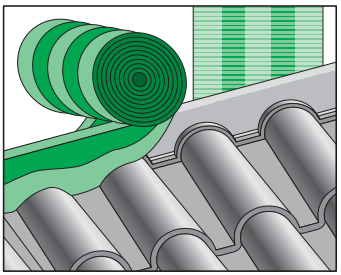


The last row will cover the eaves closure and provide sufficient overhang (in the gutter if any).
This row is exceptionally fixed in the curved side of the SIERRA tiles.

Coversys is offering special accessories for the finishing of the eaves.

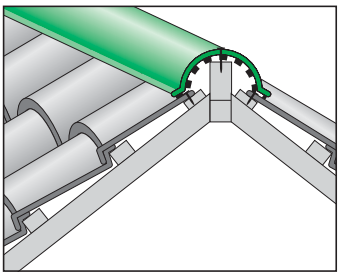
COVERSYS

RIDGE



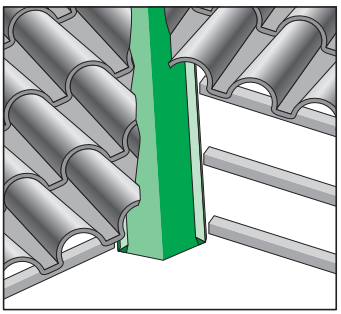
The last row at the ridge can be finished in different ways, depending on the distance to the ridge, using :

- full tiles
- full tiles cut to size
- the SIERRA ridge connector

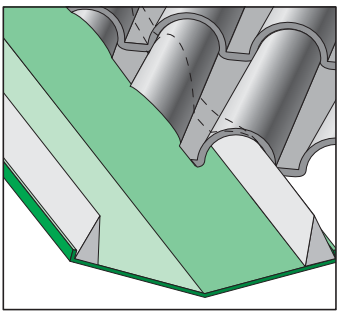


The Rollfix hip and ridge accessory underneath the Coversys ridge caps will ensure both watertightness and efficient ventilation in combination with an insect barrier.

OPEN VALLEYS

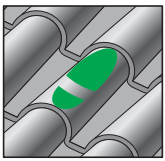


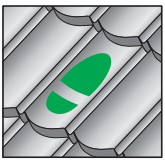
After the Coversys valley accessory has been positioned on a solid wooden structure, place the strip of self-adhesive watertight foam in the edge.
[Consult local regulations for special requirements on valleys.]



Cut the tiles adjacent to the valley using a nibbler so that a 50 mm overhang over the valley edges is ensured.
Fix these tiles in the nose of the flat parts.

SECURITY + HEALTH + ENVIRONMENT





Coversys steel tiles have obtained several fire classifications.
Due to the lightweight of the system much less material needs to be transported on the road and handled by the roofers on the building site.

By using a dry coating-process, water pollution is excluded in the production. Coversys does not use any anti-fungus products either. Finally, steel is the most recycled product in the world.

TECHNICAL APPROVALS

BBA BRITISH BOARD OF AGREMENT CERTIFICATE No 01/3787/E

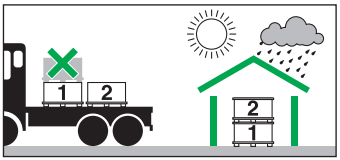
U B A tc 2281

EMPA Prüfbericht 16-35794 a nach DIN 4102 Teil 7

CSTB Le Batiment en confiance Avis Technique n° 1485 Classement M1 N° RA98-419

Coversys roofing systems obtained technical approvals in many countries.
Test results on watertightness, mechanical resistance, and both technical and esthetical durability are available.

TRANSPORT + STORAGE



Coversys pallets cannot be stacked during transport.
Tiles and accessories must be stored on a flat surface, protected against the rain/sun and in a ventilated area.

GUARANTEE

DOUBLE GUARANTEE
30 YEARS
NON DEGRESSIVE

Coversys steel tiles offer

- a double guarantee on the coating and the corrosion resistance
- without any degression in value over the years

Ask the specific guarantee certificate

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