

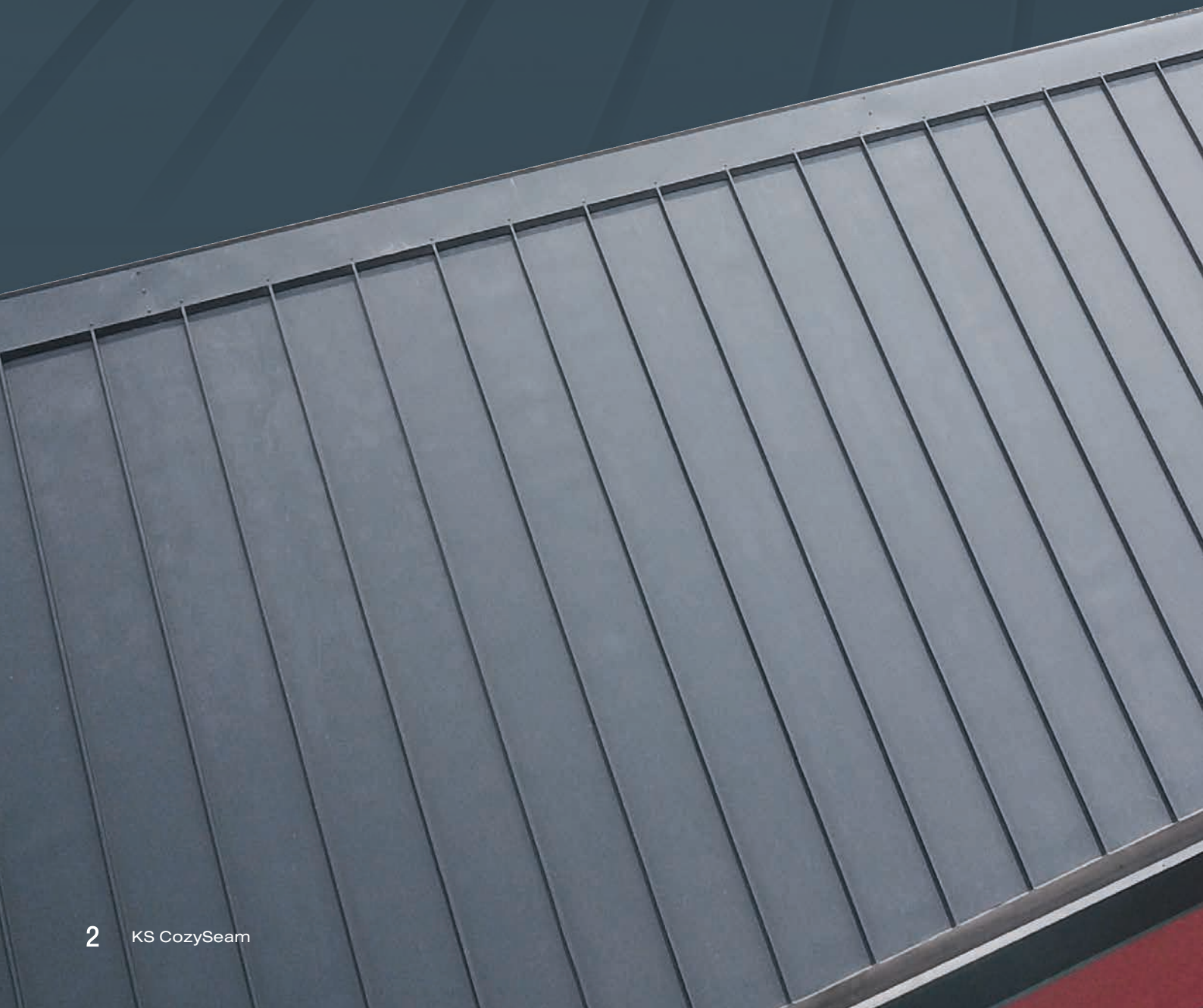
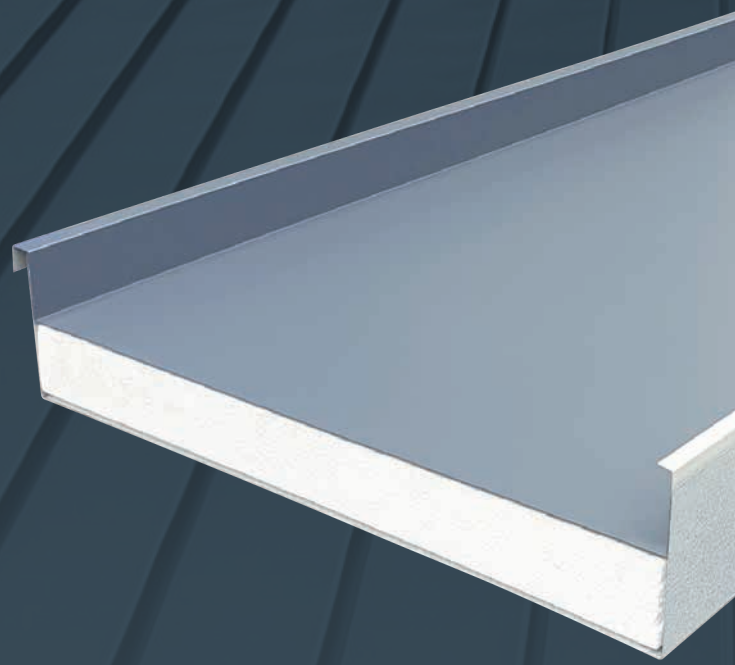
KS GROUP ROOFING & WALLING
KS CozySeam
Roof Sandwich Panel



KS GROUP ROOFING & WALLING

KS CozySeam Roof Sandwich Panel

Roof Sandwich Panel is a Composite Roof System, represents the elegance and modern through the wide and smooth panel that perfectly aligned with the architecture. Moreover, it is outstanding with the 360 degree seaming (Standing seam roof system), the fasteners don't pass through the roof sheet for excellent watertightness. (Architectural Standing Seam).





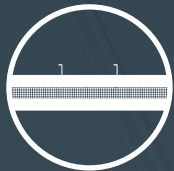
COMFORTABLE LIVING

Comfortable living, reduce heat and noise from outside the building



EXCELLENT WATERPROOF

Excellent watertightness with the 360 degree seaming, the fasteners don't pass through the roof sheet



ALL-IN-ONE ROOF & CEILING

All-in-one roofing and ceiling with insulation in the middle of panel



SAVE TIME

Save time and easy to install with one step installation



SAVE ENVIRONMENT, SAFE LIFE

Environmentally friendly and safe for health

PROJECT REFERENCE



Anasiri Club House



Saltbox Office



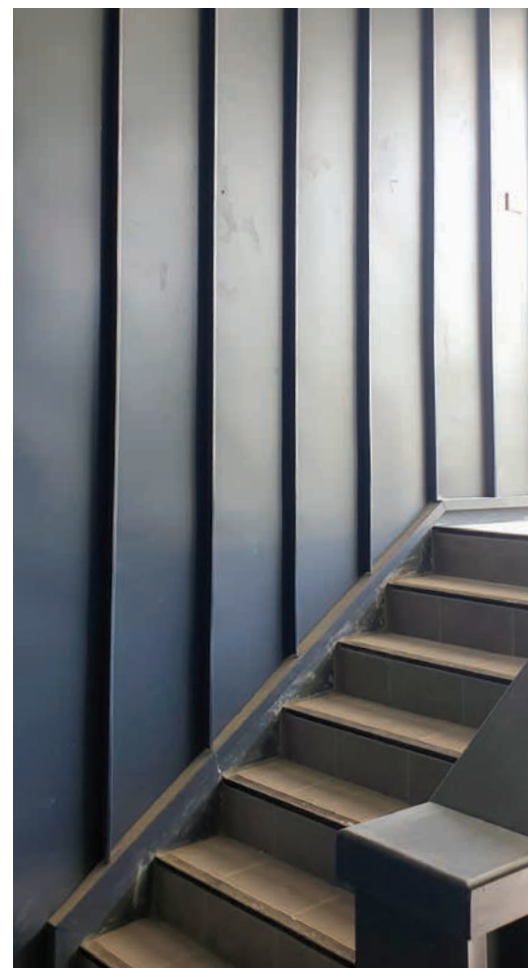
Ladawan Rama 2



AREEhaus wood castle by the river



Residence



KS CozySeam Sandwich Panel SYSTEM FEATURE



KS CozySeam Roof Sandwich Panel

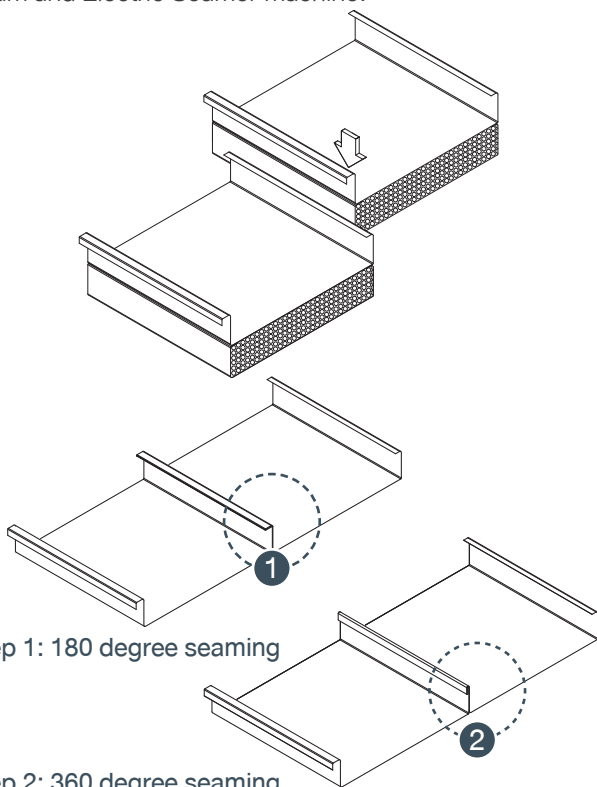
- 1 KS CozySeam : Top panel
- 3 Bottom panel
- 2 EPS Foam : Insulation Core
- 4 Stainless Clip

EPS Foam Insulation Core

Expanded Polystyrene Foam is high quality insulation (Self-Extinguish Grade), can be recycled. Heat and noise protection with low thermal conductivity (K-Value); thickness 1-4 inches, density of 1.5-2 lb/ft³ resulting in good Compressing Strength, increasing and improving the strength of the roof system.

Standing Seam Roof (360 Seam)

The seaming process is field rolled-form 360degree by Hand Seam and Electric Seamer machine.

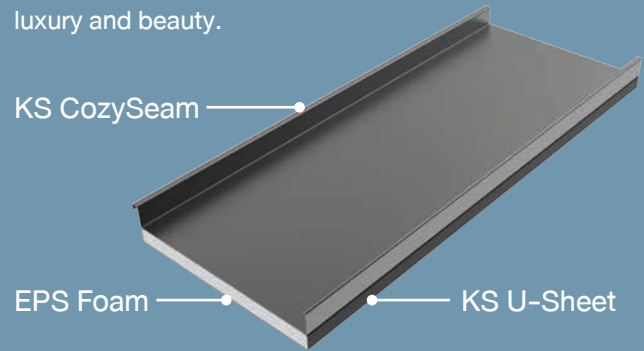


Step 1: 180 degree seaming

Step 2: 360 degree seaming

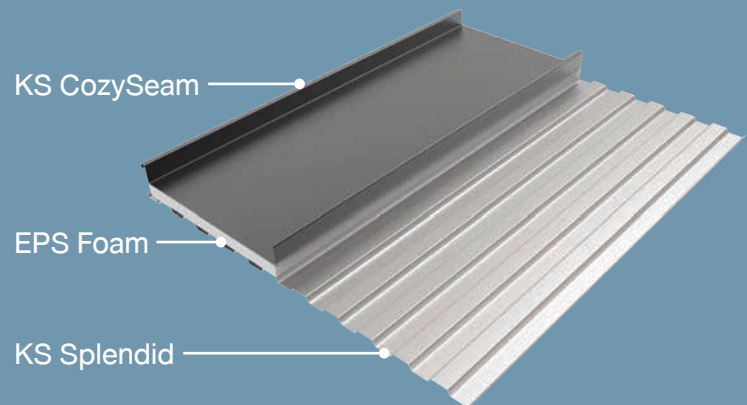
Type 1 :

KS CozySeam Sandwich type 1 is a smooth type with ready-made insulated roof panel from the factory or known as Composite Roof System where the bottom panel is a KS U – sheet steel ceiling which has smooth surface gives luxury and beauty.



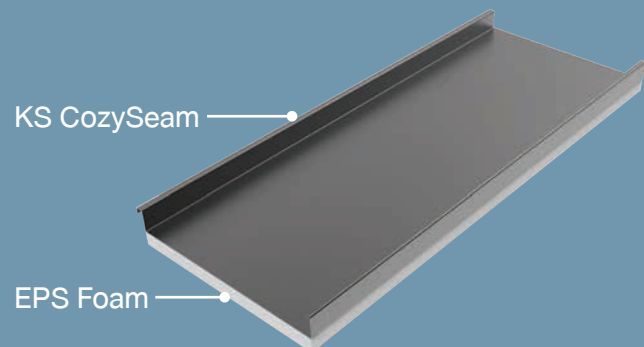
Type 2 :

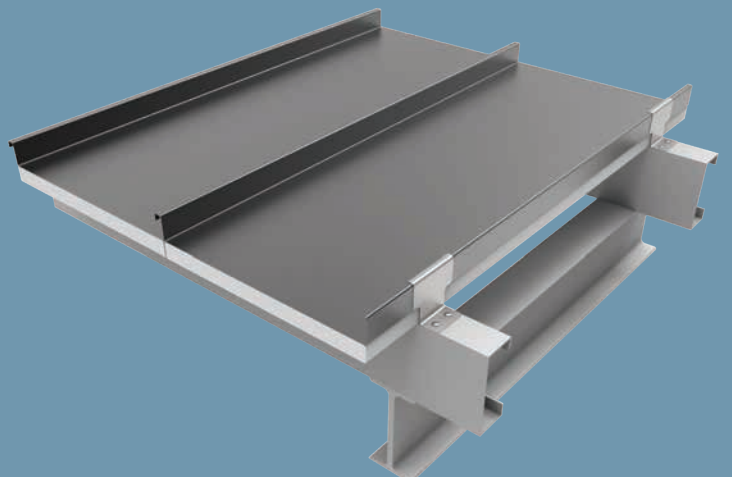
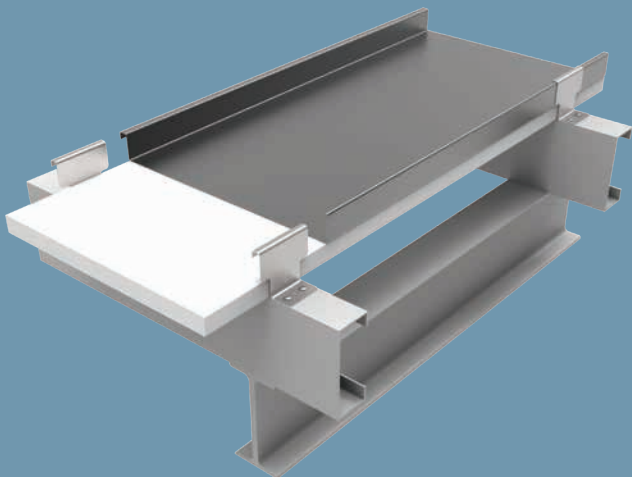
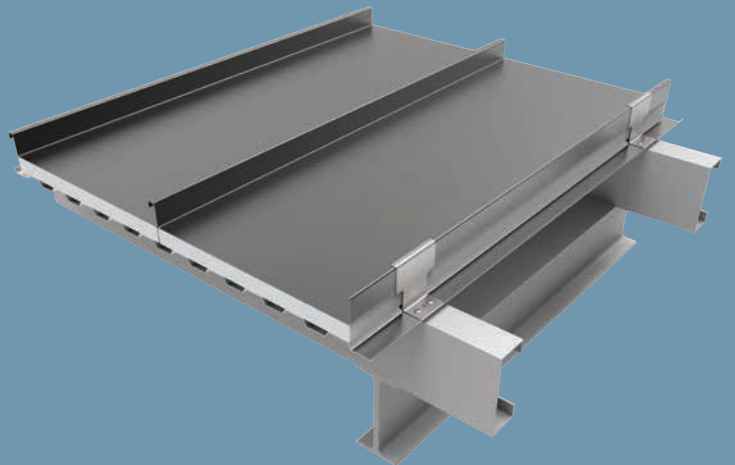
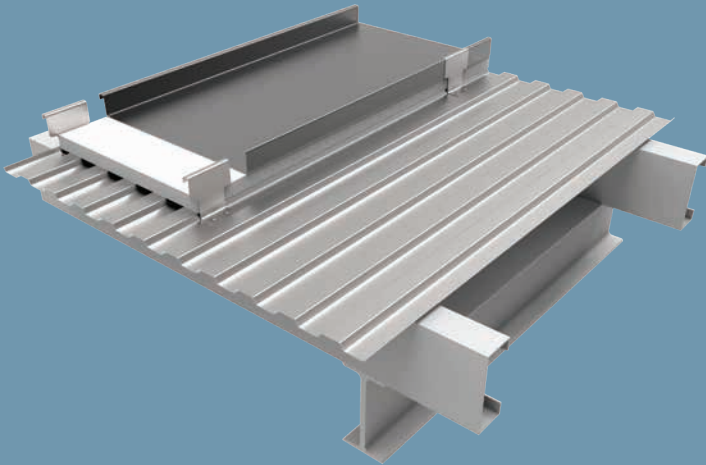
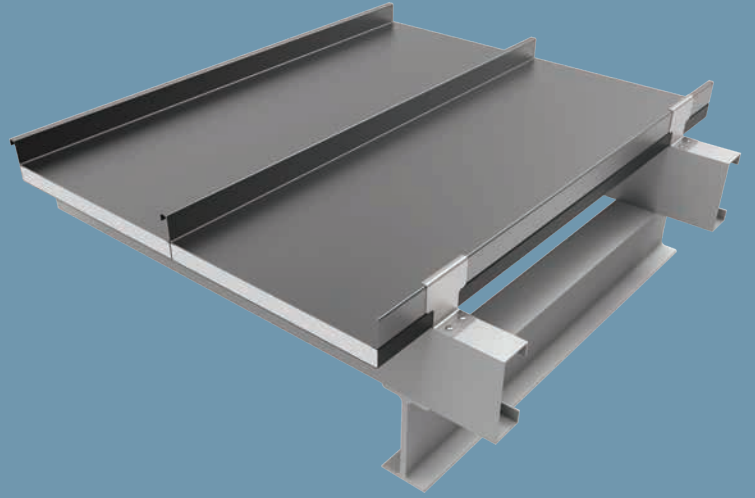
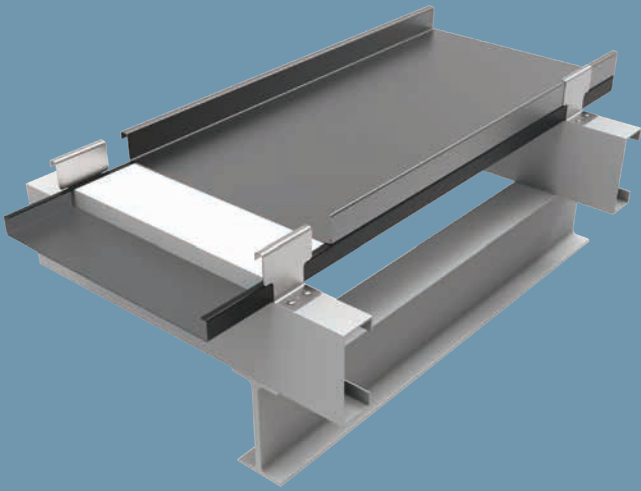
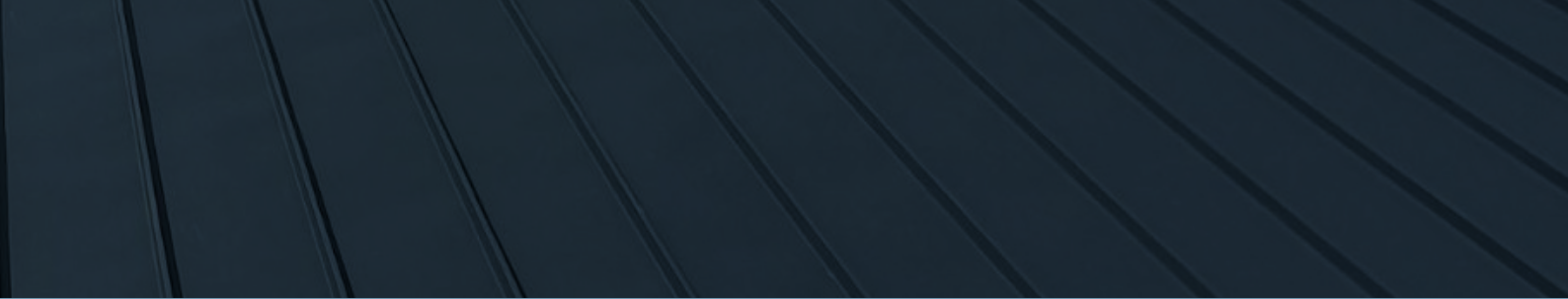
KS CozySeam Sandwich type 2 is a corrugated type, where the bottom panel is a KS Splendid steel ceiling, which has a shallow corrugated like battens that gives warmth.



Type 3 :

KS CozySeam Sandwich type 3 is a type without bottom steel panel, bottom panel is EPS insulation. (Recommended purlin spacing is 0.6 meters at 1 inch EPS foam thickness)

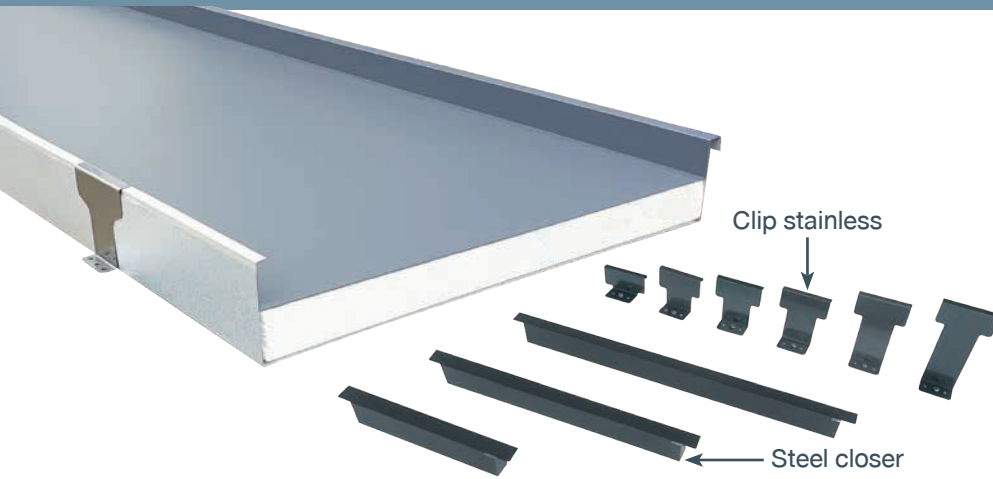




KS CozySeam

Roof Sandwich Panel

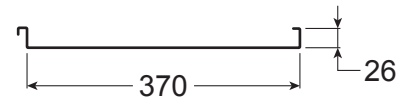
KS CozySeam Roof Sandwich Panel or Composite Roof System is composed of roof sheet on the top panel and the ceiling on the bottom panel with the insulation in the middle panel installed from the factory like a sandwich. Place the Roof Sandwich Panel over the purlins to increase airy comfort, beauty, modern and reduce the concerned regarding the heat and noise Including the watertightness improvement by 360degree seaming, the fasteners don't pass through the roof which make comfortable living and cooling inside the houses and buildings.



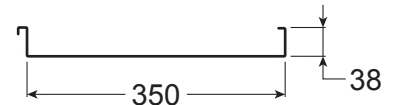
KS CozySeam

Standard width

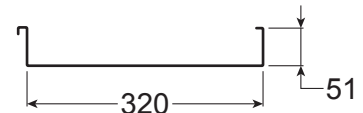
KS CozySeam26



KS CozySeam38

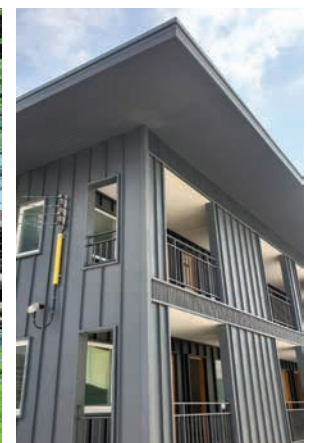


KS CozySeam51



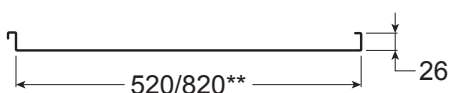
KS CozySeam is a high quality, beautiful, modern roofing system with a wide and smooth panel.

Profile cover width	Available form 200 - 835 mm.
Profile Rib height	26, 38 and 51 mm.
Total coated thickness	0.50 - 0.63 mm
Minimum Yield Strength	550 MPa (G550)
Min. Roof slope	2 degree

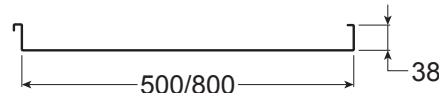


Special width as request*

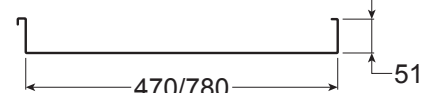
KS CozySeam26



KS CozySeam38

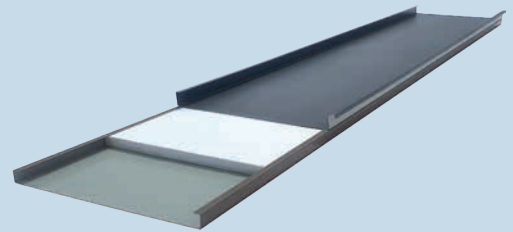
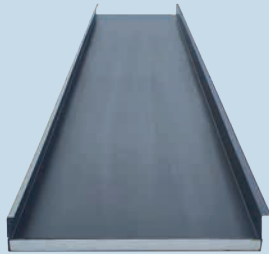
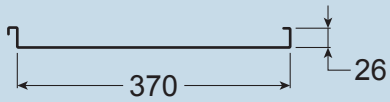


KS CozySeam51

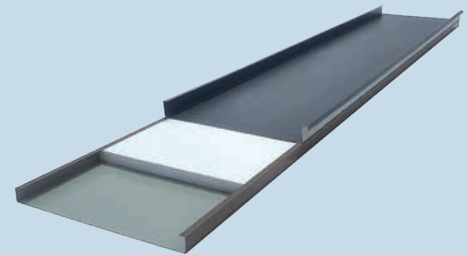
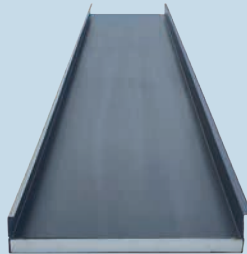
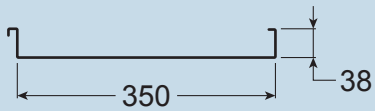


Note: * Min. order 20 tons for special width
 ***Cover width 820 mm. for wall only

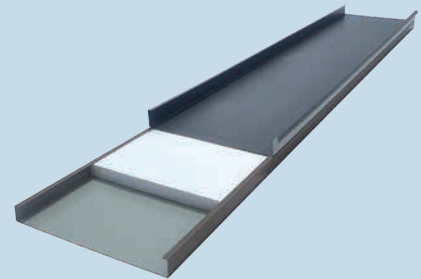
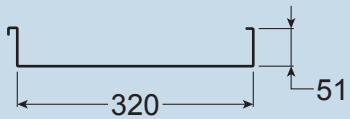
KS CozySeam26 Sandwich
Cover width 370 mm.



KS CozySeam38 Sandwich
Cover width 350 mm.



KS CozySeam51 Sandwich
Cover width 320 mm.



Bottom panel is the dropped ceiling in itself.

SPECIFICATION & TECHNICAL DATA



Good Sound Protection



Acoustic Roofing System STC (Sound Transmission Class)

Acoustic Roofing System STC (Sound Transmission Class) represents sound absorption from the source room transmit through the sandwich panel in the receiving room, it is measured transmission sound pressure levels in decibels (dB). The high value of STC indicate the better of sound absorption. KS CozySeam Sandwich Panel obtained STC 34 for the 1.0" thickness EPS foam at a density of 1.5 lb/ft³, resulting in good noise sound absorption.

STC and understanding of the conversation of the other side

STC	The understanding of the conversation of the other side
30	Reduce the loudness of the normal conversation - still understand the conversation content
40	Moderate soundproofing for normal conversation - do not understand the conversation content
50	Reduce the loudness of the argument - still understand the conversation content
60	100% Soundproofing of the argument

Good Heat Protection



Composite Roof System (KS CozySeam Roof Sandwich Panel) with thermal conductivity (K-Value) and thermal resistance (R-Value) obtained from the following tests:

Thermal conductivity (K-Value)	Low thermal conductivity at 0.035 W/m.K (ASTM C518)
Thermal resistance (R-Value)	Good thermal resistance, at R 1.11 m ² .K/W

Remark:

1. Tested with HFM 436 Machine, Heat Flow Meter Test in Composite Roof System 1" thickness EPS foam at 1.5lb/ft³ density.
2. The heat protection will be improved when more thickness and more density.



Roof Curve	Min. Radius of curve (m.)
Smooth curve	1.50
Sprung curve	40.00



Good watertightness



Recommended Max. roof length for drainage (L, m)

Peak rainfall intensity (mm/hr)	Roof slope (degree)		
	2	3	5
KS CozySeam26 Sandwich Panel (W370)			
250	26	30	36
300	21	25	30
350	18	21	26
KS CozySeam38 Sandwich Panel (W350)			
250	72	84	101
300	60	70	84
350	52	60	72
KS CozySeam51 Sandwich Panel (W320)			
250	128	148	178
300	105	123	148
350	90	105	128

Remark : Safety factor = 2.0

Technical Properties table



Roof Sandwich Panel's Properties (Type 1)

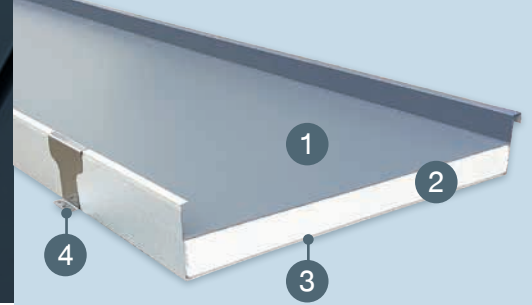
System property	Type1	Type1
Profile width (mm.)	350	500
Profile Rib height (mm.)	38	38
Steel thickness(BMT)(mm.)	0.42	0.42
Profile weight (kg/m ²)	4.46 (ZA)	4.16 (ZA)
	4.53 (CB)	4.23 (CB)
Acoustic Roofing System*	STC34	STC34
Roof Sandwich Panel		
• Top panel	KS CozySeam38	KS CozySeam38
• EPS Insulation	25-100 mm thk	25-100 mm thk
• Bottom panel	KS U-sheet	KS U-sheet
Total Panel Height (mm.)	58 - 138	71 - 171
Panel Purlin spacing recommend** (mm.)	1500	1500
Min. Roof Slope (degree)	2°	2°

Note : * Roof sandwich with EPS 25 mm. thk and 2 pcs. of cement board 12 mm. thk

** Safety span for wind uplift pressure and uniform load (แรงลมและการกดทับ / ช้อมน้ำหนัก)

KS CozySeam38 Sandwich Panel

Safe walk Long span (Only uniform load)



Safe walk on span for Roof Sandwich Panel (only uniform load)
Maximum purlins spacing for safe working (include for maintenance)

KS CozySeam38 Sandwich Panel (Type1)			
EPS thickness (mm)	Safe walk on span of each panel (mm)*		
	width 350	width 500**	width 800**
25 (1")	3000	3500	4000
38 (1.5")	4000	5000	4500
50 (2")	5000	5900	5000
70 (3")	5900	5900	5500
100 (4")	5900	5900	5500

Note : * Refer ACI standard code, Safe span from Testing is based on single span with **uniform load of 90 kg/m²** with deflection is limited to L/150 and Safety factor is more than 1.67 for safety load

** Special panel on request

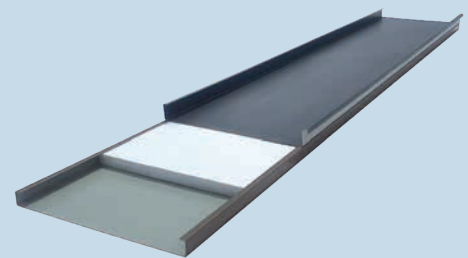
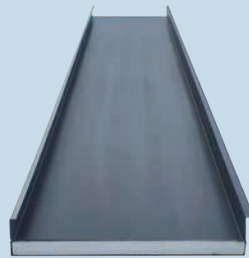
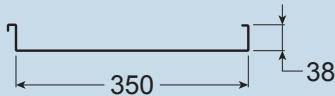
KS CozySeam Roof Sandwich Panel (Type 1)

- 1 KS CozySeam : Top panel
- 2 EPS Foam : Insulation Core
- 3 Bottom panel
- 4 Stainless Clip

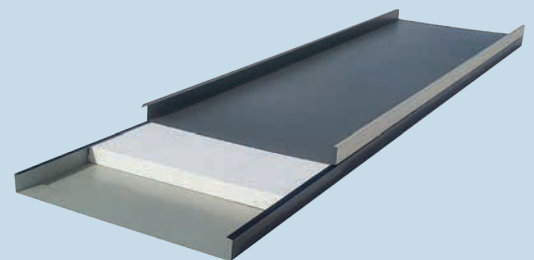
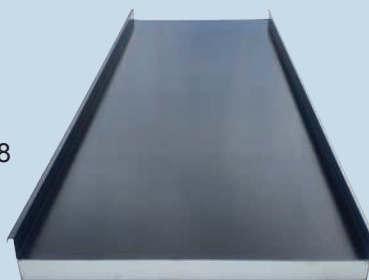
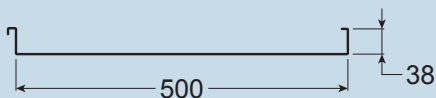
EPS Foam Insulation Core

Expanded Polystyrene Foam is high quality insulation (Self-Extinguish Grade), can be recycled. Heat and noise protection with low thermal conductivity (K-value); thickness 1-4 inches, density of 1.5-2 lb/ft³ resulting in good Compressing Strength, increasing and improving the strength of the roof system.

KS CozySeam38 Cover width 350 mm.

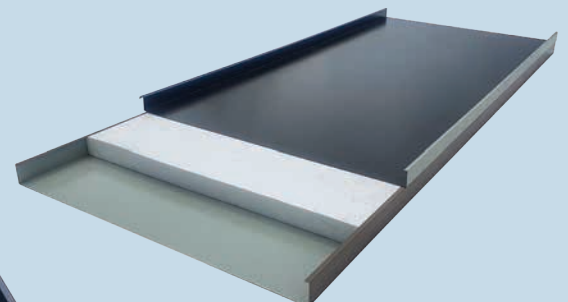
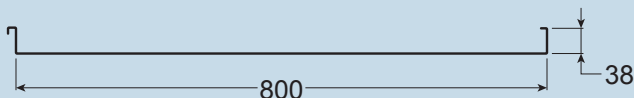


KS CozySeam38 Cover width 500 mm.**



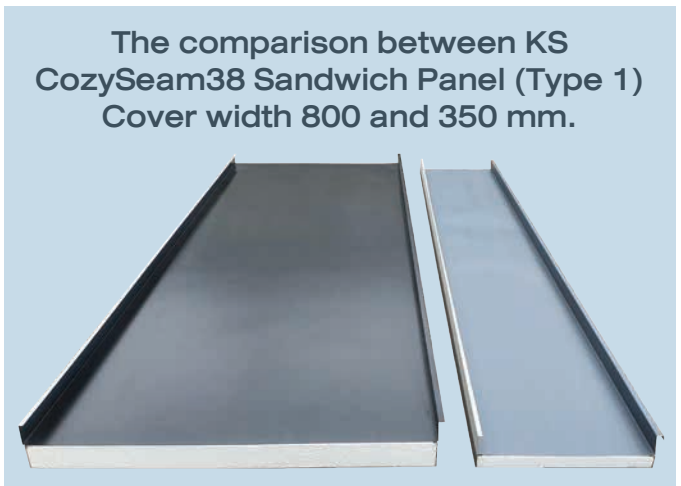
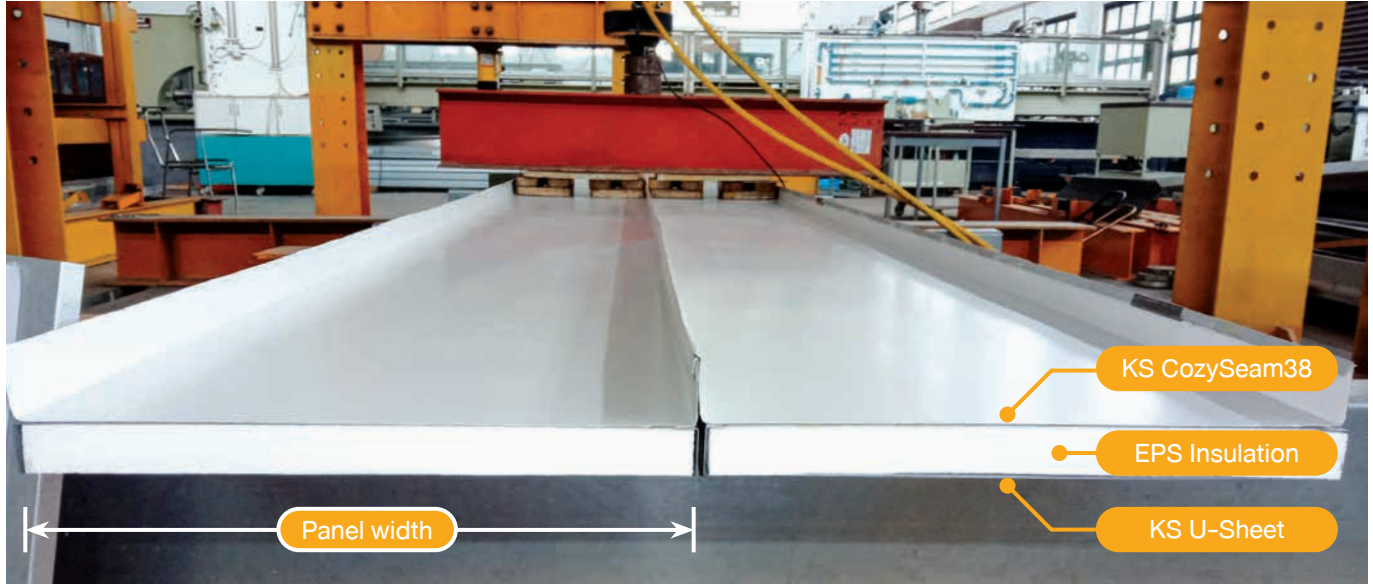
** Special panel on request

KS CozySeam38 Cover width 800 mm.**



** Special panel on request

Flexural Test for KS CozySeam Sandwich Panel



ROOF SYSTEM INSTALLATION

Sandwich roof system Installation Method

Preparation: Check the overall structure before installing to ensure that it is in ready-to-install condition including purlin structure and wall structure.



Installation method for KS CozySeam Roof Sandwich Panel



1. Fix the first set of CozyClip in every purlin



2. Place the first Sandwich Panel over the CozyClip properly



3. Fix the second set of CozyClip in every purlin



4. Engage the panel and first set of CozyClip by Hand Seam



5. Place the second Sandwich Panel and fix the third set of CozyClip



6.1 Seam with Hand Seam at the edge of each Sandwich Panel



6.2 Seam with Electric Seamer at the edge of each Sandwich Panel

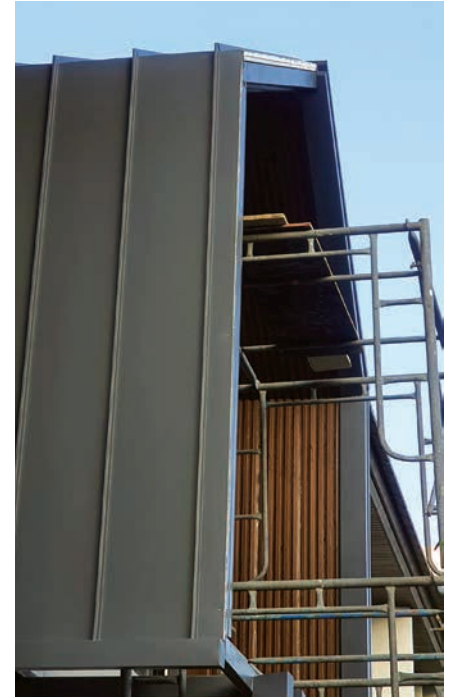


7. Continue fixing next CozyClip and Sandwich Panel until the last panel



NORDIC ROOF STYLE

Nordic Roof Style is a signature style of Scandinavian visual culture, for traditional standing seam roofing and siding, represents the beauty and unique.



Special Detail

Installation details from the standing seam roof to the wall panel is a continuous line as follows:



1. Install wall structure



2. Specifications of Nordic style wall panels



3. Fix CozyClip



4. Fix the next wall panels



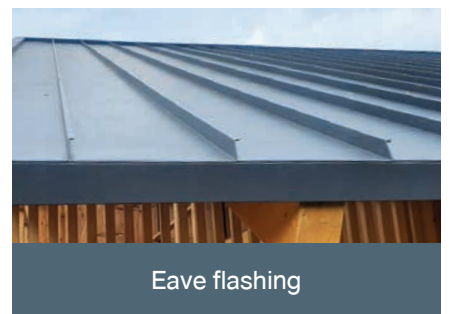
5. After installing the wall panel

SPECIAL FLASHING DETAIL (Hidden screw)

Flashing Hidden Screw (Concealed-fixing)

After installation the roof and wall panel (include facade), proceed to place flashing. Flashing hidden screw finished and elegant look for Sandwich Panel and also prevent leakage.

Detail Flashing Hidden screw



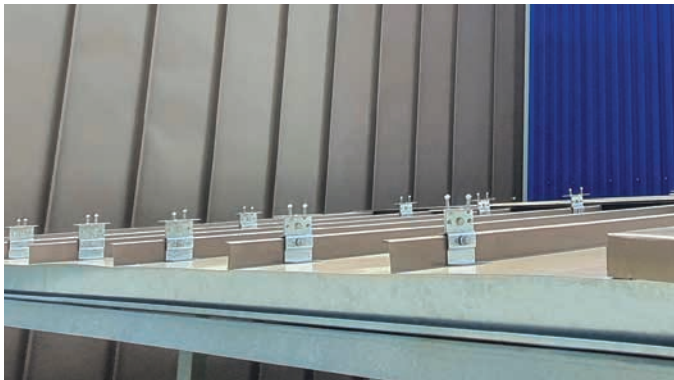
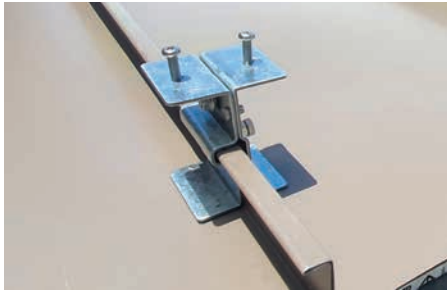
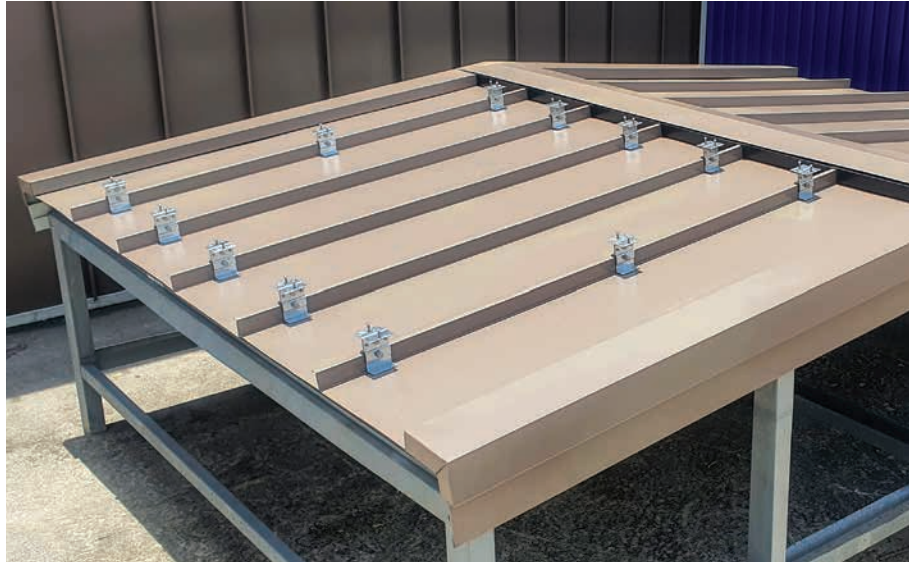
DETAIL OF ROOFTOP PROTECTION CLIP

Rooftop Protection Clip for KS CozySeam

Rooftop Protection Clip

Rooftop Protection Clip holds firmly, strong, durable and does not cause roof leaks because no puncture required with KS Group's special designed to match with all profiles. Beyond the metal sheet roof, the "Rooftop Protection Clip" can be installed with Solar Panel clip also.

- SolarPanel clip
- LightningRod clip
- SafetyRooftop clip
- Various rooftop fixing clips



ACCESSORIES & TOOL

Hand Seam 180, 360



Hand Seam

Hand Seam is the process. before using the Electric Seamer.

Electric Seamer 180, 360



Electric Seamer

The Electric Seamer is for sealing roof and wall sheets with a seam-pressing machine which is powered by electricity and has a castor system, it provides a high precision in order to firmly hold the sheet and stronger excellent waterproofing.

WALL SYSTEM INSTALLATION

Installation method for KS CozySeam Wall Sandwich Panel



1. Fix the first set of CozyClip in every wall structure



1
Water Level Gauge

2. Place the first Sandwich Panel over first CozyClip, keep the wall perpendicular by using the Water Level Gauge



3. Fix second set of CozyClip in every wall structure



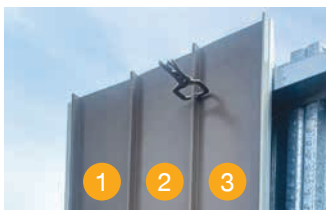
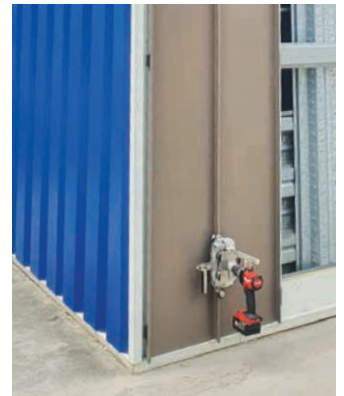
4. Engage the panel and first set of CozyClip by Hand Seam



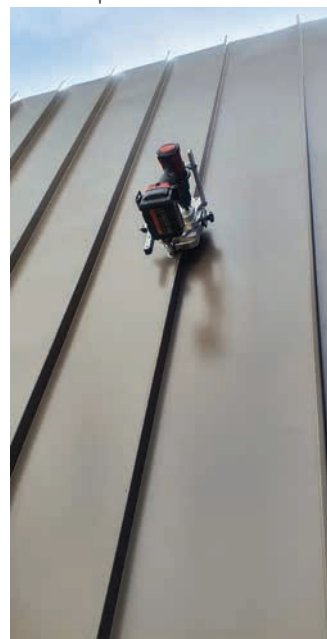
5. Place the second Sandwich Panel and fix third set of CozyClip



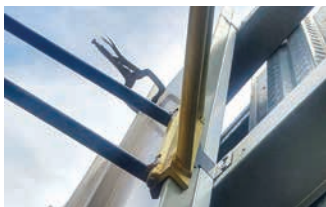
6. Seam with HandSeam and Electric Seamer at the edge of each panel



7. Install next Sandwich Panel and CozyClip



8. Continue fixing next CozyClip and Sandwich Panel until the last panel



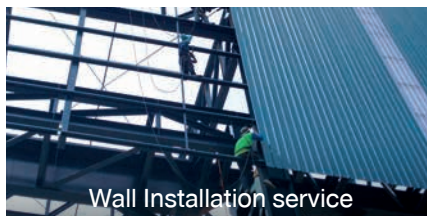
SERVICE

KS Group has expertise (has specialized) in metal sheet roofing system over 20 years. We provide the manufacturer and distribution of premium quality steel products which complied with the international standards and installation work by professional team. We continuously develop our innovative products and services under safety working and certified quality not only at the factory but also construction site.

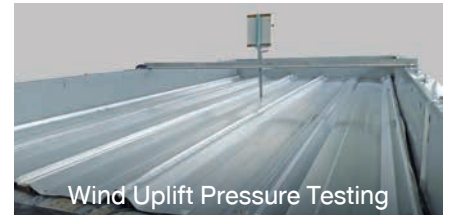
Transport and packing



Installation



Testing



RAW MATERIAL

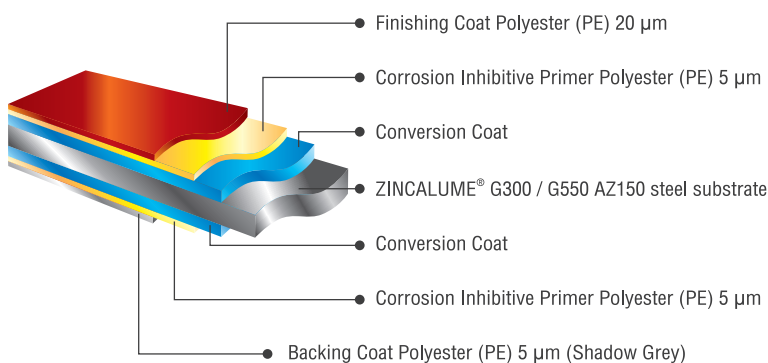
100% RAW MATERIAL
by NS BlueScope (Thailand) Limited



เบอร์. 2228-2559
เบอร์. 2753-2559

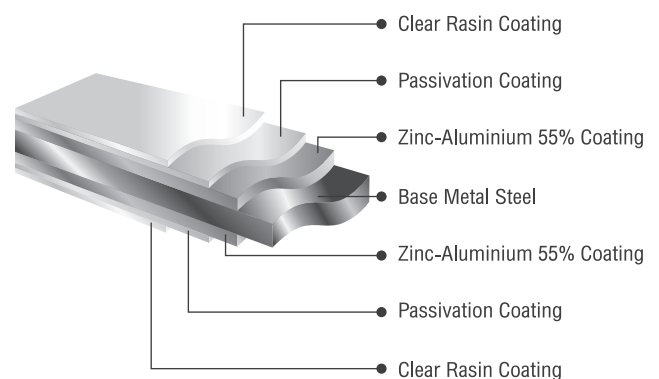
Colorbond®

COLORBOND® steel Layer



Zincalume®

ZINCALUME® steel Layer





STP Engineering & Supply Ltd.

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Bang Bo District, Samut Prakan 10560

Tel +66 65 385 5245, +66 65 385 5248

Production Plant :

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