

The Final Choice of Professional

# ARCHITECTURE PANEL SYSTEM



# Step by step with technology and trust Now, to the world, beyond the best name in Korea

No. 1 market share of exterior panel for construction in Korea for 10 consecutive years

SY has secured a matchless market dominating power in the middle of recent paradigm change in functionality and eco-friendly construction, by establishing production and distribution systems making it possible to supply the products in one hour nationwide, through establishing 8 corporations and 16 business sites in Korea.

To become a world's best specialized enterprise for construction materials, beyond Korea, we are vitalizing diverse new businesses through consistent technology development, and accelerating the expansion to overseas by establishing corporations in Vietnam, Indonesia, Cambodia and Nepal.

# CONTENTS

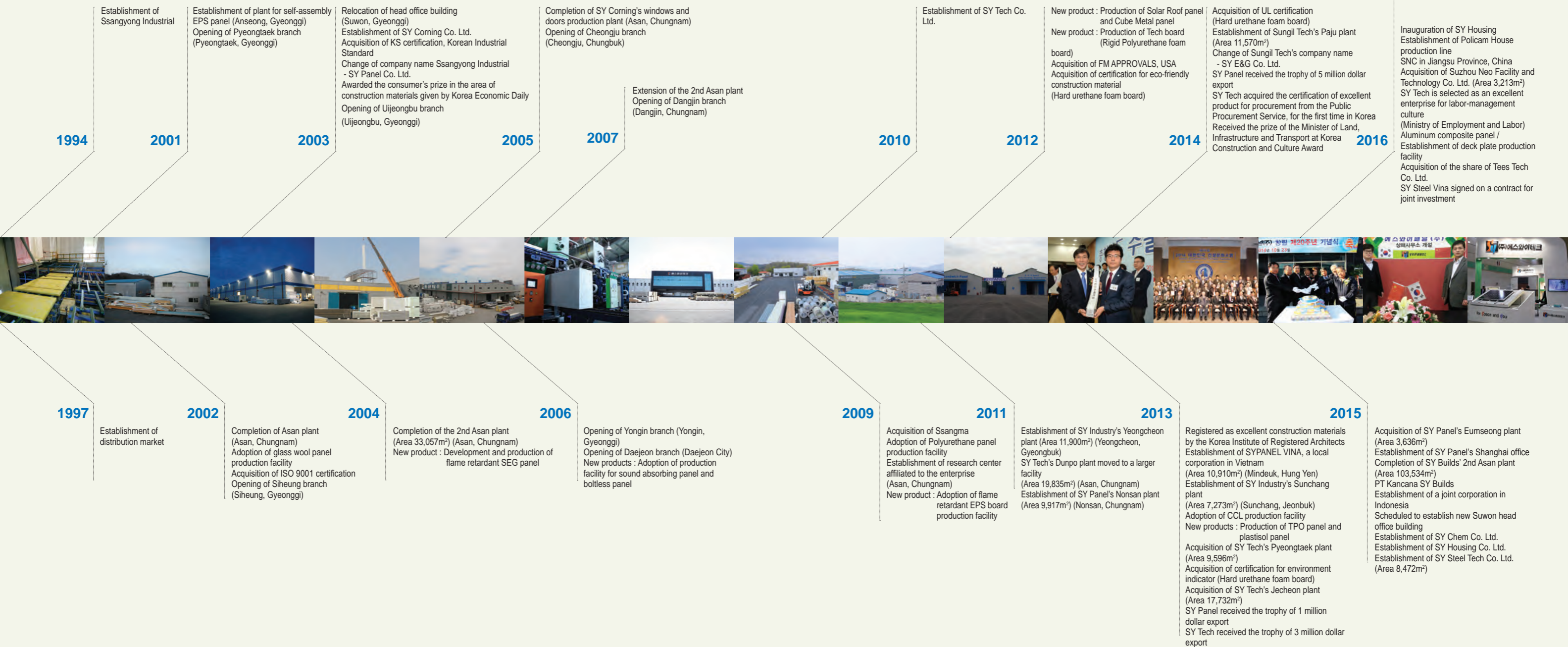
HISTORY	4
FACTORY & BUSINESS DIVISION	6
SY PRODUCTS	8
COLOR SHEEL SHEET	10
SINGLE-PE FOAM SHEET	13
COLOR INDEX	14
SSR 400 ROOF PANEL SYSTEM	16
TECH METAL PANEL	18
CUBE METAL PANEL	22
NEW SOLAR ROOF PANEL	24
TPO PANEL SYSTEM	26
POLYURETHANE PANEL	30
GLASSWOOL PANEL (MINERALWOOL PANEL)	40
ACOUSTIC PANEL	52
CLEANROOM PANEL	54
EPS PANEL	58
ALUMINUM COMPOSITE PANEL	68
DECORATION PANEL	70
TECH BOARD	74
FIRE DOOR	76
WINDOW	78
DECOTILE	80
DECK PLATE	82
PEB SYSTEM	86
SY CHEMICAL	88
FLASHING SUB MATERIAL	89
POLYCAM MODULAR	90

# CORPORATION HISTORY

SY Group, established in 1994, is a specialized enterprise for integrated construction materials, and it produces all the construction materials and raw materials including the exterior panels for construction, windows and subsidiary materials, insulators, color steel plates, H beams, deck plates, aluminum composite panels, interior and exterior materials for construction and chemical stocks.

As we have expanded to the panelizing type advanced modular house business, where SY's capability is concentrated, since 2016, we are getting closer to the customers with diverse portfolios.

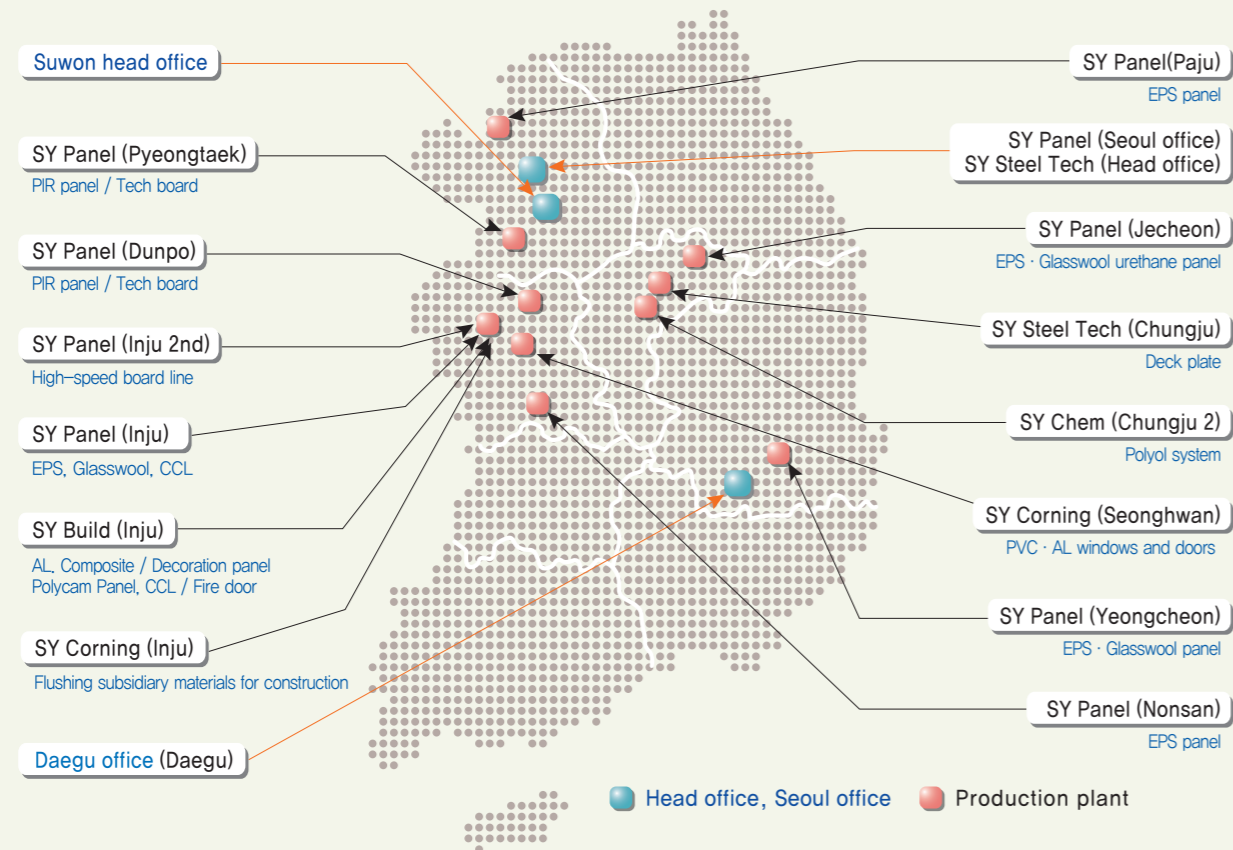
**We will be a newly changing and challenging enterprise which contributes to the society and country.**



# FACTORY & BUSINESS DIVISION

## Securing the largest nationwide production & distribution network

Operating 8 corporations and 16 business sites in Korea, and 4 overseas corporations



## Exporting to 18 countries around the world / establishing a base for expansion to Asia

SY PANEL VINA, plant in Mindeuk, Hung Yen, Vietnam / SYSTEEL VINA, plant in Ho Chi Minh

SY PANEL Shanghai, Shanghai office, China / SNC, Suzhou plant, Jiangsu province

PT Kencana SY Build, Tanglang plant, Indonesia



## SY's domestic and overseas production plants



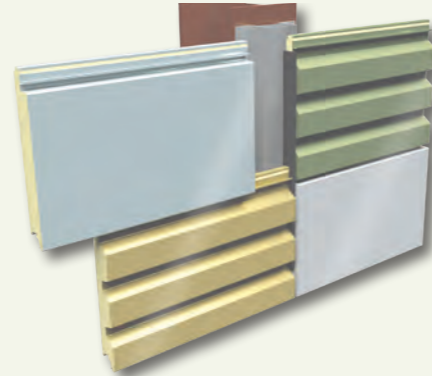
# SY PRODUCTS

## WALL PANEL

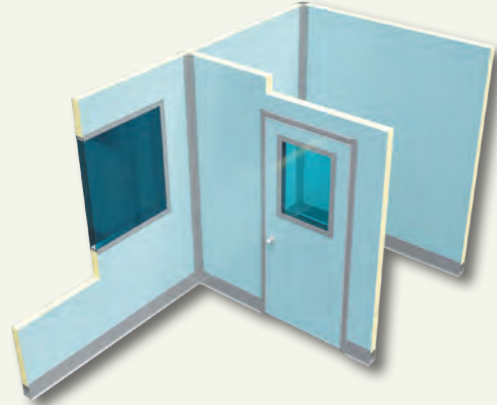
Metal panel



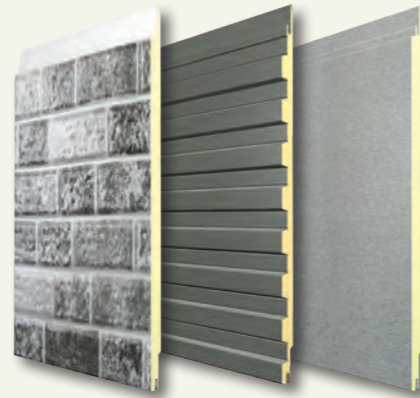
Cube metal panel



Clean room panel



Decoration panel



Zinc panel



SB 2T panel



SB wall panel



Siding panel

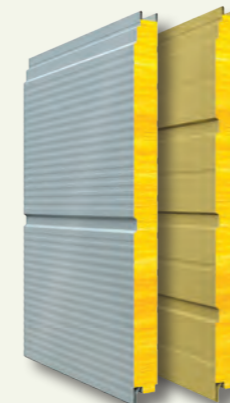


## WALL PANEL

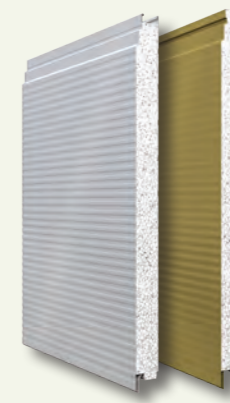
PIR panel



Glasswool panel



EPS panel

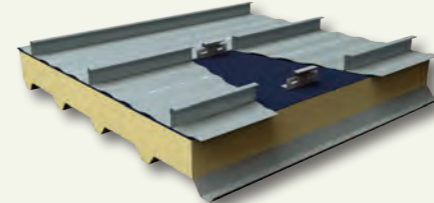


SEG panel

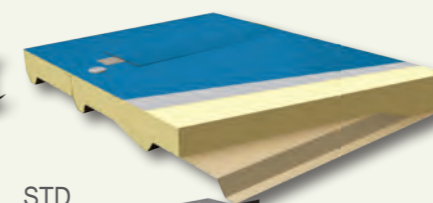


## ROOF PANEL

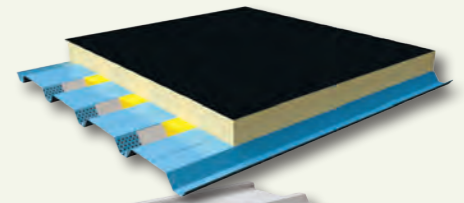
SSR 400



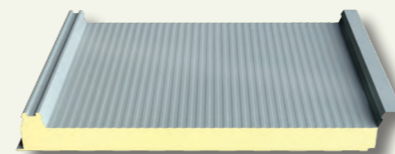
STR



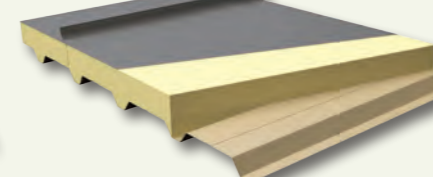
Sound absorption panel



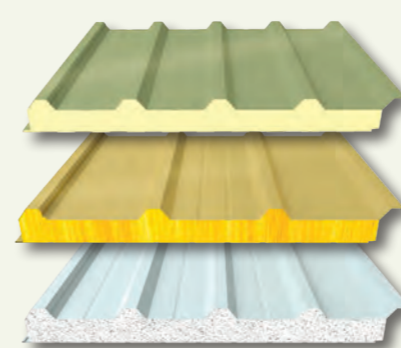
New Solar roof Panel



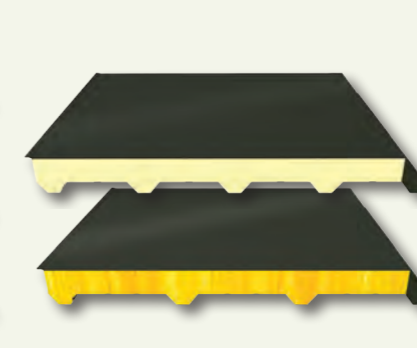
STD



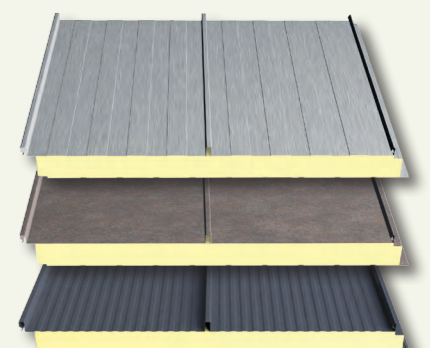
Roof panel



Deck panel



Zinc panel



# COLOR STEEL SHEET

### Characteristics

#### Securing property of matter

It has an excellent physical and chemical stability realized by its excellent durability, and we use eco-friendly materials only (No PVCs)

#### Satisfaction with exterior

It boasts of clear PTTN texture realized by its high-definition exterior (HIGH-GLOSSY), and maintains a clean surface for a long period of time.

#### Price competitiveness

It has a COST DOWN effect realized by replacing PVC with other high-gloss materials.

### PCM - (Pre-Coated Metal)

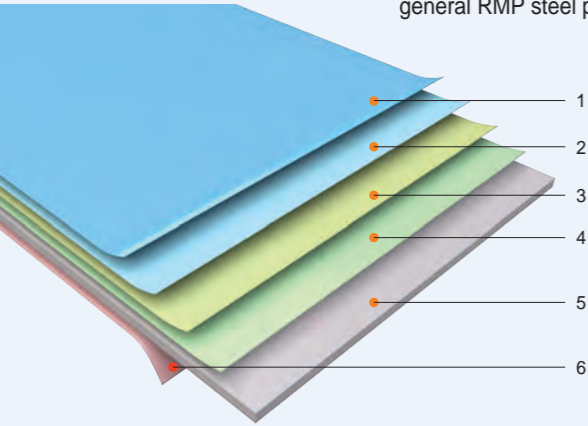
It is a universally used color steel plate made by drying the steel plate in high temperature, after coating it with polyester resin paint which has excellent durability.

It is widely used as a general exterior material for building, and for electronic appliances which demand high machinability  
**RMP(Regular Modified Polyester)steel plate** : Generally used mono-color steel plate for exterior material of buildings.

Its color and gloss are adjustable, while having a moderate level of durability.

**HPP(High Polymer Polyester)steel plate** : A steel plate made by using the paint for Deep Drawing which demands high machinability among the polyester resin paints, and it is mainly used for home appliances such as refrigerator, washing machine and microwave oven.

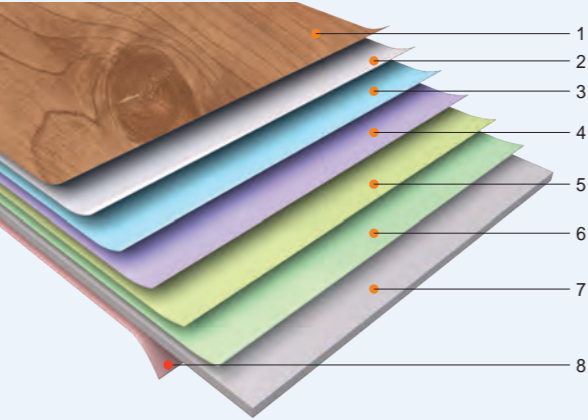
It is possible to realize an excellent quality due to its high machinability comparing to the general RMP steel plates.



NO	Structure	Material	Thickness
1	PROTECTIVE FILM	POLYETHYLENE	50~60 $\mu$ m
2	TOP COATING	HIGH POLYMER / REGULAR POLYESTER	10~20 $\mu$ m
3	PRIMER	EPOXY	5 $\mu$ m
4	PRE TRETMENT	CHROMATE	1 $\mu$ m
5	BASE METAL	EGI, CR, GL, AL	0.20~0.8T
6	BACK COATING	EPOXY	5 $\mu$ m

### PRINVILL (Printed steel plate)

PRINVILL is the one produced to break the monotony of the existing products by providing the steel plate with diverse colors and patterns through a special printing method (GRAVURE-OFF SET)

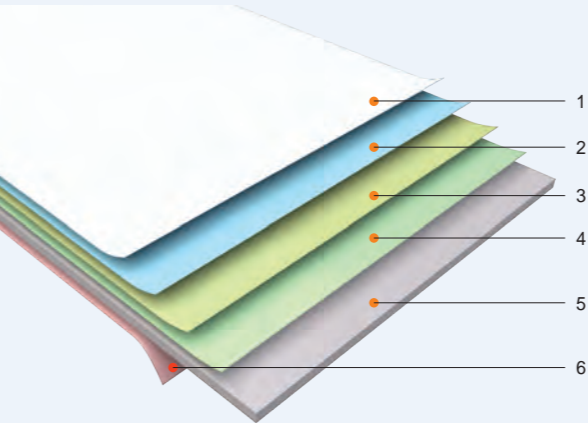


NO	Structure	Material	Thickness
1	PROTECTIVE FILM	POLYETHYLENE	50~60 $\mu$ m
2	CLEAR	POLYESTER	5~10 $\mu$ m
3	PRINT	POLYESTER	1~7 $\mu$ m
4	BASE	POLYESTER	15~20 $\mu$ m
5	PRIMER	POLYESTER	1 $\mu$ m Below
6	CONVERSION TREATMENT LAYER	CHROMATE	1 $\mu$ m
7	MATERIAL LAYER	GR, EGI, CR, GA, AL	0.20~0.8T
8	BACK	EPOXY	3~5 $\mu$ m

### VCM (Vinyl Coated Metal)

It is a color steel plate expressing high-class elegant texture realized by attaching PVC films with diverse patterns and colors to a steel plate.

Due to its excellent machinability, durability, corrosion resistance and anti-dust property, it is used as a steel plate for home appliances such as refrigerator, washing machine and air conditioner.



NO	Structure	Material	Thickness
1	PROTECTIVE FILM	POLYETHYLENE	50~60 $\mu$ m
2	FILM	PVC / PET	100~180 $\mu$ m
3	ADHESIVE LAYER	ACRYL	5 $\mu$ m
4	PRE TREATMENT	CHROMATE	1 $\mu$ m
5	BASE METAL	EGI, CR, GI, AL	0.20~0.8T
6	BACK COATING	EPOXY	5 $\mu$ m

# COLOR STEEL SHEET

Property table of PRINVILL steel plate

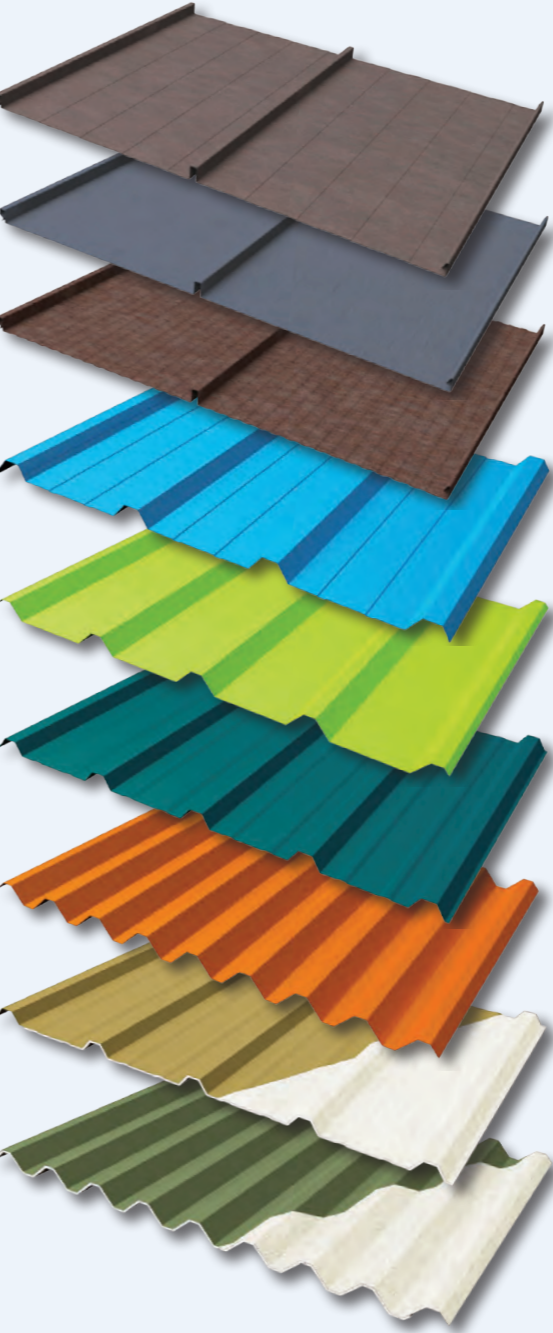
TEST ITEMS		SPEC		TEST CONDITION	REMARKS
Color		Naked Eyes		Visual Test	Within Standard
Gloss		High	80% ↑	Gloss Meter (60°)	
		Semi	40~80%		
		Non	40% ↓		
Pencil Hardless		HB ↑		UNI-PENCIL (500g)	
Coating Thickness (μm)		Top	30±3μm	Elcometer	
		Back	5±2μm	Elcometer	
1st Physical Property Test	Erichsen	100 / 100		1mm x H100 x Erichsen 6mm	Taoong Compulsory /Natural peeling off (Perfact 100 / 100)
	Impact	No Peel Off		500g x 50cm	
2nd Physical Property Test	Erichsen	100 / 100		1mm x H100 x Erichsen 6mm	Taoong Compulsory /Natural peeling off (Perfact 100 / 100)
	Impact	No Peel Off		500g x 50cm	
Bending		2T No crack		25±5℃ x bending 180°	
Heat Resistance		ΔE <2.0		170℃ x 1Hr	
M.E.K Rubbing		No Peel Off		M.E.K Rubbing (30 ↑)	
Contamination Resistance	Magic	No Mark		20±2℃ x 24hrs (Acetone)	
	Lipstic				
Chemical Resistance		5% HCL 5% Nach Toluene Xylene	No Blister	20±2℃ x 24hrs (Dipping)	
Corrosion Resistance (Salt Spray Test)		No more 2mm blister on the cross-cut side		35±2℃ x 5% NaOH (500hrs)	GI
Weathering		QUV ΔE <2.0		60℃ x 500hrs	

## Examples of application

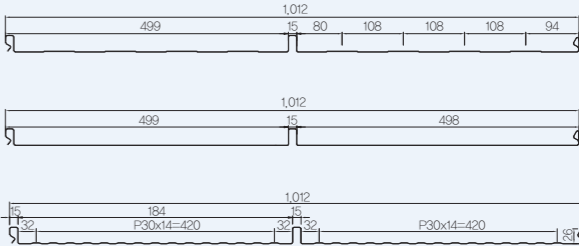
Home appliances: Refrigerator, washing machine, dish dryer, microwave oven  
Construction material: Exterior wall of buildings, fire door of buildings, decoration panel

# SINGLE SHEET & PE FOAM SHEET

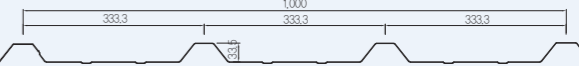
It is possible to be applied to diverse places, such as housing, storage and cattle shed, with diverse forms and colors, and easy to be installed due to its light weight.



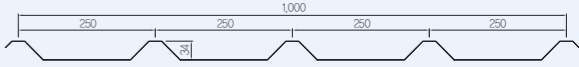
## Zinc formed steel plate



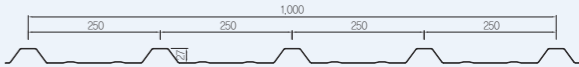
## Formed steel plate V333, Jecheon plant



## Formed steel plate V250, Jecheon plant



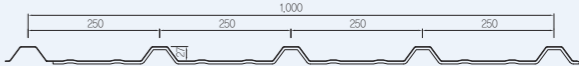
## Formed steel plate SR250, Nonsan plant



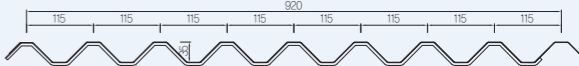
## Formed steel plate V115, Nonsan plant



## PE foam SR250, Nonsan plant


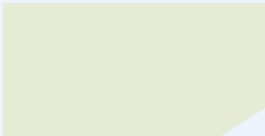








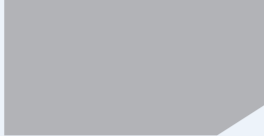


## PE foam V115, Nonsan plant



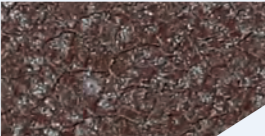



# SY COLOR INDEX

## Standard Color





			
C-815 (Silver gray)	P-304 (Ivory)	P-133 (Brown)	P-105 (Orange)
			
P-411 (Dark green)	P-417 (Green)	P-514 (Blue)	P-529 (Bluish green)
			
P-705 (White)	P-920 (Dark gray)	P-904 (Gray)	

## Prinvil



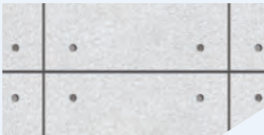

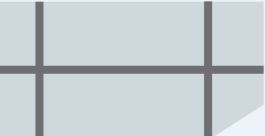



### MATT

			
MATT RED (MATT Red)	MATT R/BLK (MATT Black)	MATT GRAY (MATT Gray)	MATT DGRAY (MATT Dark gray)

### Print(SB wall)

			
SYBM07 (Line metal silver)	SYBM10 (Line metal gold)	SYBMB05 (Metal line gray)	SYBM06 (Metal line gold)

### Print(SB 2T)



			
SYBG01 (Granite55)	SYBG02 (Granite55D)	SYBD01 (Double cone55)	SYBD02 (Double cone55D)
			
SYBM01 (Line metal silver)	SYBM02 (Line metal gold)	SYBMB03 (Metal line gray)	SYBM04 (Metal line gold)

## Prinvil

### Print(Zinc)

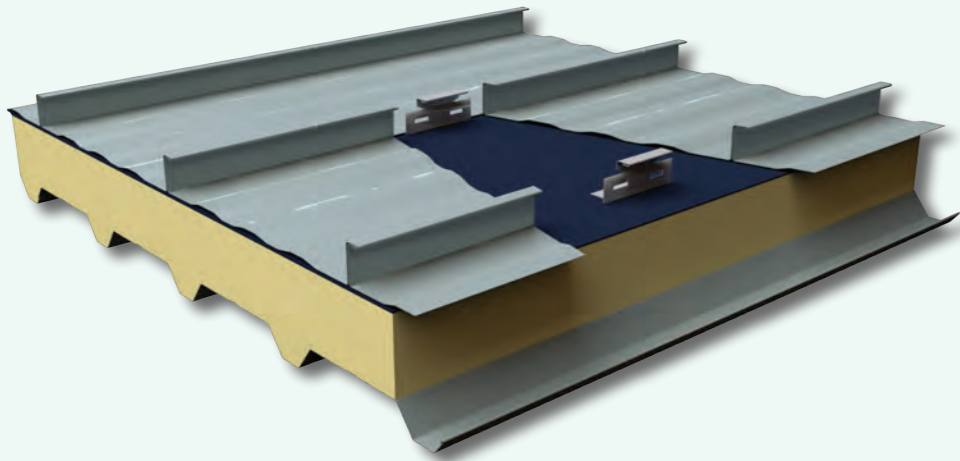
			
SYBZ01 (Metal line black)	SYBZ02 (Real zinc)	SYBZ03 (Metal line gray)	SYBZ04 (Metal line gold)
			
SYBZ05 (Zinc black)	SYBZ06 (Zinc red)	SYBZ07 (Zinc green)	SYBZ08 (Zinc gray)
			
SYBZ09 (Zinc blue)	SYBZ10 (Zinc dark gray)	SYBZ11 (Zinc dark black)	SYBZ12 (Zinc graphite)
			
SYBZ13 (Zinc blue gray)	SYBZ14 (Alu dark green)	SYBC01 (Antique dark brown)	SYBC02 (Antique burnt brown)
			
SYBMB01 (Multi blue)	SYBH01 (Dark hairline)	SYBH02 (Hairline brown)	SYBH03 (Hairline silver)
			
SYBW01 (Wood 4201)	SYBSW01 (Smoky wood-walnut)		

### Print(Stone)

			
SYBS01 (Stone Black)	SYBS02 (Stone Red)	SYBS03 (Stone Brown)	SYBS04 (Stone Wall)
			
SYBB02 (Brick Black)			

# SSR 400 ROOF PANEL SYSTEM

SEAMING SYSTEM prevents panel damage and leakage caused by temperature change, and maintains perfect waterproof performance



**Charactert**

- Using fixed type or sliding clips**  
It is a system connecting panels with sliding clip without fixing them to the structure to cope with the external temperature change
- Adjusting longitudinal contraction and expansion**  
Coping with longitudinal movement by making the roof contracted or expanded according to the change of panel temperature, by using clips inside the panel
- Curved construction possible**  
Possible to create a beautiful building as the construction can be finished in a curve
- Using automatic Seaming machine**  
Using an automatic seamer, it may be constructed with limited manpower, and is easy to maintain by simply replacing caps when repairing
- Perfect waterproof performance**  
No bolts are exposed, and Sealing Tape of panel connection helps to maintain the more perfect waterproof performance

**Specifications (Steel plate)**

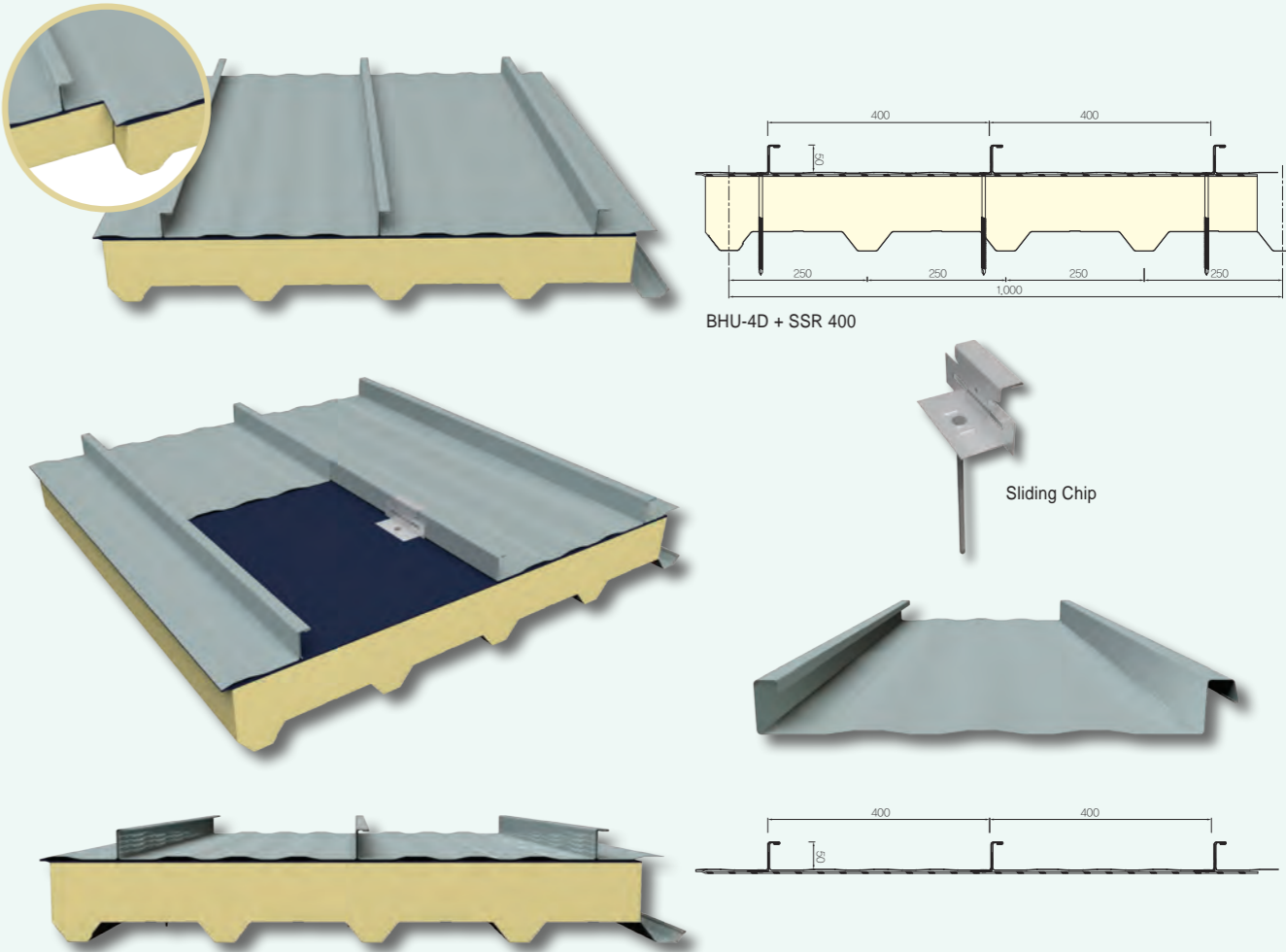
Division	Specifications	
Skin	Exterior	0.5T ~ 0.8T GI
	Interior	
Length	MAX 80 m (On-site production except for transportable length)	

**Specifications (Deck panel)**

Division	Specifications	
Two Side Skin	Exterior	Base Sheet or AL Craft paper
	Interior	0.5~0.6mm GI (0.6T recommended)
Core Insulation	PIR (35~45kg/m³) / Glasswool (48~74kg/m³)	
Width (mm)	1,000 mm	
Thickness (mm)	50, 75, 100, 125, 150 mm / 50, 75, 100 125, 138, 150, 175, 200, 225, 250 mm	

Contact business department for detailed information.

**SSR-400**



Pyeongtaek US Army base

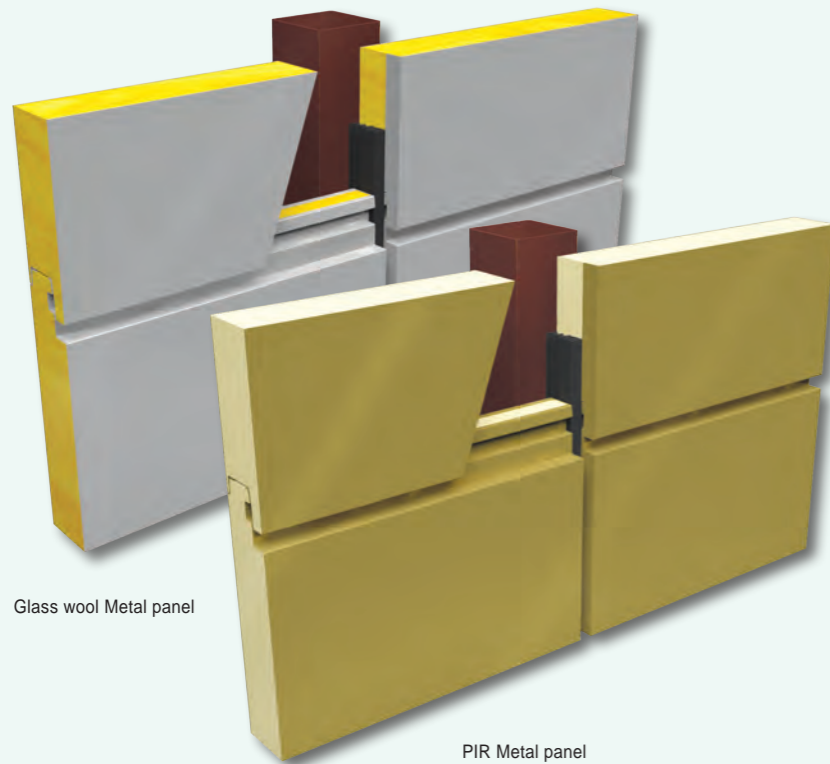


Pyeongtaek US Army base

SSR 400  
ROOF PANEL SYSTEM

# TECH METAL PANEL

Possible to create a clean and modern beauty with a simple construction which is better than that of stone finishing and other wet construction methods, and hard to be expressed by the general sandwich panel



Glass wool Metal panel

PIR Metal panel

## Characteristics

### Preventing internal condensation

Preventing corrosion of structures caused by condensation which is the problem of the existing panels

### Fire safety

Owning accredited flame retardant and quasi-nonflammable performances, and acquiring FM Approvals, an international safety evaluation authentication, it fulfills diverse fire safety standards.

### Creating a beautiful exterior

Possible to create a beautiful exterior in any shape, and refined buildings in a short period of time, at lower cost



Twowin Pharma Co. Ltd. in Osong



Osong Bio-land



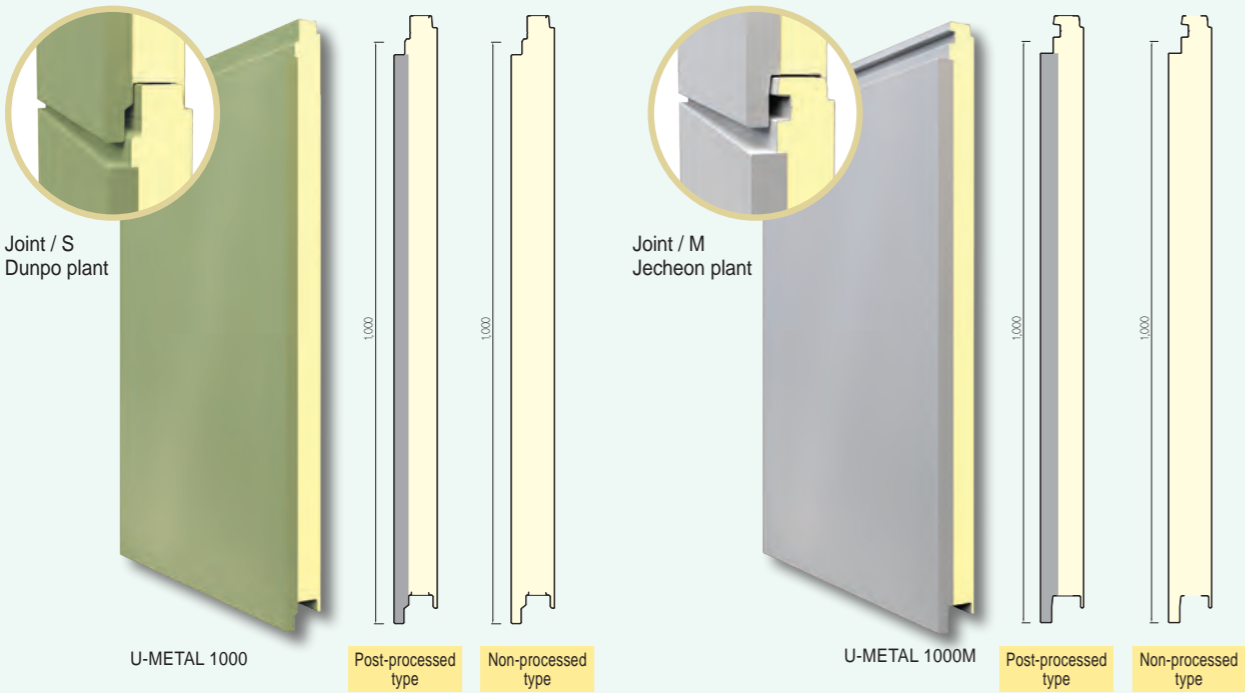
Cheongna World Vision Church



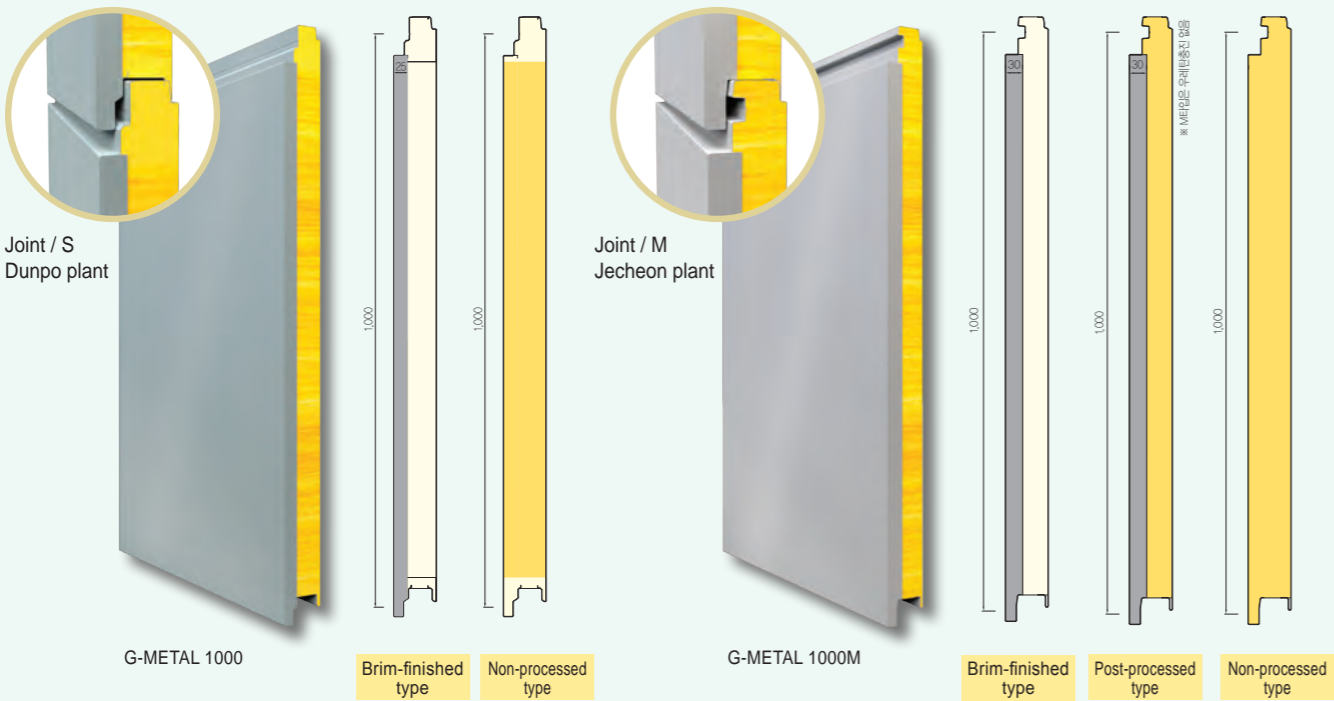
APEC Research Center

# TECH METAL PANEL

## Urethane metal panel U-METAL 1000 / U-METAL 1000M



## Glasswool (Mineralwool) metal pane G-METAL 1000 / G-METAL 1000M



### Specifications - PIR Metal panel

Classification	Specifications	
Skin	Exterior	0.8T PP GI (Fluoride resin / silicon polyester)
	Interior	0.45~0.5T PP GI (Fluoride resin / silicon polyester)
Core Insulation	PIR, PUR (35~45kg/m <sup>3</sup> )	
Width	Joint S	600, 700, 800, 900, 100 mm
	Joint M	500, 600, 700, 800, 900, 100 mm
Recommended length	1,000 ~ 3,000 mm	
Joint length	20mm	
Thickness	50, 60, 75, 100, 125 mm	

Contact the business department for detailed information as there are differences in each product.

### Specifications - Glasswool Metal panel

Classification	Specifications	
Skin	Exterior	0.8T PP GI (Fluoride resin / silicon polyester)
	Interior	0.45~0.5T PP GI (Fluoride resin / silicon polyester)
Core Insulation	Glasswool (48~74kg/m <sup>3</sup> ) / Mineralwool (80~110kg/m <sup>3</sup> )	
Width	Joint S	600, 700, 800, 900, 100 mm
	Joint M	500, 600, 700, 800, 900, 100 mm
Recommended length	1,000 ~ 3,000 mm	
Joint length	20mm	
Thickness	50, 60, 75, 100, 125 mm	

Contact the business department for detailed information as there are differences in each product.



Agro-fishery product distribution center in Samsong



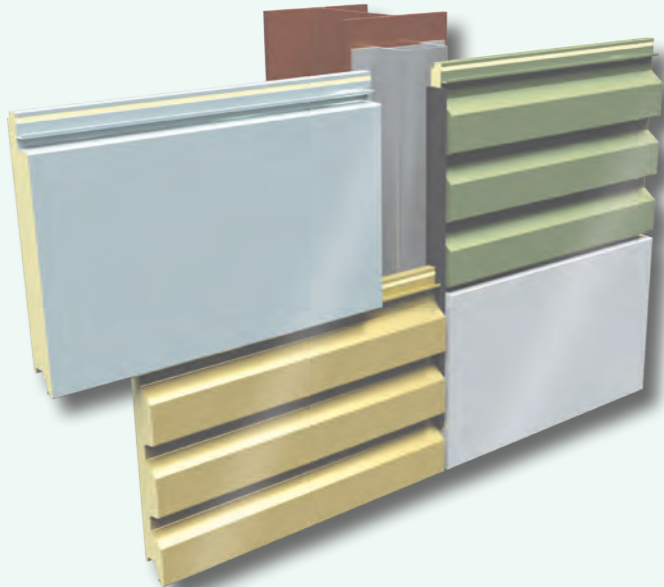
Jungbu Electronics in Suwon



Apple distribution center in Cheongson

# CUBE METAL PANEL

SY cube metal has a patented combination structure that can minimize the possibility of leakage, and it is possible to combine the cubes in different type and thickness.



Patent No.: 10-1330169

### Characteristics

#### Unique gradient design

Possible to realize a differentiated design due to the unique B type gradient folded part

#### Mutual coupling between types and thicknesses

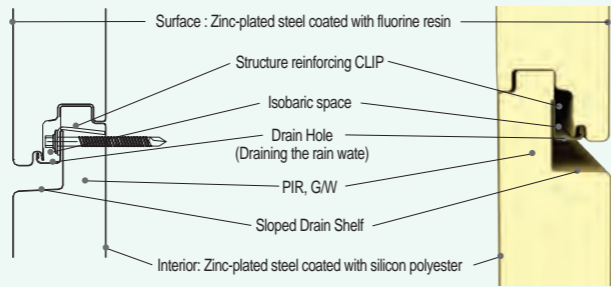
By coupling the panels with different thicknesses or types, it is possible to make diverse combinations

#### Leakage-preventing combination structure

It has a functional combination structure designed for preventing leakage, and excellent compatibility.

### CUBE METAL functional joint

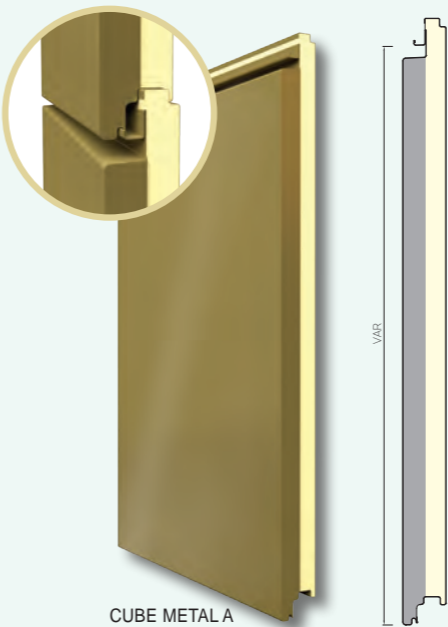
Effect of preventing leakage due to the design of Drain Hole + Isobaric space, wide compatibility making possible to connect the panels with different thicknesses and types



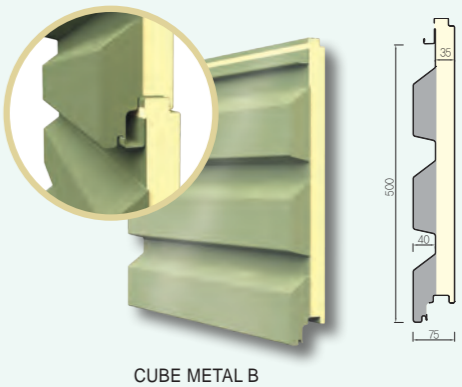
### Specifications

Classification		CUBE METAL A		CUBE METAL B
Skin	Exterior	0.8T PP GI (Fluoride resin / silicon polyester)		0.8T PP GI (Fluoride resin / silicon polyester)
	Interior	0.45~0.5mm PP GI (Fluoride resin / silicon polyester)		0.45~0.5mm PP GI (Fluoride resin / silicon polyester)
Core Insulation		PIR (35~45kg/m³)		PIR (35~45kg/m³)
Recommended length (mm)		1,000 ~ 3,000 mm		1,000 ~ 3,000 mm
Thickness (mm)		75, 100 mm		75 mm
Width (mm)		500, 600 mm	750, 900, 1,000 mm	500 mm
Joint width (mm)		20 mm	20, 60, 120 mm	71 mm

### CUBE METAL A



### CUBE METAL B



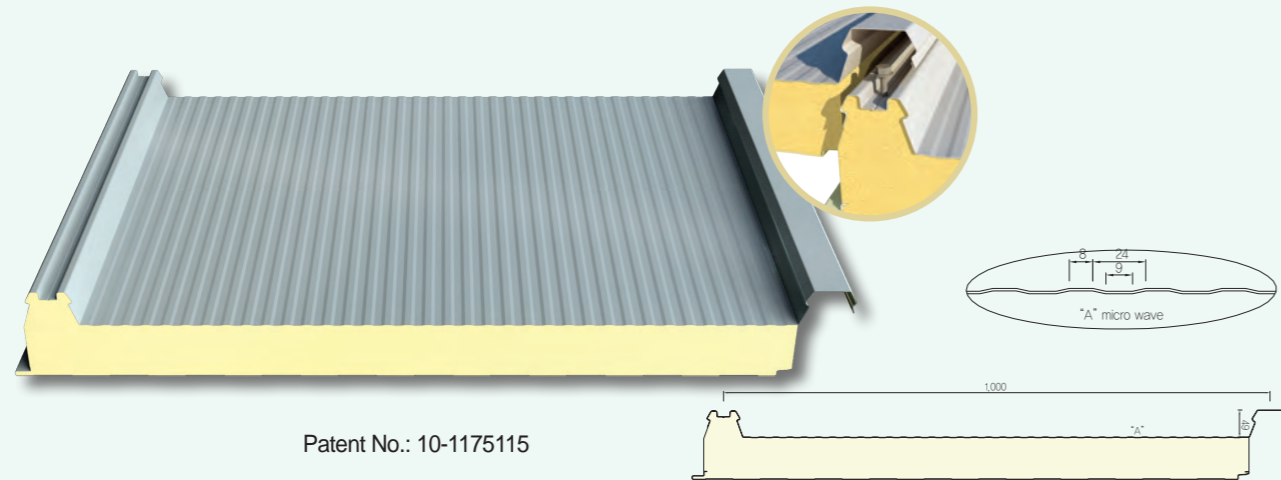
Sanse badminton court in Bucheon



CUBE METAL PANEL

# NEW SOLAR ROOF PANEL

New Solar Roof panel is made by using special subsidiary materials, and it makes possible to construct a solar power plant in an economical way. (Contact business department)



Patent No.: 10-1175115

## Charactert

### Perfect leakage prevention with a boltless system

If solar plant equipments are connected with bolts after making holes on the panel, and silicon-finished, it will create slot holes due to thermal expansion of the roof, vibration and hardening of silicon, however, boltless type does not create these problems

### Providing constructability and compatibility

When fixing solar modules, it is possible to reduce the construction period by more than 90% comparing to the existing boring method, by connecting them with snaps and bolts, and provides the optimal generation efficiency as the solar module's azimuth and elevation angle can be adjusted

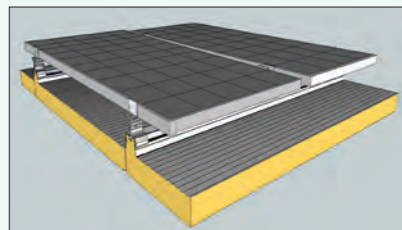
### Providing the optimal economic feasibility

Possible to reduce the construction cost by 30% as it can be installed without an additional understructure

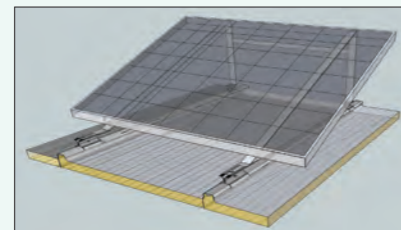
Classification	Specifications	
Skin	Exterior	0.45mm ~ 0.6mm PP GI (Fluoride resin / silicon polyester)
	Interior	0.45~0.5mm PP GI
Core Insulation	PIR (35~45kg/m <sup>3</sup> )	
Length	2 m ~ 17.5 m	
Width	1,000 mm	
Thickness	50, 75, 100, 125, 150 mm	

Contact business department for detailed information.

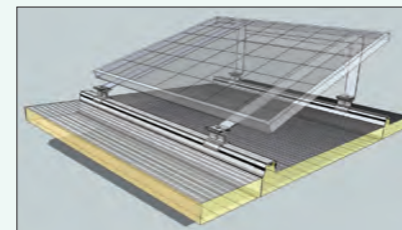
## Installation type



Attachment type

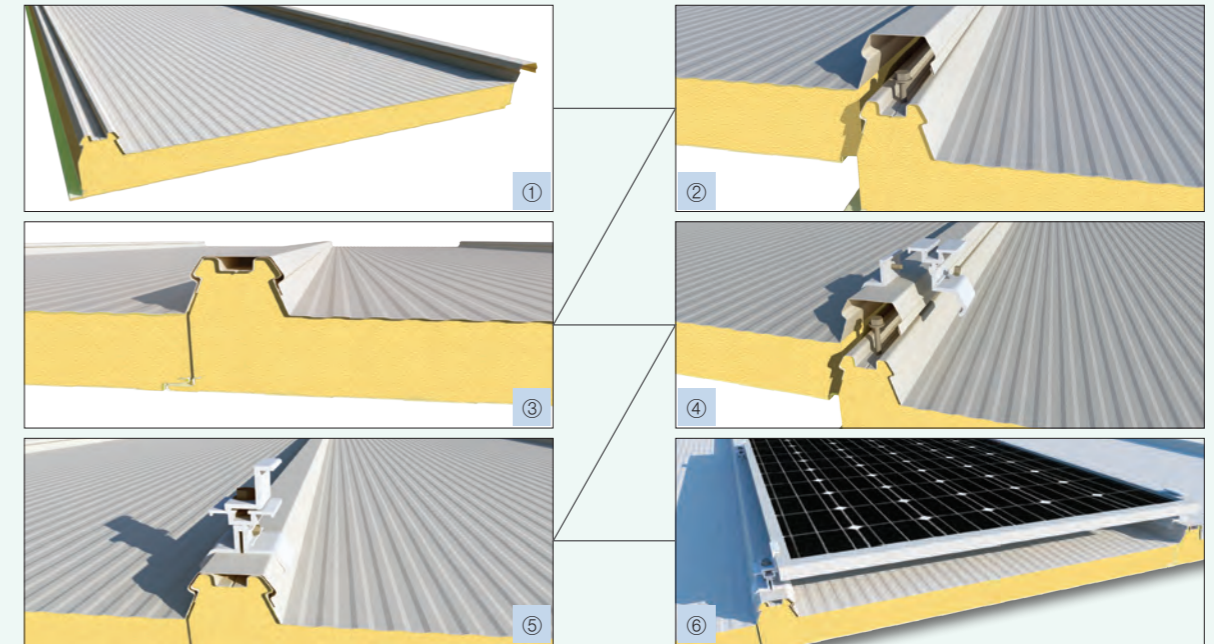


Gradient type A



Gradient type B

## Combination structure of NEW Solar Roof Panel



## Structure / Wind pressure stability test



Pullout force  
390kg /  
Per clamp



Wind tunnel test  
50m/s

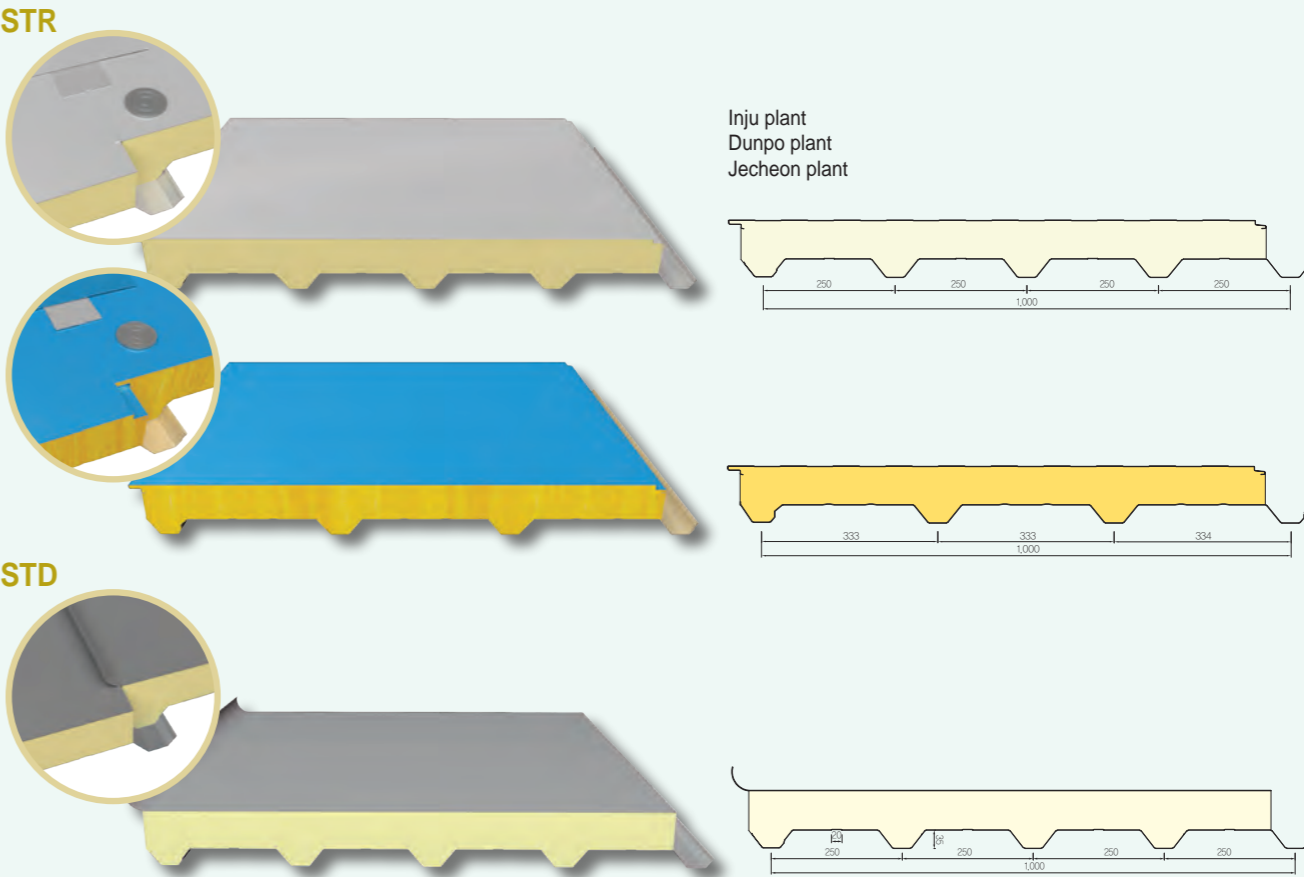
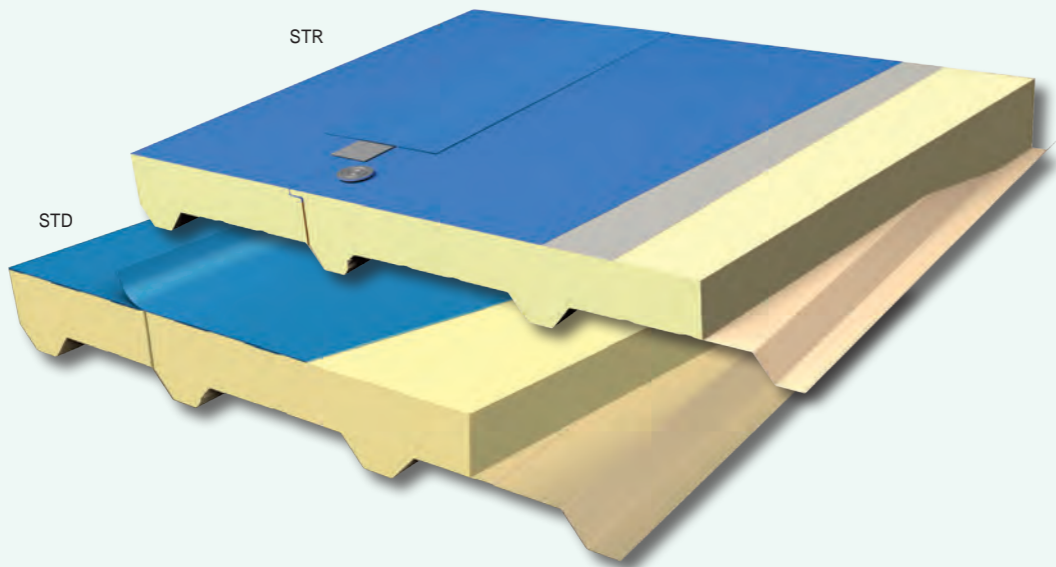


Hanseong T&I in Asan



Osan Urban Traffic Center

# TPO PANEL SYSTEM



## Characteristics

- Perfect waterproof performance**  
Excellent bond strength and water-tightness preventing OVERFLOW through all-in-one type welded sheets
- Simple construction**  
All-in-one type with an insulation material and waterproof sheet
- Simple maintenance**  
Reducing the risk of sheet damage by using TPO plated steel plate, partial repair is possible due to long-lasting thermo-plasticity
- Free finishing process**  
Possible to finish the roof and protruded parts in any shape
- Excellent durability**  
UV resistant, weatherproof, excellent chemical resistance, excellent tensile strength
- Eco-friendliness**  
White TPO reduces heat accumulation with its reflectivity of 70%, no creation of harmful gases when hot jet welding

## Specifications (STR)

Classification	Specifications	
Skin	Exterior	TPO 0.8T + 0.5T PP GI or TPO 0.6T + 0.5T PP GI
	Interior	0.45~0.5mm PP GI
Core Insulation	PIR (35~45kg/m <sup>3</sup> ) / Glasswool (64~74kg/m <sup>3</sup> )	
Length	1,000 mm	
Width	2 m ~ 22 m	
Thickness	50, 75, 100, 125, 150 mm / 50, 75, 100 125, 138, 150, 175, 200, 225 mm	

## Specifications (STD)

Classification	Specifications	
Skin	Exterior	TPO 1.2T or 1.5T PP GI
	Interior	0.5~0.6mm PP GI (0.6T Recommended)
Core Insulation	PIR (35~45kg/m <sup>3</sup> )	
Length	1,000 mm	
Width	2 m ~ 22 m	
Thickness	50, 75, 100, 125, 150 mm	

Contact business department for detailed information.

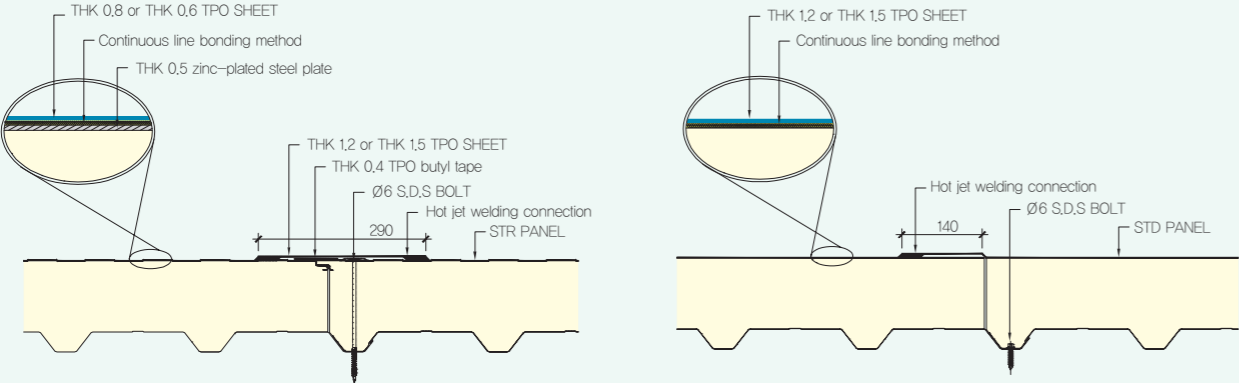
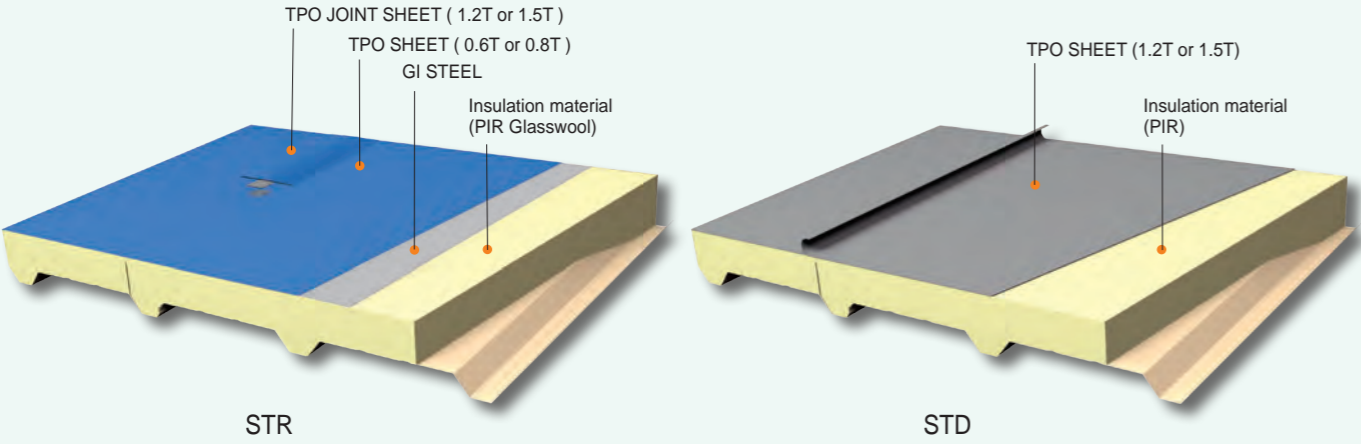


Lock&Lock in Anseong

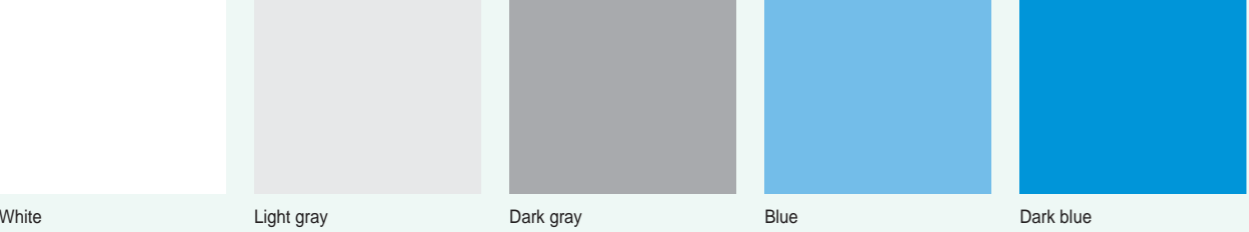


SK Nexlene in Ulsan

# TPO PANEL SYSTEM



## TPO color index



BorgWarner TS Korea in Jincheon



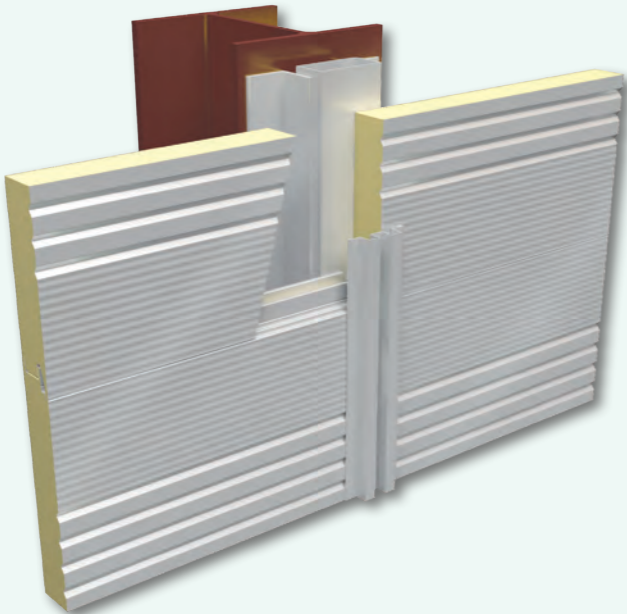
J-E Tech in Yesan



Iljin Global in Jecheon

# POLYURETHANE PANEL

It is a sandwich panel made by foaming, pressurizing and hardening PUR and PIR liquid between the molten zinc-plated steel plates, the internal and external cover material.



### Characteristics

#### PIR(Poly Isocyanurate Resin Foam) Panel

It has an excellent fire-protecting performance by reducing deformation and smokability in high temperature, and is a product with excellent insulation performance of PUR and fire safety which fulfills KS standard for flame retardant material.

#### Fire safety

Owning accredited flame retardant and quasi-nonflammable performances, we have minimized the fire hazard of sandwich panel, in case of fire.

#### PUR (Poly Urethane Resin Foam) Panel

It has the most excellent insulation performance among KS organic insulators, as well as excellent solidity and durability.

#### Insulation performance

As it has a low heat conductivity of less than 0.02W/mk among class 'A' insulation materials based on the rule of the building law, it is advantageous for saving energy. In addition, it has an excellent anti-sweating performance when it is used as a general construction material, and it is frequently used for cold storages and refrigeration warehouses.

#### Construct ability

In case of hard urethane foam, it is easy to calculate the load and construct due to its excellent solidity and light gravity.

### Specifications (Wall)

Classification	Specifications	
Skin	Exterior	0.45~0.8mm PP GI (Fluoride resin / silicon polyester)
	Interior	0.45~0.5mm PP GI (Fluoride resin / silicon polyester)
Core Insulation	PIR (35~45kg/m <sup>3</sup> )	
Width	1,000 mm	
Length	2 ~ 14m (Recommended length : 7m)	
Thickness	Boltless	50, 75, 100, 125mm
	General	40, 50, 75, 100, 125, 150mm

### Specifications (Roof)

Classification	Specifications	
Skin	Exterior	0.45~0.8mm PP GI (Fluoride resin / silicon polyester)
	Interior	0.45~0.5mm PP GI (Fluoride resin / silicon polyester)
Core Insulation	PIR (35~45kg/m <sup>3</sup> )	
Width	1,000 mm	
Length	2 ~ 17.5 m	
Thickness	50, 75, 100, 125, 150 mm	

As it may be different depending on each plant or product, contact the business department for detailed information.

Urethane panel may have waves due to the characteristics of its crude liquid, however, it does not make a difference of the product's performance.

### FM certification



- FM 4880 certification (Based on fire safety)
- FM 4881 certification (Fire and structure design safety for external wall)
- FM 4471 certification (Fire and structure design safety for roof)

FM Approvals, which is affiliated to FM Global, an American insurance company with the history of 177 years, is an international authentication and test institution that analyzes risks and evaluates safety of the buildings demanding high-level disaster prevention measures.



UBS 26-3 ROOM Test



ASTM E108 Test

### UL certification



ASTM E84 Test



ASTM E84 Test

### Test reports



Quasi-non-flammability test for urethane panel



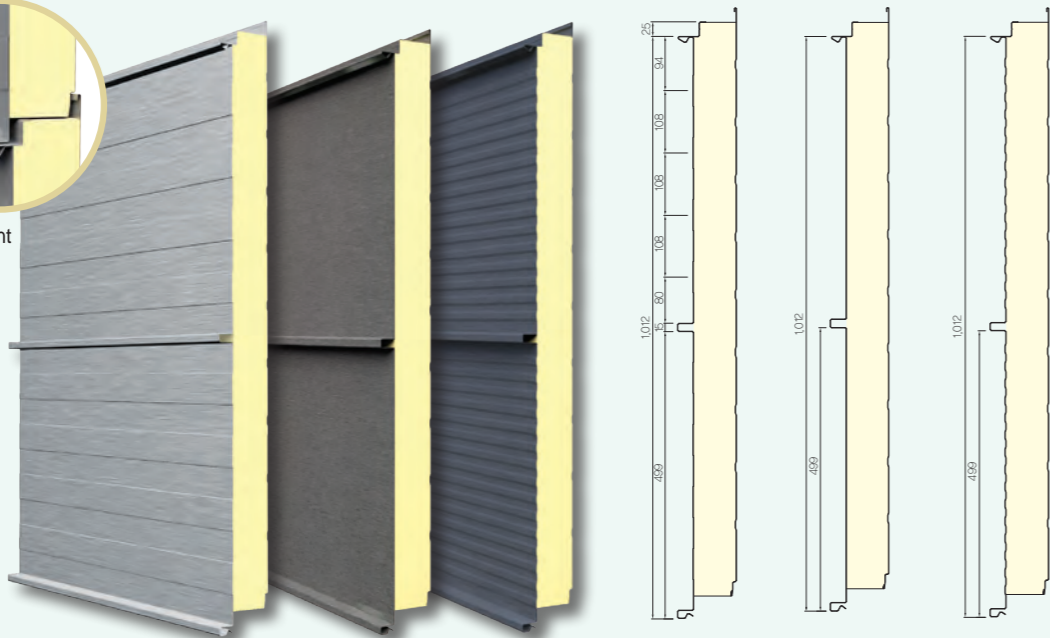
Southeastern distribution complex, Seoul

# POLYURETHANE PANEL

Boltless panel  
SB ZINC panel



Jecheon plant



NNU-Z500BT    FNU-Z500BT    RNU-Z500BT

## SB wall



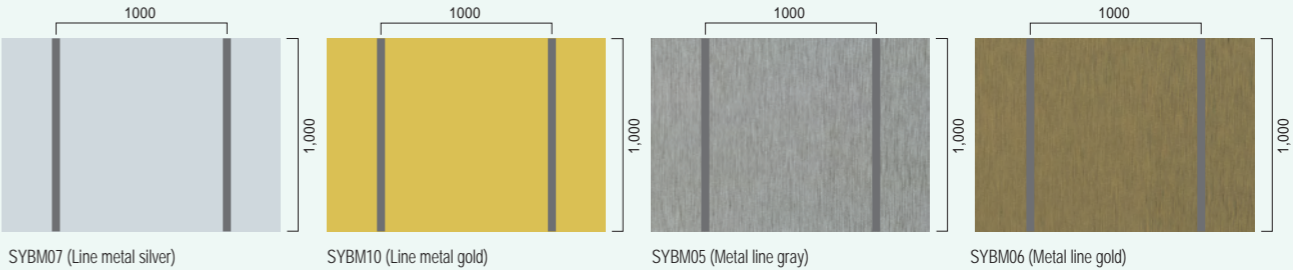
Joint / S  
Dunpo plant



FNU-SB

## SB wall color index

Following colors may be different from that of actual products.



Balios in Hwaseong



Storage in Daejeo-dong, Busan



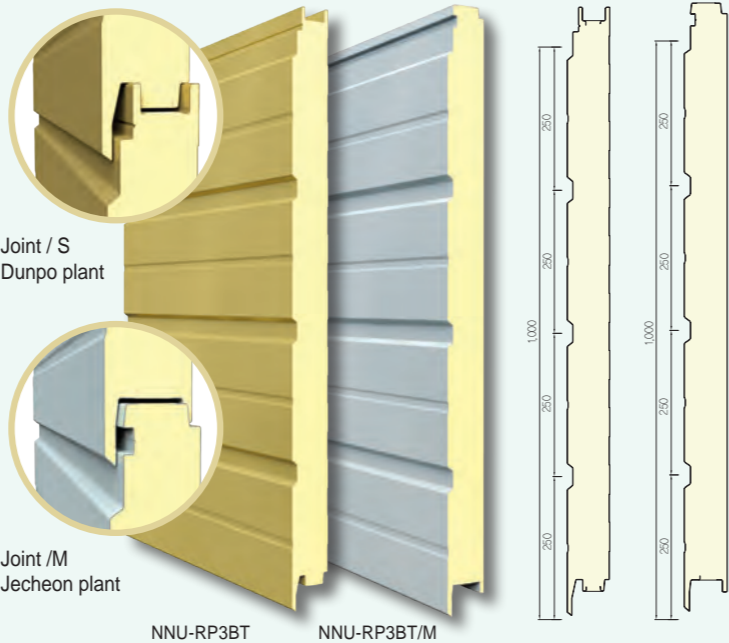
Hea-Su Land in Yeongdo, Busan

# POLYURETHANE PANEL

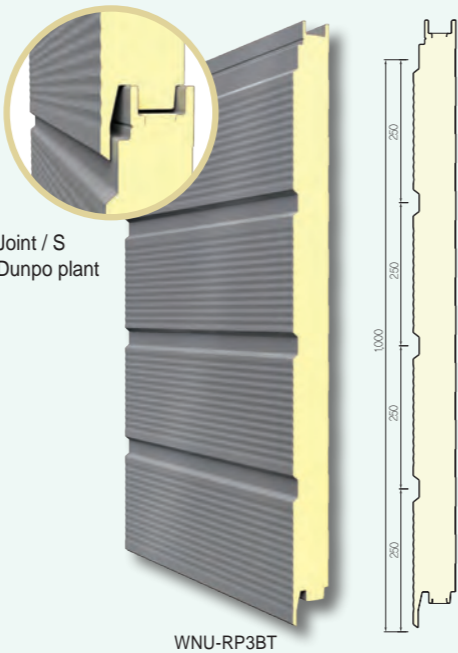
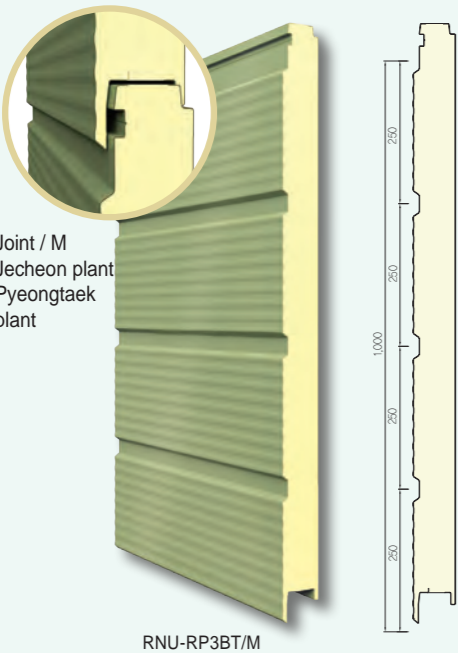
Boltless panel  
SB C66



SB RP3



SB RP3



Cold storage at southeastern distribution complex, Seoul



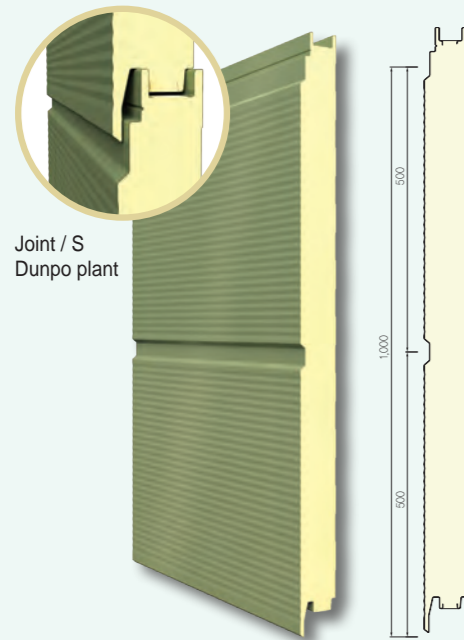
National team training center in Jincheon



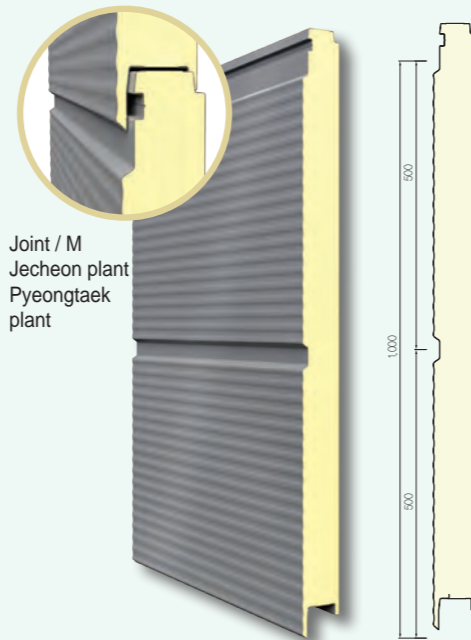
Hanmo Corporation in Dangjin

# POLYURETHANE PANEL

## Boltless panel SB-RP500

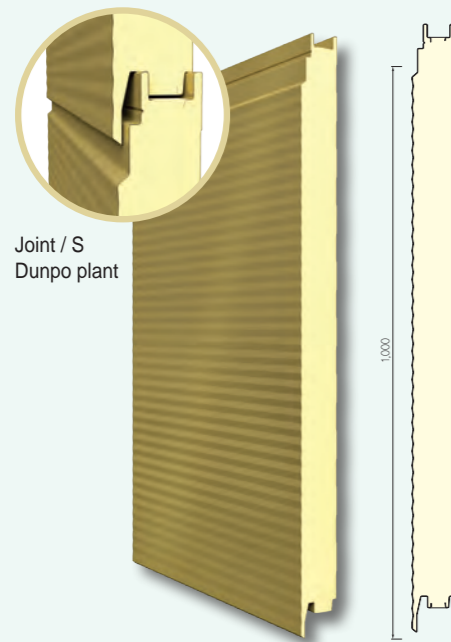


WNU-RP500BT

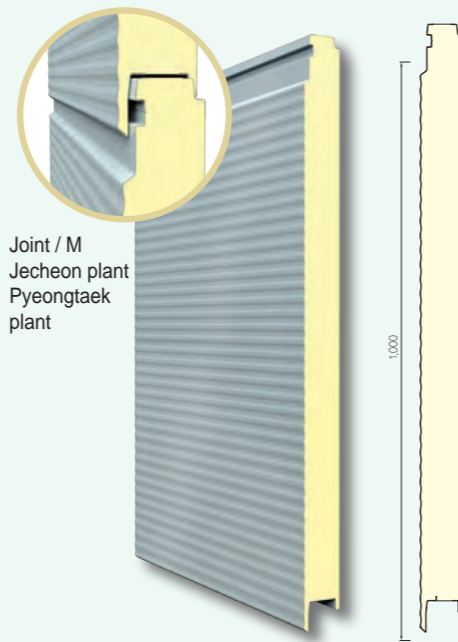


RNU-RP500BT/M

## SB-RP1000



WNU-RP1000BT



RNU-RP1000BT/M



National team training center in Jincheon



Agro-fishery product distribution center in Goheung

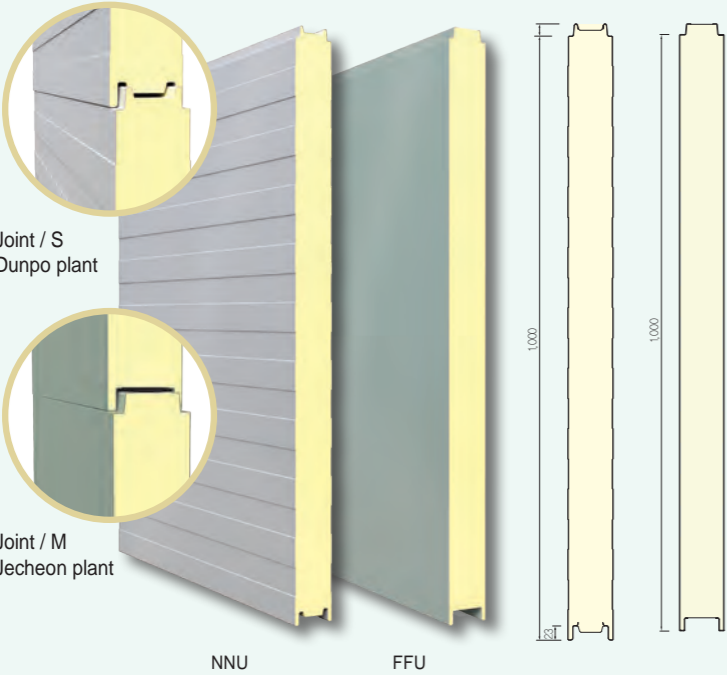


Warehouse of E-land in Cheonan

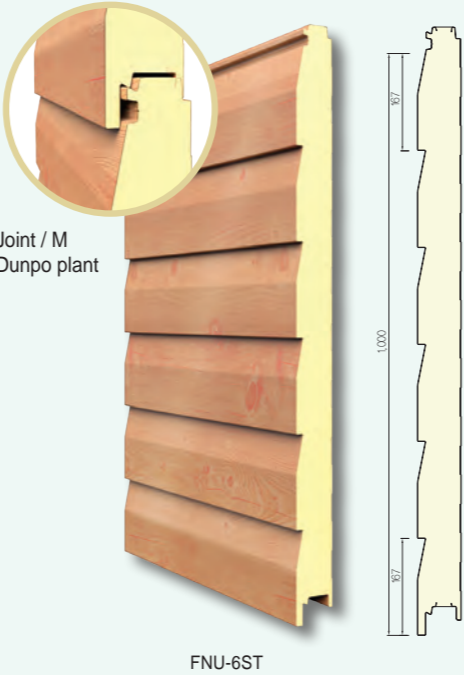
# POLYURETHANE PANEL

## General panel

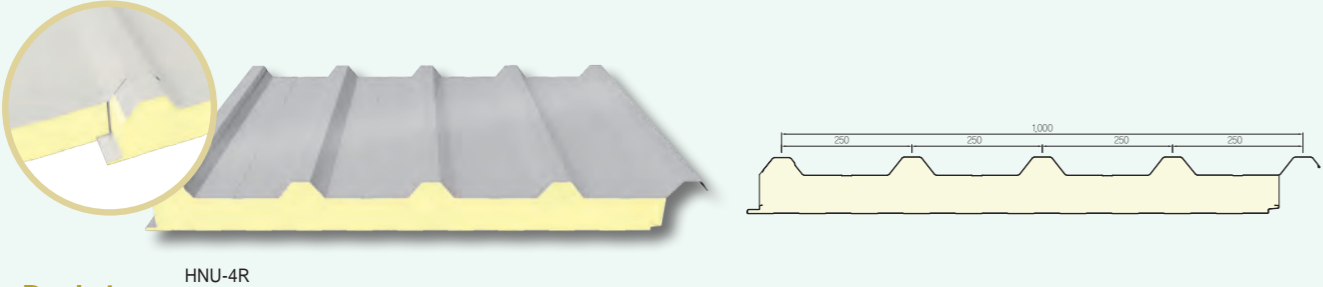
Wall (Ossiculate / flat panel)



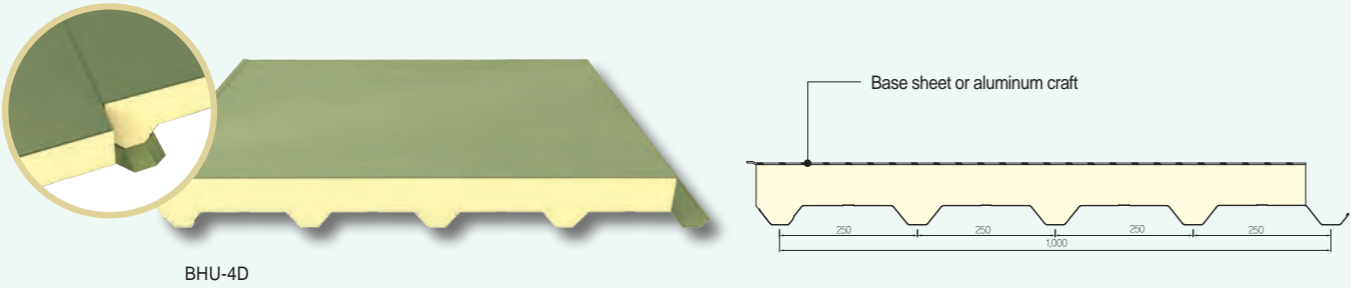
## SB-Siding 6



## Roof 4



## Deck 4



Warehouse of E-land in Cheonan



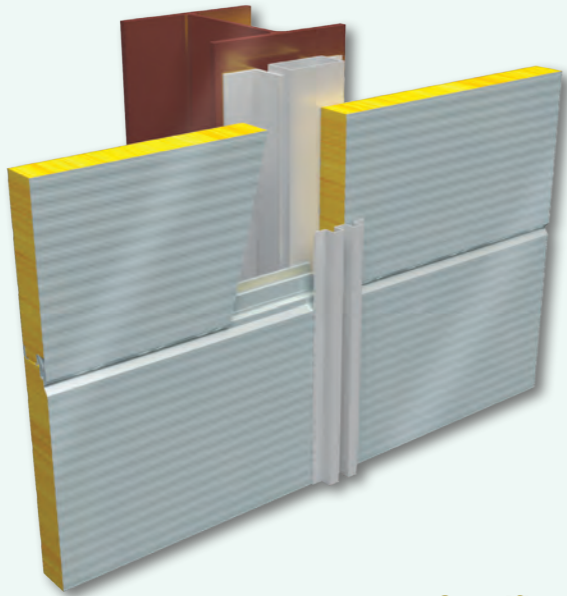
Moda Outlet Daejeon



Korea District Heating Corp. in Sejong city

# GLASSWOOL & MINERALWOOL PANEL

Glass wool and mineral wool are inorganic insulation materials, and they have an excellent fire safety as they do not create toxic gases in the event of fire. It also has a fire-resistant property and durability even after a long-term use.



Quasi-nonflammable performance  
Fire resisting capacity

### Characteristics

#### Glasswool

It is an inorganic insulation material produced by making the pure glass ore into a thin and even fiber, and it has fire safety and sound absorption properties.

#### Mineralwool

It is an artificial mineral fiber insulation material produced by making fibers, after melting calcium silicate mineral in high temperature. As its main raw material is inorganic mineral, it has an excellent fire safety due to its high temperature for safe use.

#### Fire safety

It prevents fire spreading by using inflammable insulation material, and is suitable for fireproof structures or fire areas as it does not create toxic gases harmful to human body.

#### Insulation performance

It secures excellent insulation performance with its fine air layer between the thin and even fibers.

#### Sound absorption effect

As it is porous, it absorbs sound waves inside.

#### Anti-corrosion effect

It is an inorganic product which rarely creates deformation and corrosion even after a long-term use, and has an excellent durability resisting to shock, pressure or vibration, as it is made of glass fiber which has a strong restoring and tensile forces.

### Specifications (Wall)

Classification	Specifications	
Skin	Exterior	0.5~0.8mm PP GI
	Interior	0.40~0.5mm PP GI
Core Insulation	Glasswool (48, 64, 74kg/m³) / Mineralwool (80~110kg/m³)	
Width	2m ~ 14m(Recommended length : 7m)	
Length	1000mm	
Thickness	50, 75, 100, 125, 130, 150, 160, 180, 200mm	

### Specifications (Roof)

Classification	Specifications	
Skin	Exterior	0.5~0.8mm PP GI
	Interior	0.40~0.5mm PP GI
Core Insulation	Glasswool (48, 64, 74kg/m³) / Mineralwool (80~110kg/m³)	
Width	2m ~ 22m	
Length	1000mm	
Thickness	50, 75, 100, 125, 130, 150, 160, 180, 200mm	

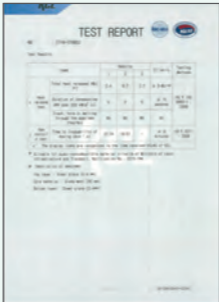
As it may be different depending on each plant or product, contact the business department for detailed information.  
It may create waves depending on the thickness of coil or product configuration, however, it does not make a difference of the product's performance.

### Recognition of fireproof construction



Certificate of fireproof construction  
(123T/ 1 hour)

### Test report



Glasswool panel  
Quasi-non-flammability  
test report



Glasswool panel  
Sound absorption  
test report

# SEG PANEL

It is a product with excellent fire safety, insulation effect and product stability which is made by compensating the characteristics and gathering the benefits of EPS and glass wool by arranging them in a sequence.



※ Product matters are the same as that of glass wool panel, however, contact the business department as detailed specifications may be varied depending on each product.

### Specifications (Wall)

Classification	Specifications	
Skin	Exterior	0.40~0.5mm PP GI
	Interior	0.40~0.5mm PP GI
Core Insulation	SEG : Glasswool + EPS	
Width	2m ~ 14m (Recommended length : 7m)	
Length	1000 mm	
Thickness	50, 75, 100, 125, 150 mm	

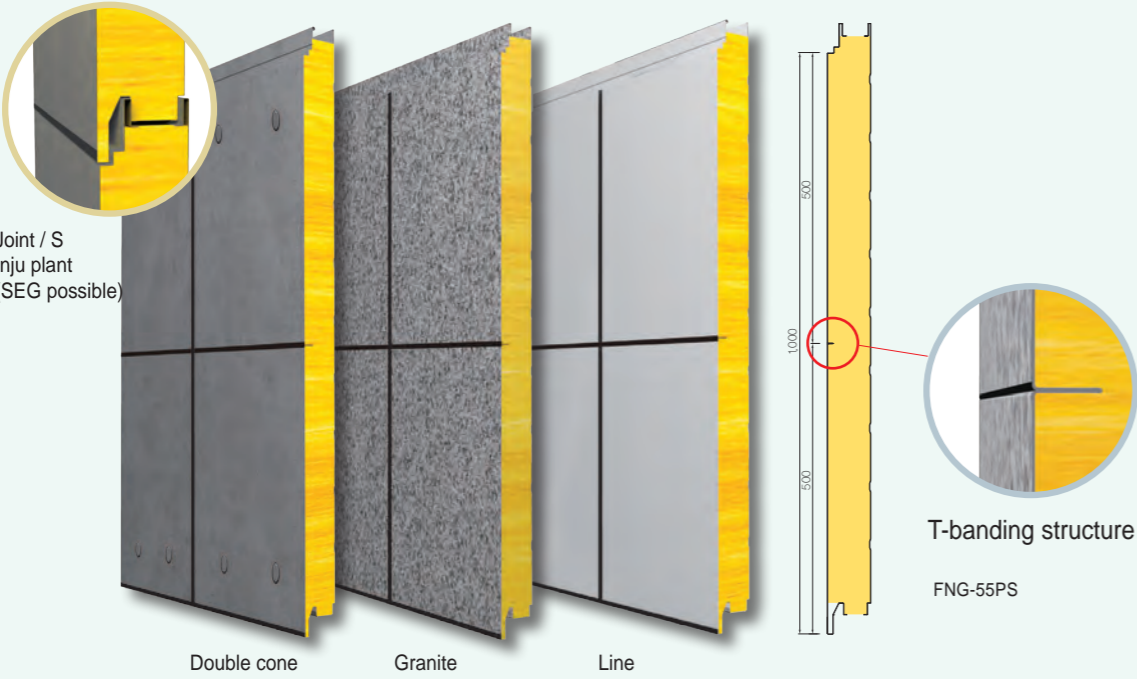
### Specifications (Roof)

Classification	Specifications	
Skin	Exterior	0.5~0.8mm PP GI
	Interior	0.40~0.5mm PP GI
Core Insulation	Glasswool (48, 64, 74kg/m³) / Mineralwool (80~110kg/m³)	
Width	2m ~ 22m	
Length	1000 mm	
Thickness	50, 75, 100, 125, 150, 200, 250 mm	

As it may be different depending on each plant or product, contact the business department for detailed information.  
It may create waves depending on the thickness of coil or product configuration, however, it does not make a difference of the product's performance.

# GLASSWOOL & MINERALWOOL PANEL

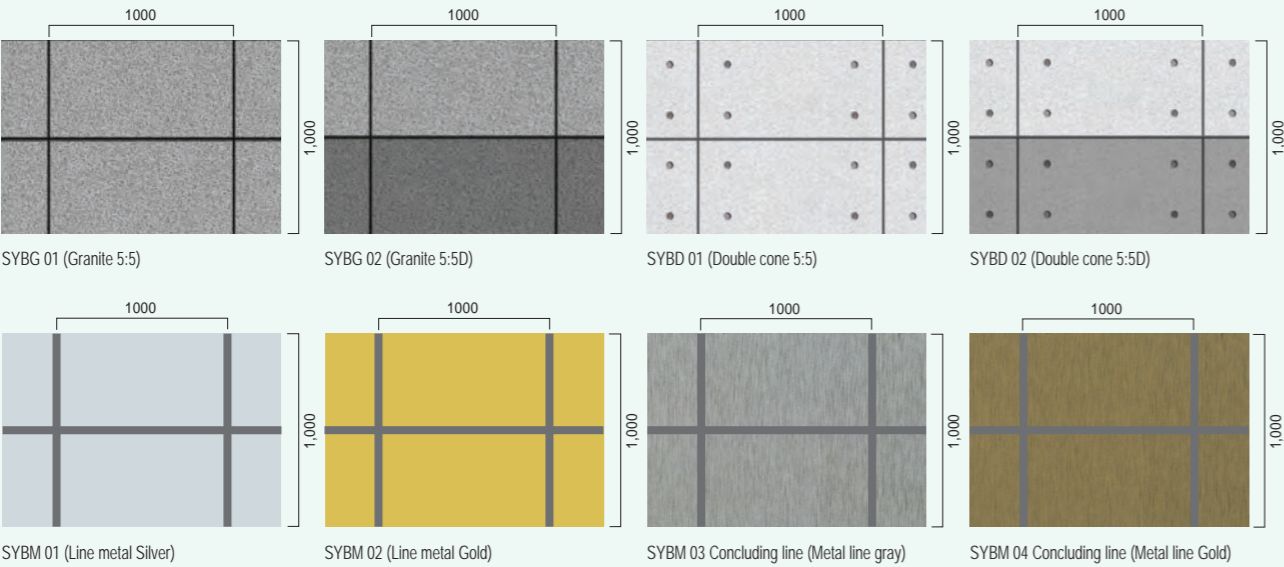
Boltless panel  
SB 2T



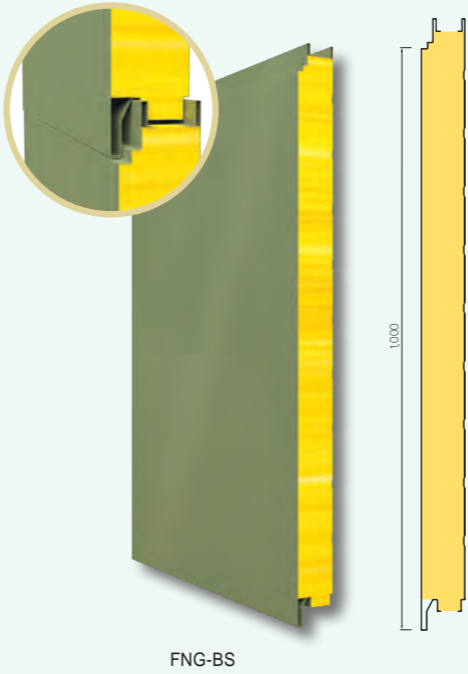
SB wall



SB 2T color index

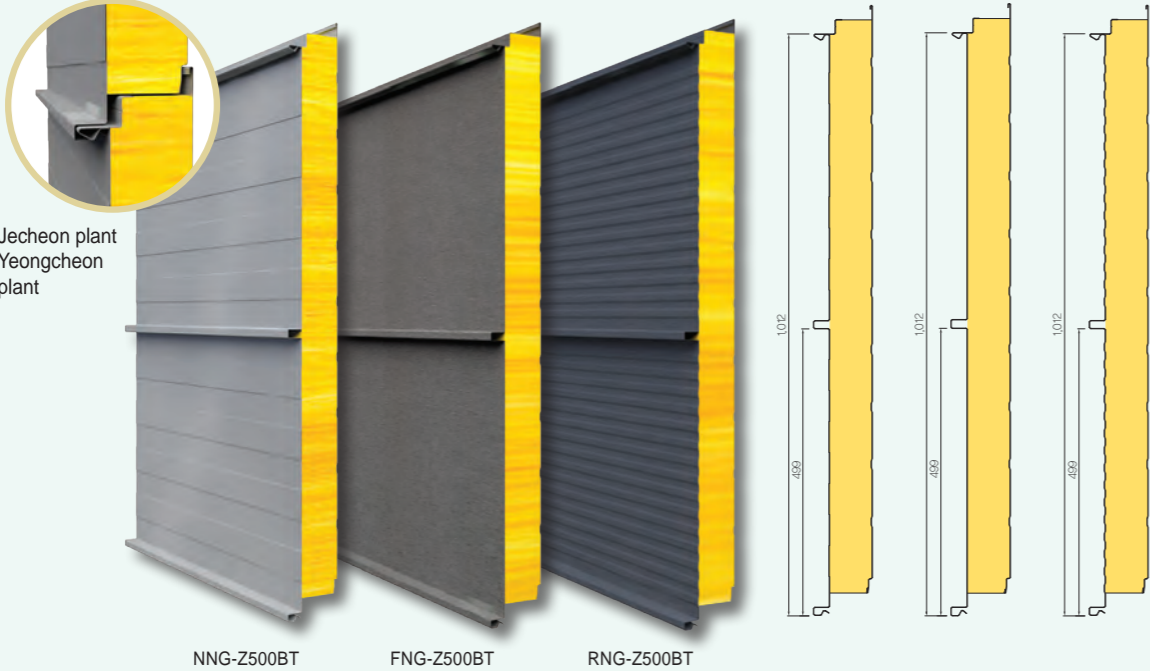


Above colors may be different from that of actual products.  
Possible to cut by the 1,000

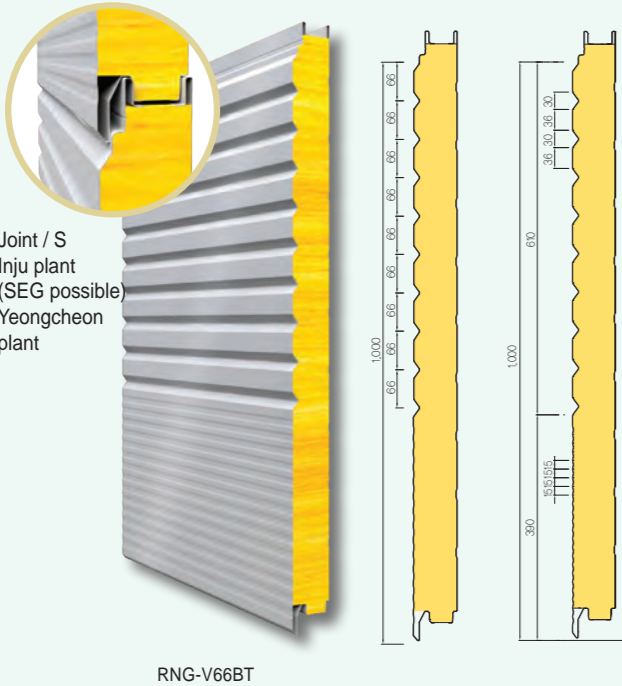


# GLASSWOOL & MINERALWOOL PANEL

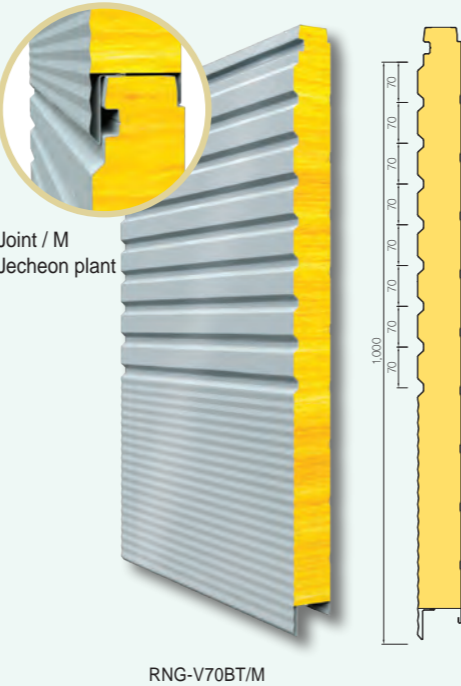
Boltless panel  
Zinc panel



SB-V66



SB-V70



Balios in Hwaseong



Ottogi in Pyeongtaek

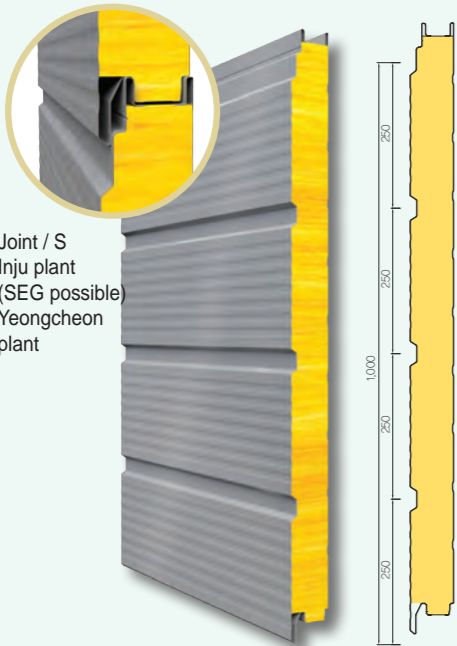


MS Steel in Asan

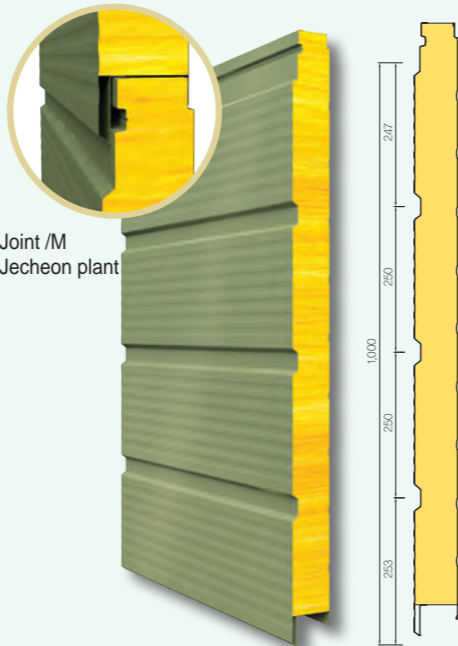
GLASSWOOL & MINERALWOOL PANEL

# GLASSWOOL & MINERALWOOL PANEL

Boltless panel  
SB RP3

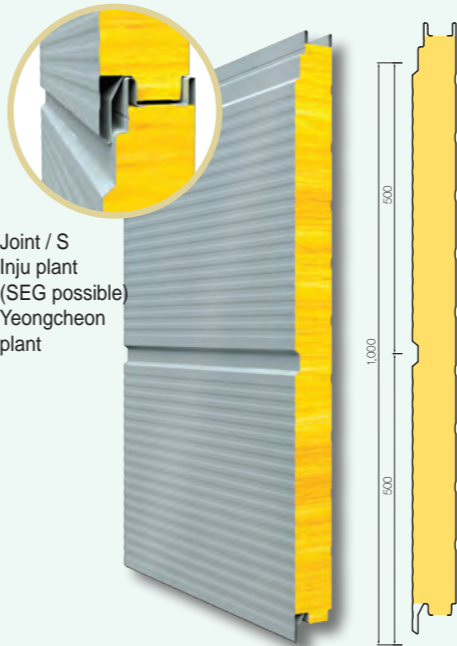


RNG-RP3BT

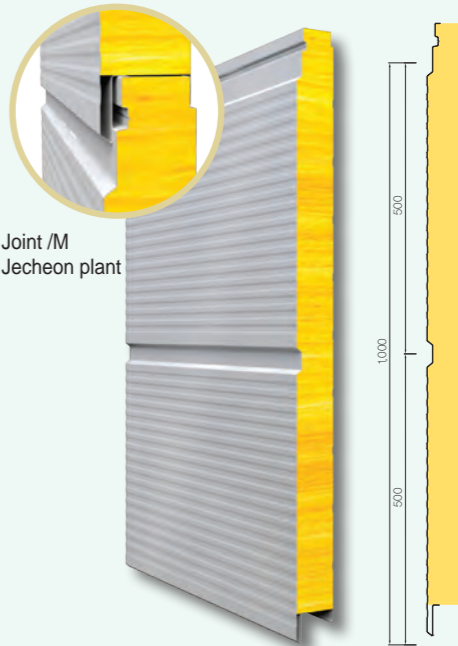


RNG-RP3BT/M

SB RP500



RNG-RP500BT



RNG-RP500BT/M



NNG-RP3BT



TE Logis in Yeosu

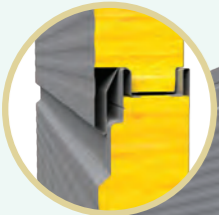


Silla Engineering in Asan

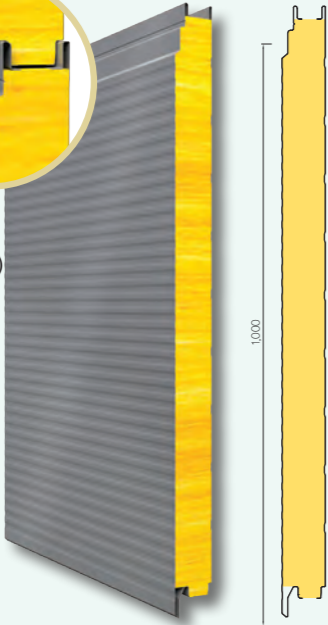
GLASSWOOL & MINERALWOOL PANEL

# GLASSWOOL & MINERALWOOL PANEL

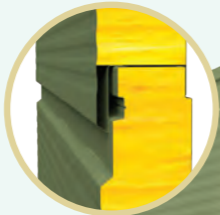
Boltless panel  
SB RP1000



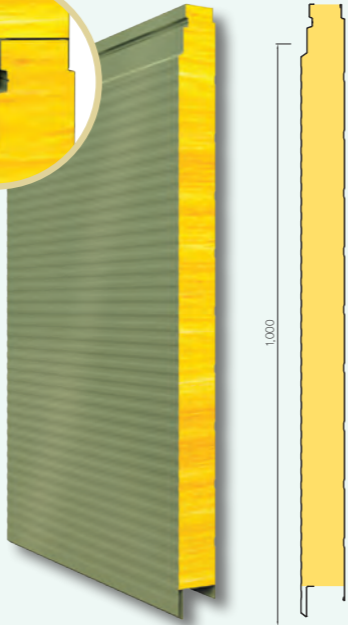
Joint / S  
Inju plant  
(SEG possible)  
Yeongcheon  
plant



RNG-RP1000BT



Joint / M  
Jecheon plant

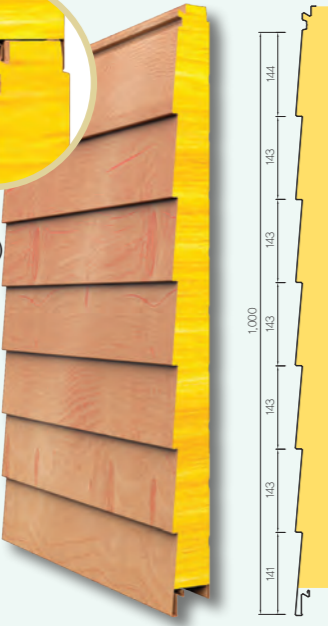


RNG-RP1000BT/M

SB siding



Joint / S  
Inju plant  
(SEG possible)  
Yeongcheon  
plant



FNG-7ST



Fashion group Hyungji in Yangsan



Korea Pure Beverage in Pocheon



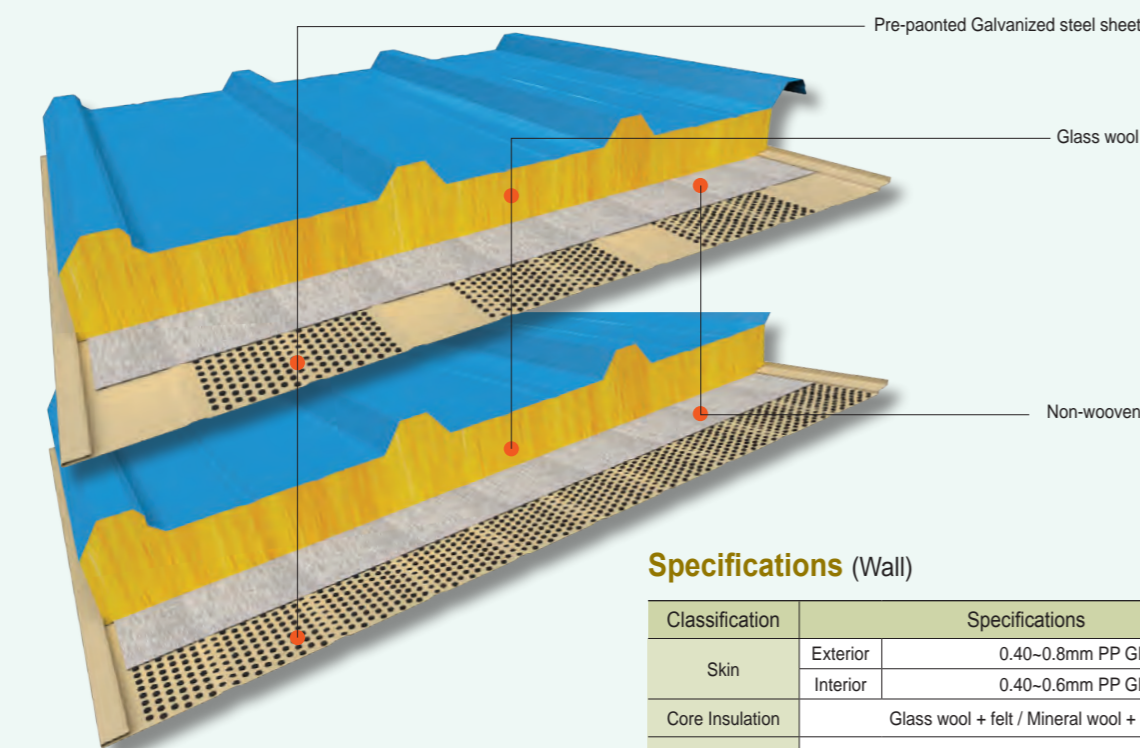
Sungboak in Hwaseong

GLASSWOOL &  
MINERALWOOL PANEL



# ACOUSTIC PANEL

It is a panel made by utilizing sound absorption effect of glass wool, a porous fiber material which is exposed by making holes on zinc-plated steel plate.  
We are manufacturing products for deck and wall to apply sound absorption performance in a diverse way.



### Specifications (Wall)

Classification	Specifications	
Skin	Exterior	0.40~0.8mm PP GI
	Interior	0.40~0.6mm PP GI
Core Insulation	Glass wool + felt / Mineral wool + felt	
Width	2 m ~ 13 m (Recommended length : 7m)	
Length	1000 mm	
Thickness	50, 75, 100, 125, 150, 160, 180, 200, 225, 250 mm	

### Characteristics

#### Sound absorption effect

As it is porous with continuous bubbles, it absorbs sound waves inside the glass wool.

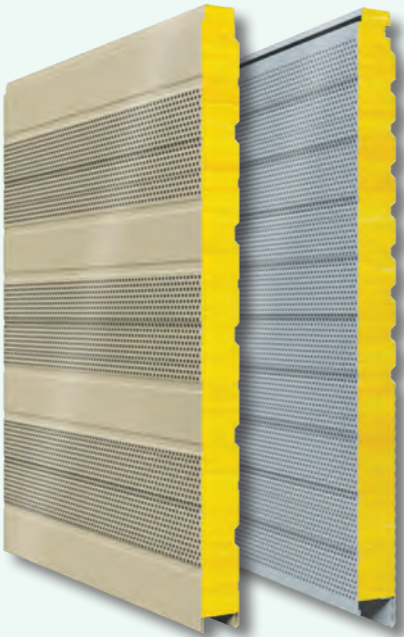
#### Fire safety

It prevents fire spreading by using glass fiber as an inflammable insulation material, and is suitable for fireproof structures or fire areas as it does not create toxic gases harmful to human body.

### Specifications (Roof)

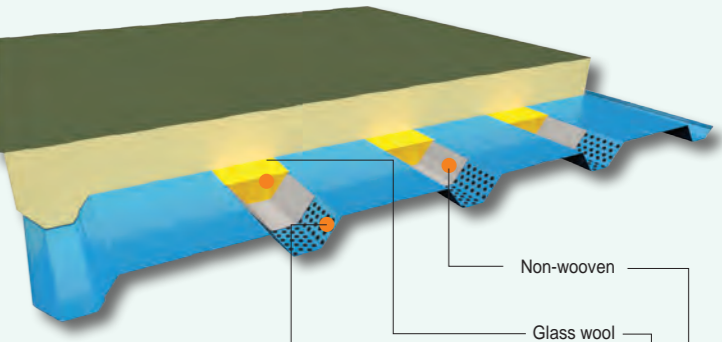
Classification	Specifications	
Skin	Exterior	0.40~0.8mm PP GI
	Interior	0.40~0.6mm PP GI
Core Insulation	Glass wool + felt / Mineral wool + felt	
Width	2 m ~ 22 m	
Length	1000 mm	
Thickness	50, 75, 100, 125, 150, 160, 180, 200, 225, 250 mm	

As it may be different depending on each plant or product, contact the business department for detailed information.  
It may create waves depending on the thickness of coil or product configuration, however, it does not make a difference of the product's performance.

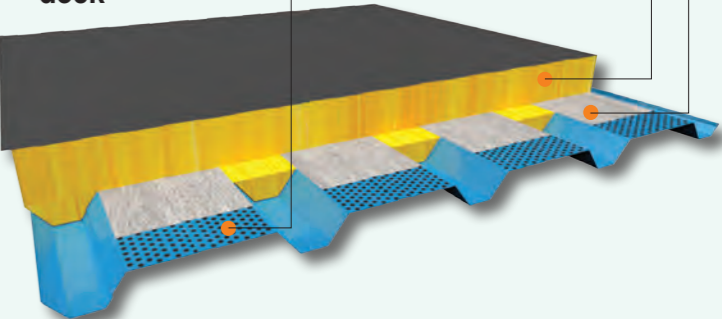


Additional order is necessary as the boring position is different depending on each plant.

### Urethane sound-absorbing deck

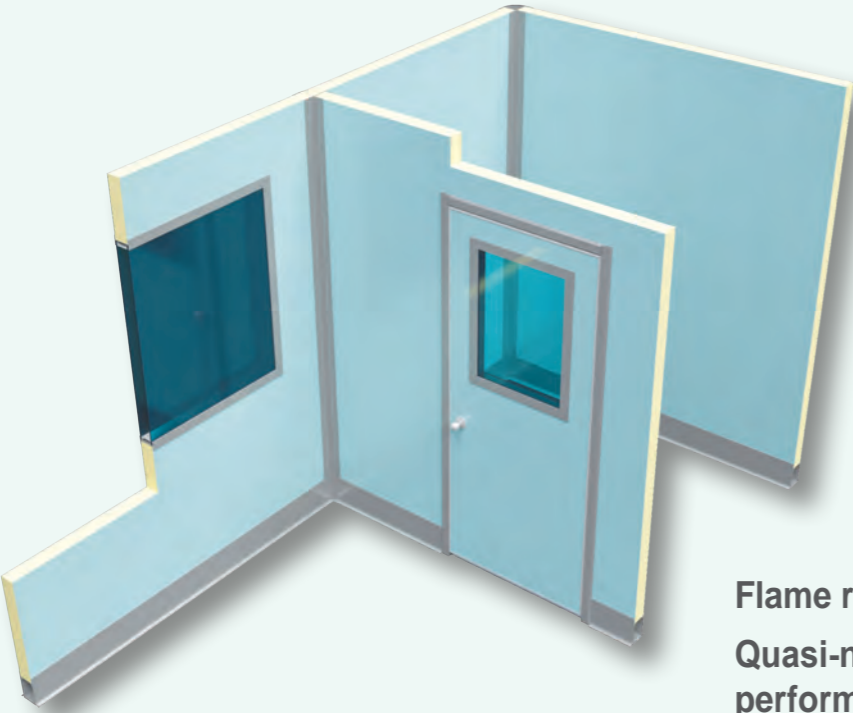


### Glass wool sound-absorbing deck



# CLEANROOM PANEL SYSTEM

CLEAN ROOM maintains the level of dust and minute particles in the indoor air minimally, and controls indoor pressure, humidity, temperature, distribution and speed of air current, at a certain level.



**Flame retardant performance**  
**Quasi-nonflammable performance**

### Characteristics

#### Air-tightness performance

It blocks the inflow of external dust by maintaining air-tightness through a precise construction without errors.

#### Corrosion resistance and chemical resistance

It has excellent corrosion and chemical resistances realized by specially treating the interior and exterior surfaces of steel plate.

#### Dustproof and antibacterial functions

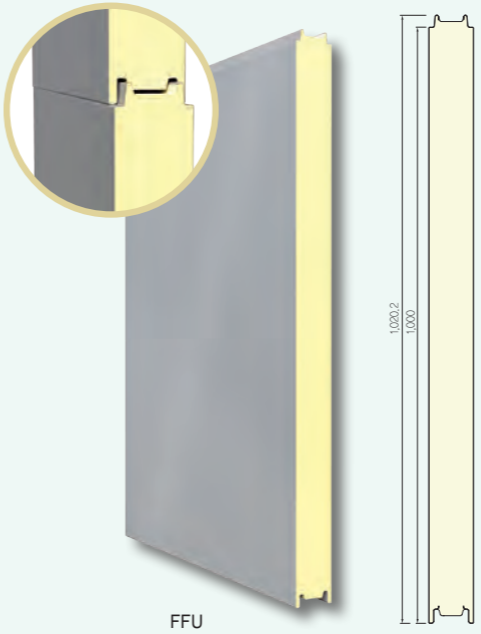
It is possible to produce sanitary clean room due to the characteristics of steel panel's surface material that does not create dusts and germs.

### Specifications

Classification	Specifications	
Skin	0.5 ~ 0.8mm PP GI Silicon resin, antibacterial bio steel plate, fluorine resin, antistatic steel plate, etc.	
Width	1,000 mm	
Core Insulation	PIR, PUR	EPS, flame retardant EPS
Thickness	50, 75, 100, 125, 150, 200 mm	50, 75, 100, 125, 150, 175, 200, 225, 250 mm

※ Contact business department for detailed information.

### TECH-clean room urethane panel



### TECH-clean room EPS panel



### BIO CLEAN ROOM

TECH-CLEAN ROOM BIO SYSTEM, which is free of germs and vibration, and maintains constant temperature and humidity, can create a perfect clean space such as clean room for G.M.P., HACCP, operation room and animal test room. In addition, due to its perfect air-tightness, it maintains a certain temperature and blocks moisture, and you can make a highly sanitary clean room as germs cannot be proliferated.

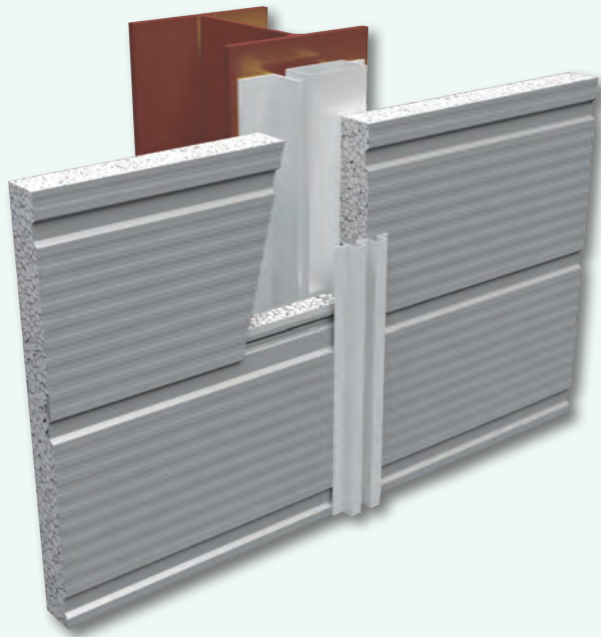


### INDUSTRIAL CLEAN ROOM

As the perfect antistatic function of TECH-CLEAN ROOM INDUSTRIAL SYSTEM does not create statics, it does not cause adhesion of dusts caused by statics, and provides an excellent air-tightness through precise construction and assembly. As industry becomes modernized, it demands a perfect environment of space. TECH-CLEAN ROOM provides a clean environment without minute particles and statics.

# EPS PANEL

SY EPS panel has an excellent density which 20% more higher than the other companies products, and it boasts of more excellent insulation performance and solidity.



### Characteristics

#### Flame retardant EPS Panel

We have innovatively increased the fire safety of general EPS panel by injecting fire retardant material into EPS.

#### Fire safety

Owning accredited flame retardant and quasi-nonflammable performances, we have minimized the fire hazard of sandwich panel, in case of fire.

#### EPS Panel

It is a product called styrofoam panel which is widely used due to its excellent solidity comparing to its density, as well as its economical price and insulation performance.

#### Construct ability

It is the lightest one among panel insulation materials, and easy to calculate the load and construct due to its excellent solidity.

#### Beauty

It can express a beautiful exterior of buildings with its diverse patterns realized by its excellent processability.

### Specifications (Wall)

Classification	Specifications	
Skin	Exterior	0.4~0.5mm PP GI
	Interior	0.4~0.5mm PP GI
Core Insulation	EPS, flame retardant EPS	
Width	2 m ~ 13 m (Recommended length : 7m)	
Length	1000 mm	
Thickness	50, 75, 100, 125, 150, 175, 200, 225, 250, 275 mm	

### Specifications (Roof)

Classification	Specifications	
Skin	Exterior	0.5mm PP GI
	Interior	0.4~0.5mm PP GI
Core Insulation	EPS, flame retardant EPS	
Width	2 m ~ 12 m	
Length	1000 mm	
Thickness	50, 75, 100, 125, 150, 175, 200, 225, 250, 260, 275, 300 mm	

As it may be different depending on each plant or product, contact the business department for detailed information.  
EPS panel may have waves depending on the thickness of coil or product configuration, however, it does not make a difference of the product's performance.



KSM Tech in Gimcheon



Sammaeng in Yongin



Eunsan Shipping Aircargo in Incheon

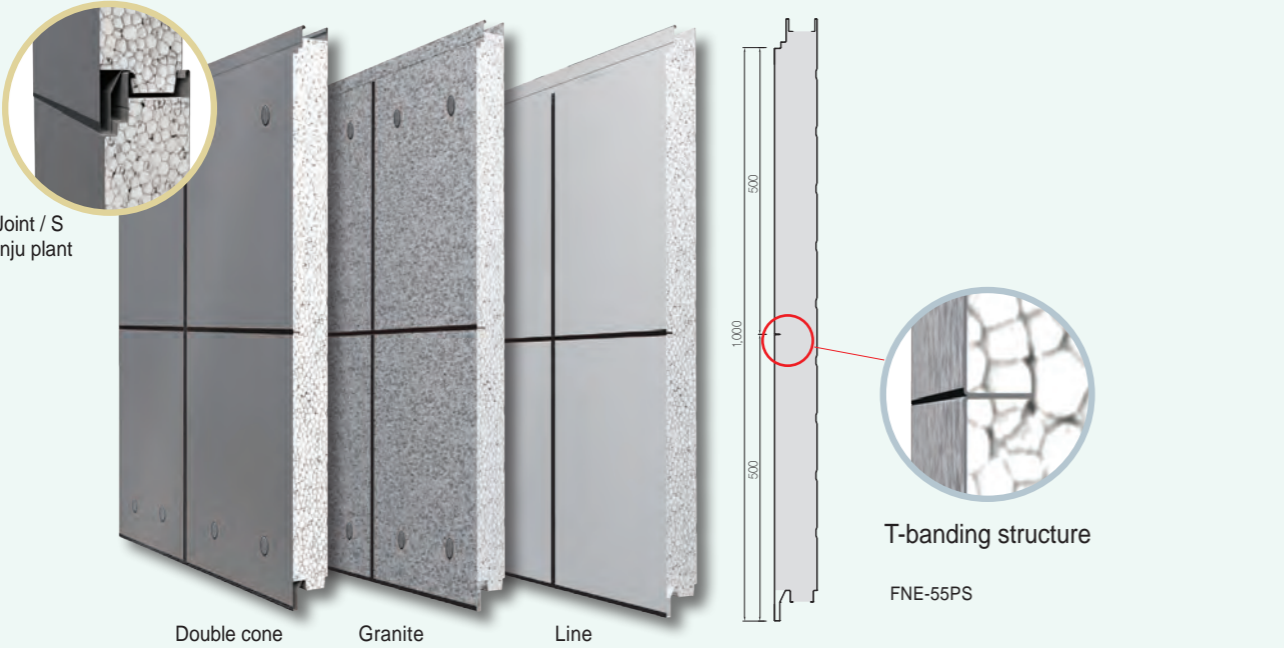


Daeyang Machinery in Pyeongtaek

# EPS PANEL

Boltless panel

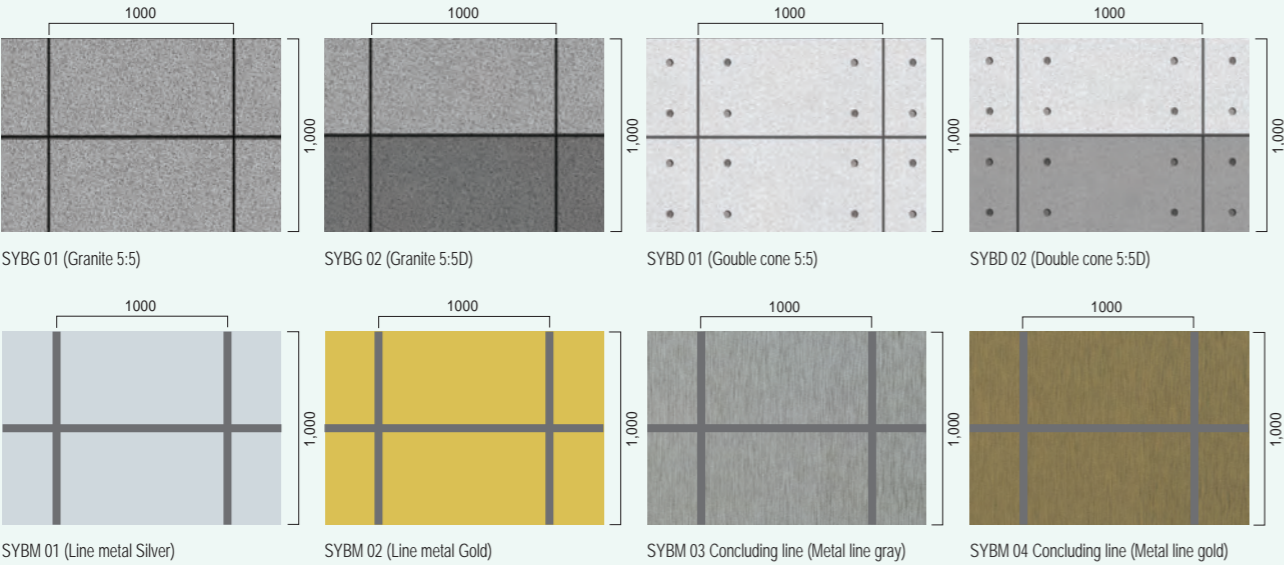
SB 2T



SB wall



SB 2T color index



※Above colors may be different from that of actual products.



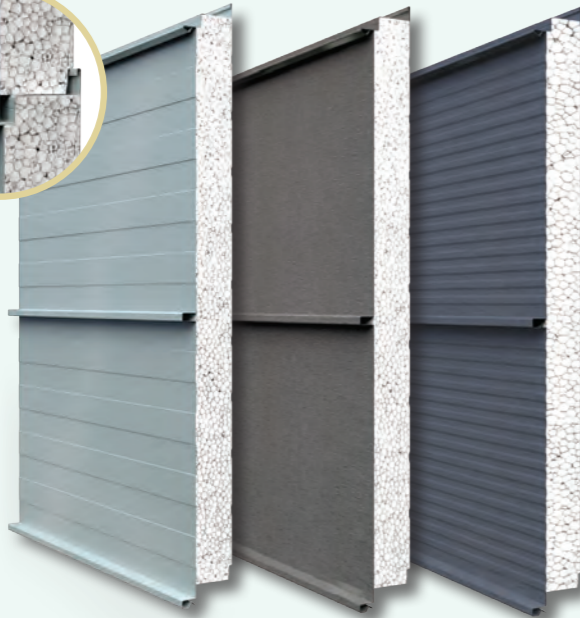
# EPS PANEL

Boltless panel

SB ZINC panel



Jecheon plant

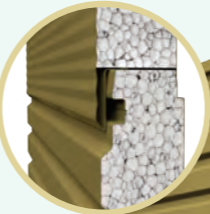


NNE-Z500BT

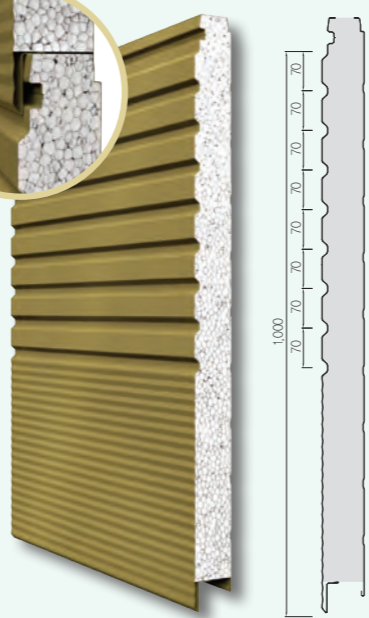
FNE-Z500BT

RNE-Z500BT

SB V70

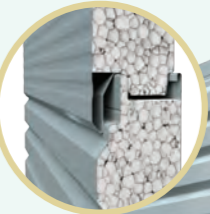


Joint / M  
Jecheon plant

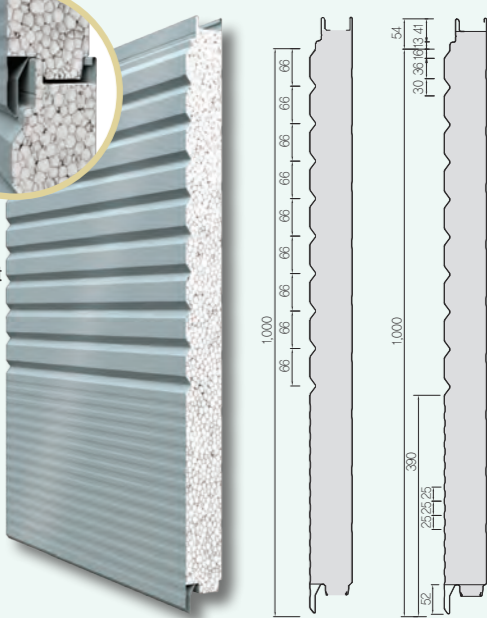


RNE-V70BT/M

SB V66



Joint / S  
Inju plant  
Nonsan plant  
Yeongcheon plant  
Paju plant



RNE-V66BT

EPS PANEL



Geunsaeng Building in Chilgok



Geunsaeng Building in Jeomchon, Jinju



Balios in Hwaseong



MS Steel in Asan

# EPS PANEL

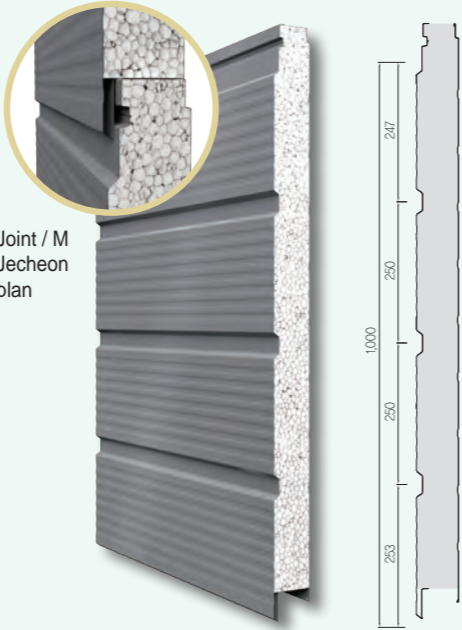
Boltless panel

SB RP3



Joint / S  
Inju plant  
Nonsan plant  
Yeongcheon plant  
Paju plant

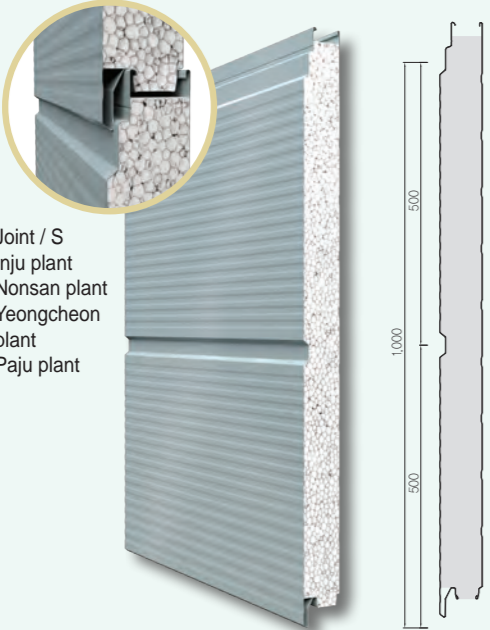
RNE-RP3BT



Joint / M  
Jecheon plant

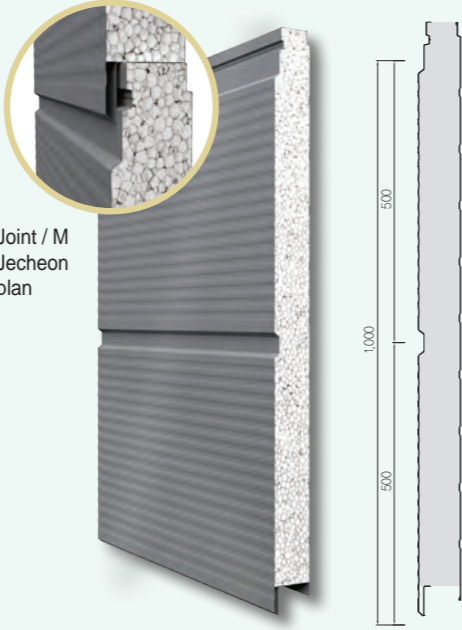
RNE-RP3BT/M

SB RP500



Joint / S  
Inju plant  
Nonsan plant  
Yeongcheon plant  
Paju plant

RNE-RP500BT



Joint / M  
Jecheon plant

RNE-RP500BT/M



Viatron in Suwon



Yeosu Expo

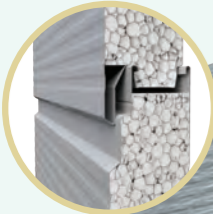


Dongyang Furniture Complex in Asan

# EPS PANEL

Boltless panel

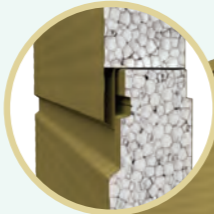
SB RP1000



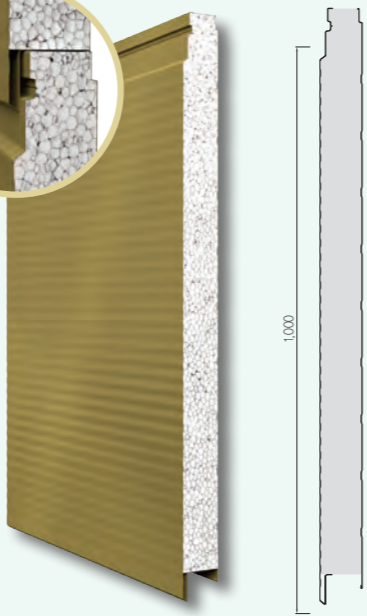
Joint / S  
Inju plant  
Nonsan plant  
Yeongcheon plant  
Paju plant



RNE-RP1000BT



Joint / M  
Jecheon plant

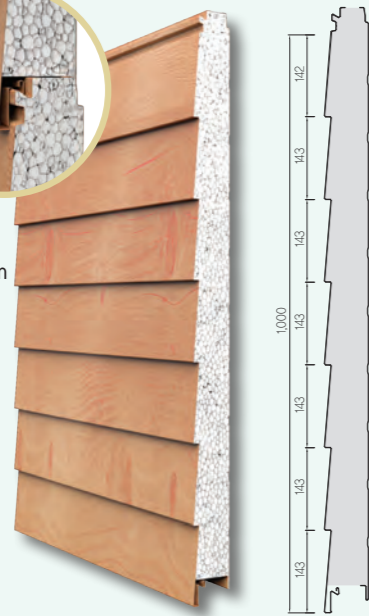


RNE-RP1000BT/M

SB siding 7



Joint / S  
Inju plant  
Yeongcheon plant



RNE-7ST



Joint / M  
Nonsan plant



RNE-6ST



Mideum Agricultural Association in Pyeongtaek



Wooyang HC in Pyeongtaek



Silla Engineering in Asan

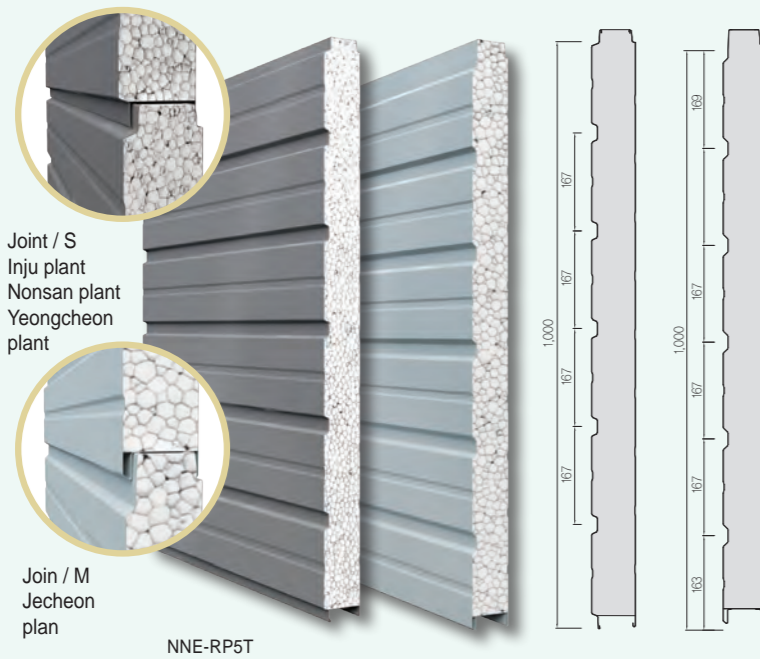


Bonsung in Suwon

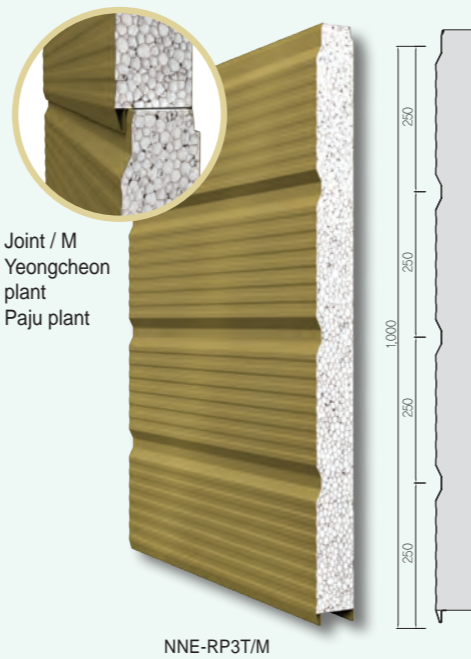
EPS PANEL

# EPS PANEL

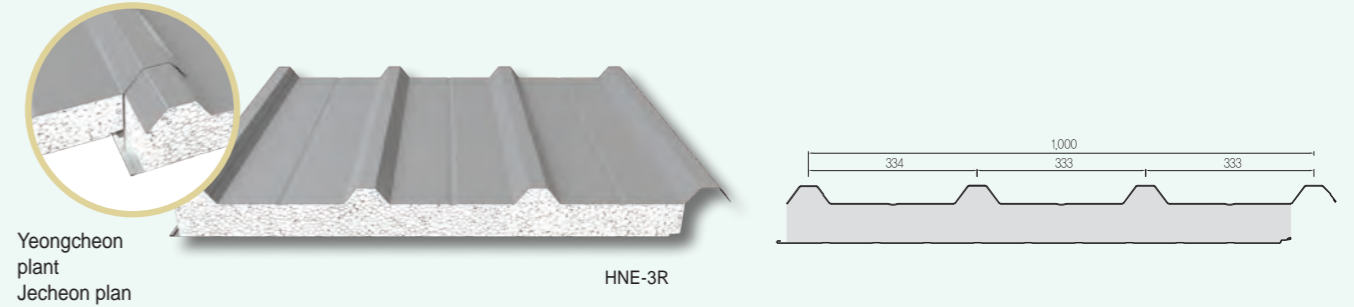
## General panel RP5



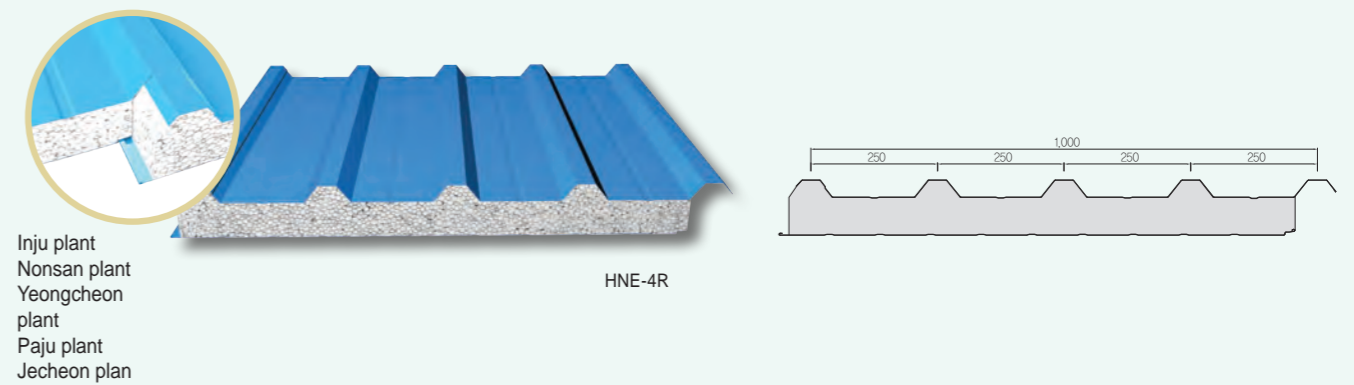
### RP3



### Roof 3



## Roof 4



### Wall (Ossiculate / flat panel)



### Daewon Kang Up in Cheonan



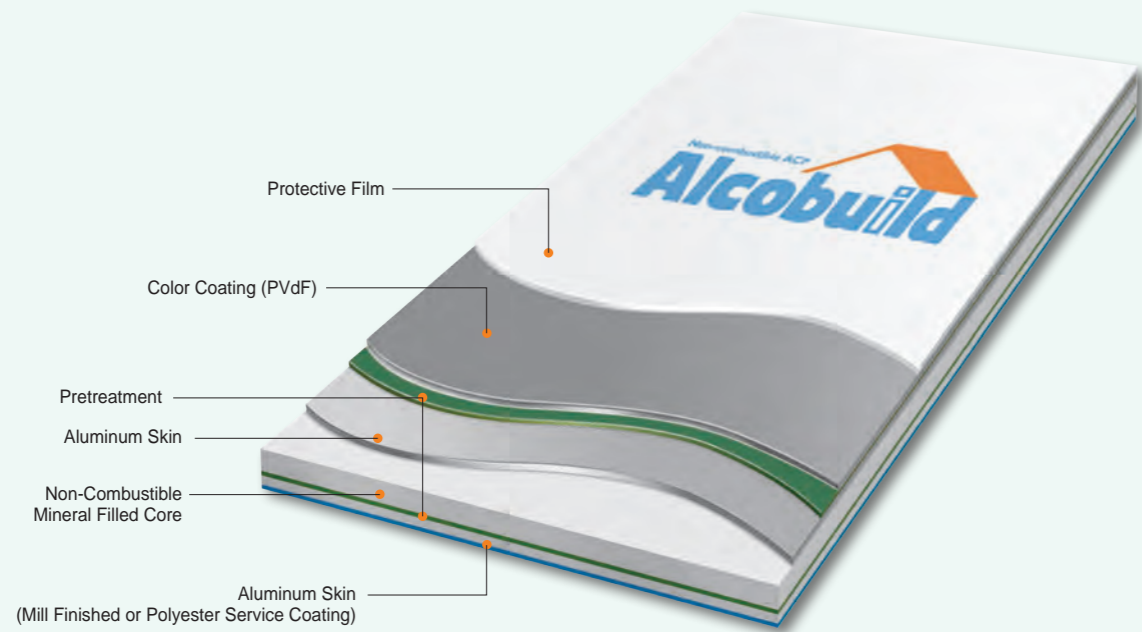
## Sign Telecom in Paju



## NKG Logistics in Asan

# ALUMINUM COMPOSITE PANEL

## ALCOBUILD



### Characteristics

#### Smoothness

It is Alcobuild sandwich structure which maintains excellent smoothness comparing to single panels.

#### Lightweight & strength

Due to the lightweight and high strength of Alcobuild/ Fr, it can reduce the load of buildings by 15~20% comparing to aluminum sheets with the same strength.

#### Processability

Due to the flexibility of aluminum and high molecule core material, it is possible to be processed diversely by cutting, bending, curving, clipping and drilling.

#### Durability

As the surface of Alcobuild/ Fr is painted with Kynar500, high molecule fluoride resin paint, it is guaranteed to have an excellent durability and color maintenance.

#### Color uniformity

As we are the company manufacturing composite panels with a color coating line (CCL) for the first time in Korea, we can realize diverse high-class patterns, as well as color uniformity.

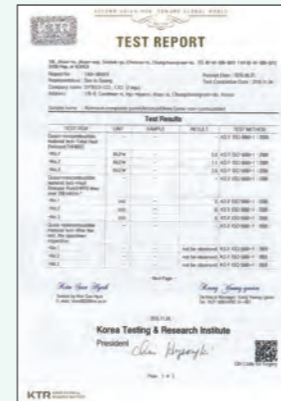
### Product standards

Product constitution	AL 0.5T PVDF + 3.0T inorganic core material + AL 0.5T
width	1020mm, 1250mm, 1575mm
Thickness	4.0mm (3mm and 6mm product can be custom-made)
Length	No limit (Less than 5,000mm is recommended for the convenience of transport and handling)
Color	44 basic colors (Refer to color chart and samples. Customized colors are available depending on the customers' demand)

### Major uses

Interior and exterior materials of buildings  
 Replacement of exterior materials of remodeled building  
 Finishing materials such as canopy and roof  
 Panel of exhibition hall and doors  
 Interior materials of vehicle, TV Back panel

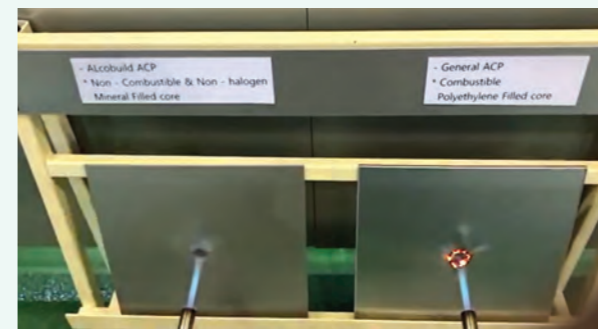
### Test report



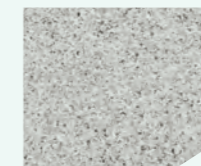
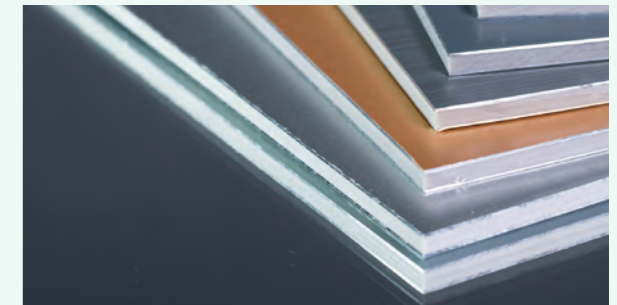
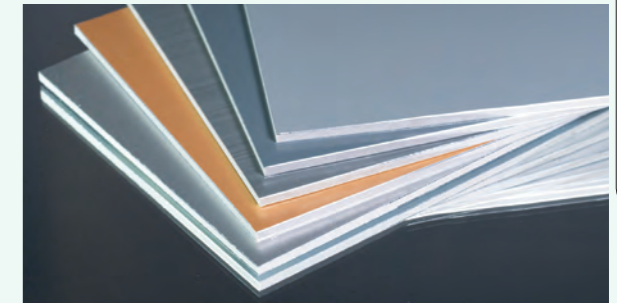
Quasi non-flammability test report of aluminum composite panel



ISO 9001 Certification



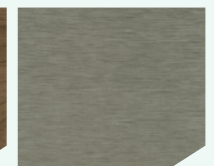
ACP flame retardance test



Stone



Timber



Metal



Gasan Misogium Officetel



Paju Unjeong Homeplus

# DECORATION PANEL

Decoration panel possible to express realistic texture of diverse materials such as natural stone and tile Possible to remodel quickly and easily, as it can be installed directly to the walls of the old building to be renovated



### Characteristics

**Rust preventive property**  
Using rust-free AL surface material, permanent use is possible

**Insulation property**  
Using A-class insulation material, PUR and PIR

**Construct ability**  
Minimizing the load as it is thin and light

**Design**  
Three-dimensional texture expression with diverse colors and materials such as stones and tiles

### Specifications

Classification	Specifications	
Skin	Exterior	AL COIL. 0.4T
	Interior	AL Craft paper
Core Insulation	PIR	
Width	370 mm	
Length	4,000 mm	
Thickness	15 mm	



### Lami style (For interior use)



# DECORATION PANEL

## Stone style

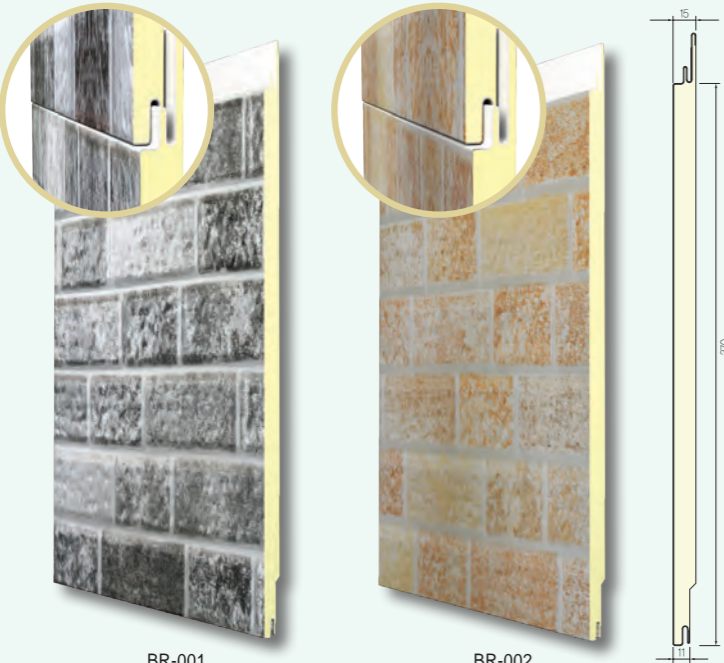


ST-001

ST-002

ST-003

## Brick style



BR-001

BR-002

## Stripe

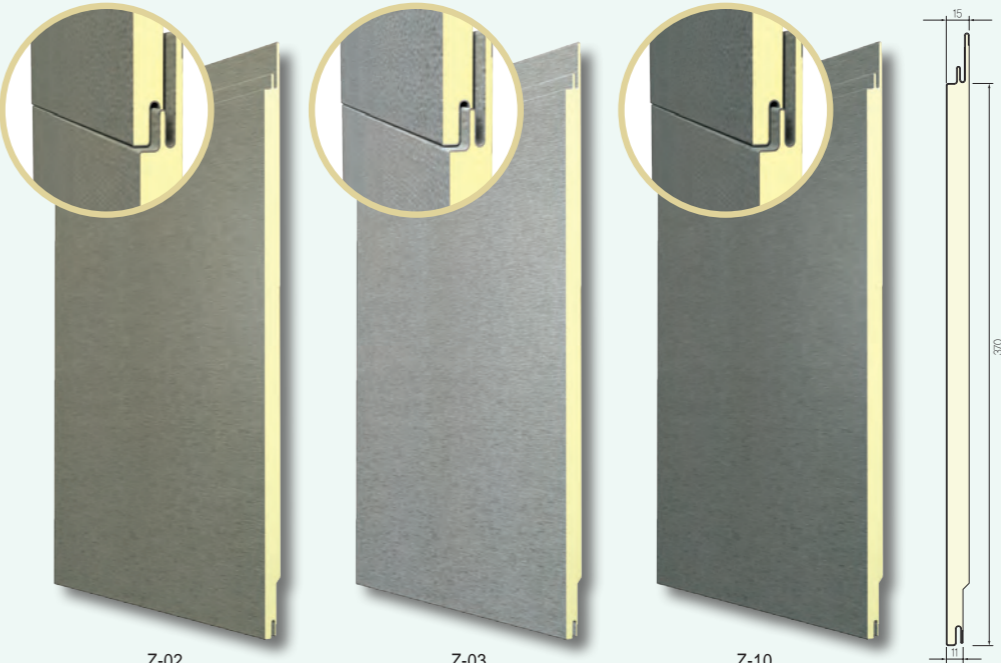


BH-001

BH-002

BH-003

## Zinc style



Z-02

Z-03

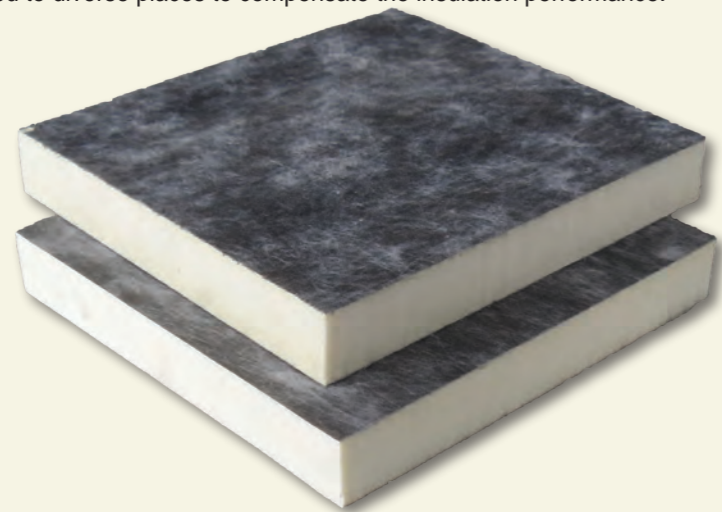
Z-10

# TECH BOARD

## What is tech board?

PIR insulation material with improved flame retardance, thermal resistance and low smokability, while maintaining the strength of existing Polyurethane(PUR)?, by using Polyisocyanurate(PIR), which gives the most excellent insulation effect, as an insulation material

As energy saving is becoming a worldwide issue, and the standard for insulation is getting higher by law, it is necessary to apply insulation materials flexibly. As tech board has an excellent heat conductivity comparing to the commercial insulation materials for construction, it can be applied to diverse places to compensate the insulation performance.



## Characteristics

### Most excellent insulation performance

It has the lowest heat conductivity (Less than 0.023W/mK based on KS M 3809) among the commercial insulators for construction, and it provides excellent utilization of space as it is thinner than the other organic and inorganic insulation materials.

### Sound insulation performance

Providing a comfortable residential space by blocking the internal and external noises of buildings

### Diverse choices of surface finishing material

Possible to apply diverse surface finishing materials in the process of product production (Felt, tinfoil)

### Eco-friendliness

It is an eco-friendly material with authentications for environmental indicator and eco-friendly construction material that does not emit organic compounds (TVOC, HCHO- formaldehyde, benzene, etc.)

## Standard

(Unit : mm)

Type	20 ~ 45	50 ~ 120	125 or over
Thickness tolerance	±2	±3	Based on the negotiation
Width tolerance	1,000 ± 5		
Length tolerance	1,800 ~ 3,100 ± 5 (Unit: 10mm)		

1. Basic standard: Thickness x width x length = thickness x 1,000 x 2,000
2. The size of ordered products is negotiable between the orderer and manufacturer. Refer to the above table for allowable errors, this time .

## Uses of product

Building sector: Insulation material for roofs, walls and floors of all buildings

Other sectors : Insulation material for vehicles, ships, cold storage, refrigeration warehouse, etc.

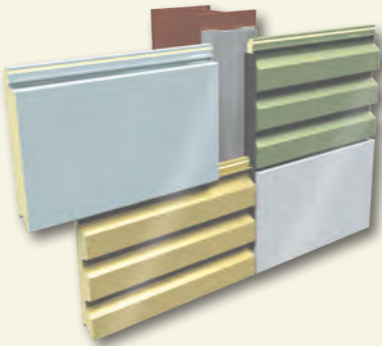
## Types / characteristics (KS M 3809) of tech board

### Type

Type		Summary	Mark
Class 1 insulation plate	No. 1	Plate-shaped insulation material without foam plastic facings made of polyisocyanate, polyol and foaming agent	High density
	No. 2		Medium density
	No. 3		Low density
Class 2 insulation plate	No. 1	Plate-shaped insulation material attached with the facing which is formed in a sandwich shape through self adhesion, after foaming the compound of polyisocyanate, polyol and foaming agent between the facings	High density
	No. 2		Medium density
	No. 3		Low density

### Characteristics

Type		Apparent density (kg/m³)	Heat conductivity (W/m·K)	Bending strength (N/cm²)	Compression strength (N/cm²)	Absorbed amount (g/100cm²)	Inflammability
Class 1 insulation plate	No. 1	45 or over	0.024 or lower	35 or over	30 or over	3.0 or lower	Burning time should be within 120 seconds, and burn length should be 60mm or less
	No. 2	35 or over	0.024 or lower	25 or over	20 or over		
	No. 3	25 or over	0.025 or lower	15 or over	10 or over		
Class 2 insulation plate	No. 1	45 or over	0.023 or lower	35 or over	15 or over	3.0 or lower	-
	No. 2	35 or over	0.023 or lower	25 or over	10 or over		
	No. 3	25 or over	0.024 or lower	15 or over	8 or over		



Exterior material for construction: Cube metal



Insulation of buildings (Apartments, housings)



Distribution / Cold storage

# FIRE DOOR

We are producing fire doors in diverse colors and designs.  
Contact the business team for detailed information on products.



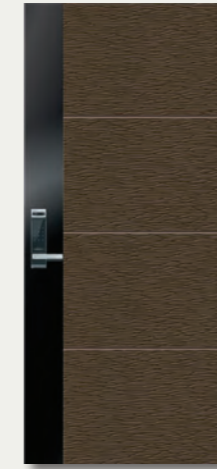
## Characteristics

It has excellent soundproof, windproof and heat insulation properties with its dual block structure, and is made of anti-scratching embossed material.

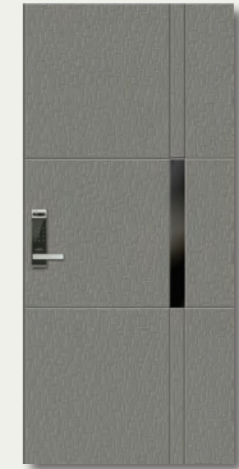
Pursuing refined and harmonious beauty with high-class door design, and it is developed to meet the eyes of the customers who pursue practicality.



SY-P-520



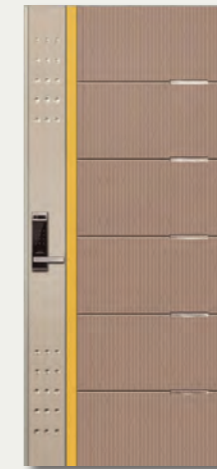
SY-P-521



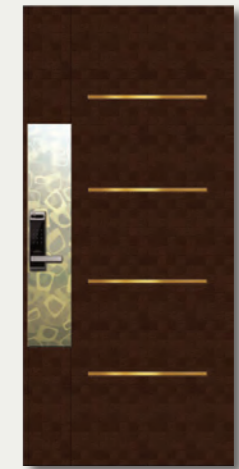
SY-P-523



SY-C-002



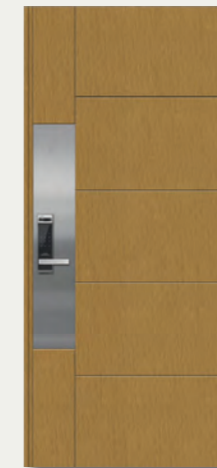
SY-C-024



SY-P-519



SY-C-603



SY-C-610



SY-C-613

# WINDOWS

## Slide windows

It is a high-class window for balcony made of PVC which has an excellent insulation property, and suitable for exterior window as it has excellent insulation performance and stability realized by its multiple airtight structure.



### Characteristics

High-class window for balcony made of PVC which has an excellent insulation property. It has excellent insulation performance due to its low heat conductivity and multi-connection structure, and is an insulation window with improved air-tightness by forming a double airtight structure, when it is closed.

Its air-tightness and insulation performance are improved by designing the window frame, and upper and lower rails higher than the existing products, and it secures excellent water-tightness.

### Uses

High-performance and high-class balcony window suitable for the exterior windows (Balcony window) of luxury houses, apartments, villas and condos

## System window

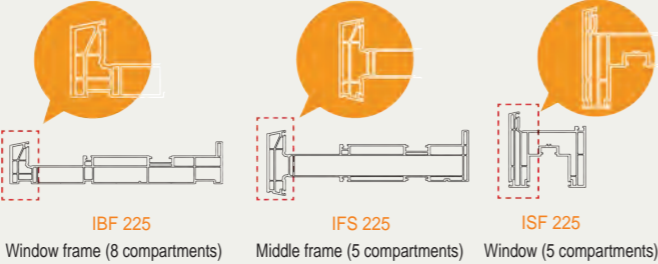
It is a system window with improved wind pressure-resisting and insulation performances realized by its reinforced multiple structure and stiffeners



### Characteristics

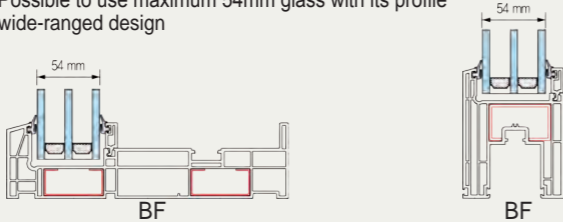
It realizes a strong wind pressure-resisting performance as a wide stiffener is inserted into the middle window frame, and creates a refined indoor atmosphere with its simple exterior.

### Multiple structure of PVC profile EDGES



### Glass type

Possible to use maximum 54mm glass with its profile wide-ranged design



# UNIT BATH ROOM

## Characteristics

### Stable quality

SY bath can be managed efficiently due to its standardized quality realized by strict quality management.

### Simple and quick installation

SY bath can be installed on-site due to its simple dry assembly method, being different from the traditional ones. 2 workers can install one set in 4 hours.

### 100% waterproofing property

The floor of bathroom prevents leakage without an additional waterproof work due to its flanged corner design.

### Thorough A/S

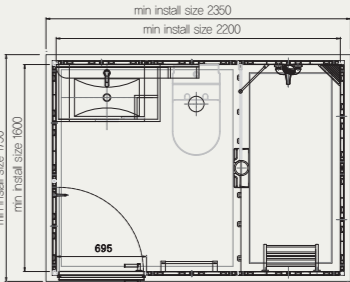
Reducing maintenance cost by providing a thorough follow-up service for customers.

### Reducing costs

It is possible to reduce the installation and maintenance costs through its excellent quality, simple purchase and installation, and thorough follow-up management.

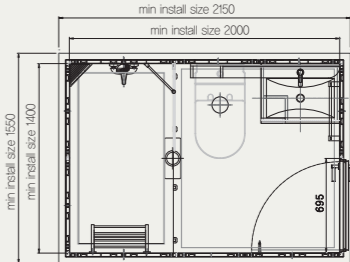
### UB-S01 specifications (Partition type shower booth)

Information on size	Interior	Exterior
Width	1600mm	1750mm
Length	2200mm	2350mm
Height	2300mm	2600mm
Available space	3.25m <sup>2</sup>	
Weight	≤360Kg	



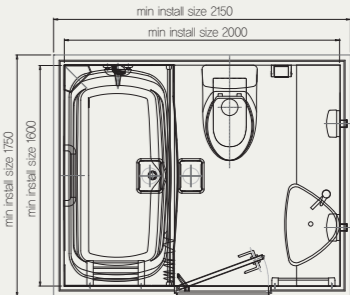
### UB-S02 specifications (Partition type shower booth)

Information on size	Interior	Exterior
Width	1400mm	1550mm
Length	2000mm	2150mm
Height	2300mm	2600mm
Available space	2.85m <sup>2</sup>	
Weight	≤320Kg	



### UB-T01 specifications (Bathtub type)

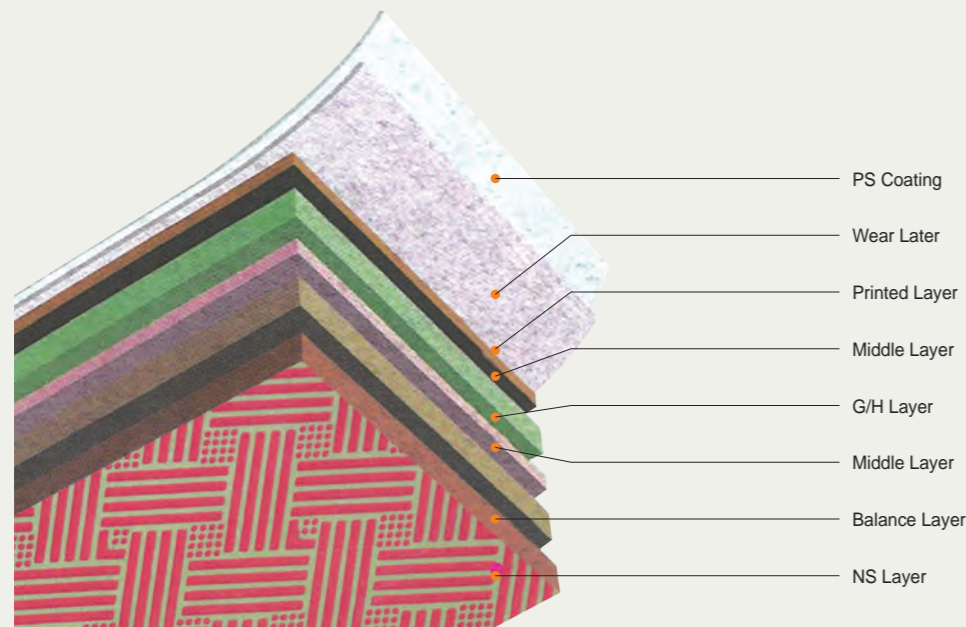
Information on size	Interior	Exterior
Width	1600mm	1750mm
Length	2000mm	2150mm
Height	2160mm	2360mm
Available space	3.2m <sup>2</sup>	
Weight	≤280Kg	



# ECO SPACE, SY DECOTILE

SY deco tile is a floor finishing material with excellent construct ability and durability, and it is made of 100% recyclable eco-friendly material.

By raising the dimensional stability using a glass fiber layer, we have minimized the deformation caused by temperature and humidity. In addition, as it is possible to be installed without using bonds due to the antislip layer on the back side, it can be used for houses, and commercial and educational purposes.



## Characteristics

### Safety

No bond construction, No sick house syndrome

### Construct ability

Fast and simple construction without using bonds

### Durability

Resistant to scratches, heavy load and deformation due to a thick fiber layer of 5T

### Eco-friendliness

100% recyclable, No heavy metals, No formaldehyde

### Execution temperature

The place with an under-floor heating system should be heated for more than 7 days before construction. Temperature of the floor and whole indoor space should be maintained in a certain range of 21~30℃.

### Floor condition

Moisture content should be lower than the standard (1.36kg/93m<sup>3</sup>/24 hours)  
Construct after checking if there are sands, cement particles or cracks on the floor.

### Regular maintenance

Wax-coating cycle is 1~2 months for the places with much traffic, and once per 6 months for general family houses.  
If is stained or polluted, recoat it after cleaning and drying by using a weak alkaline detergent or a cleaner, not using solvent or strong detergent.

### Management after construction

Apply small amount of wax with a clean cloth in a certain interval and direction when the floor is clean and dry.

## Natural wood

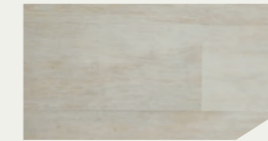


DT-NW01



DT-NW02

## Fine grain wood



DT-FW01



DT-FW02

## Antique wood



DT-AW01

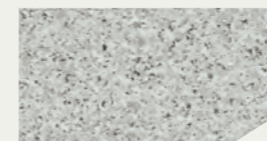


DT-AW02



DT-AW03

## Granite tile



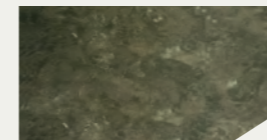
DT-GN01

## Fabric tile



DT-FB01

## Metal tile

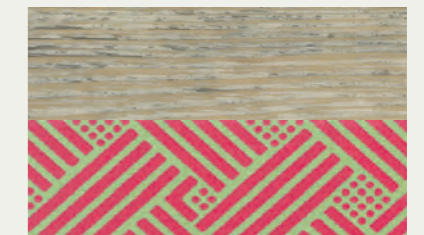


DT-MT01

## Specifications

Wood Type 0.5(T) x 177.8(W) x 1219.2(L)

Design Type 0.5(T) x 450(W) x 450(L)

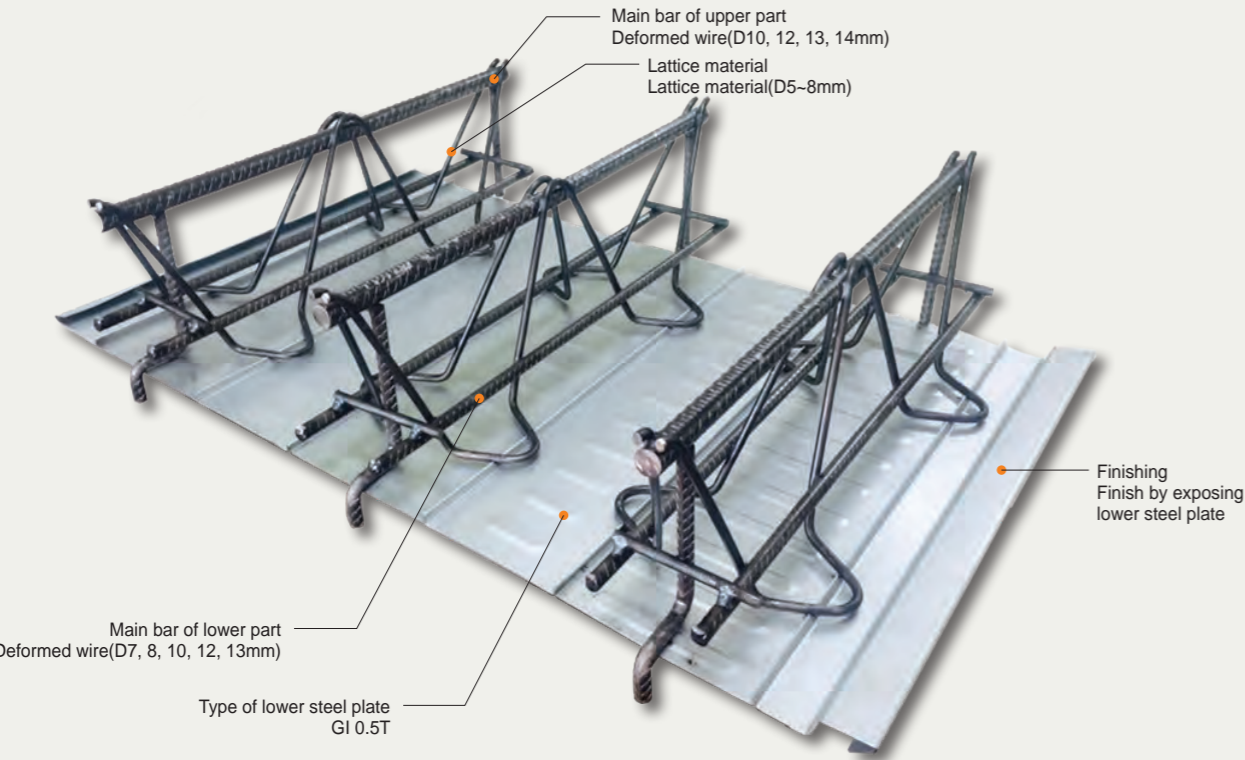


Anti-slip layer of the floor



# TRUSS GIRDER DECK PLATE

## TG DECK (No exposure of welded points)



### Characteristics

Preventing corrosion of plate and realizing a beautiful exterior by not exposing the welded points.  
Improving safety when constructing by increasing the strength of welded points.  
Improving construction quality through high-class construction.  
Reducing construction period and cost.



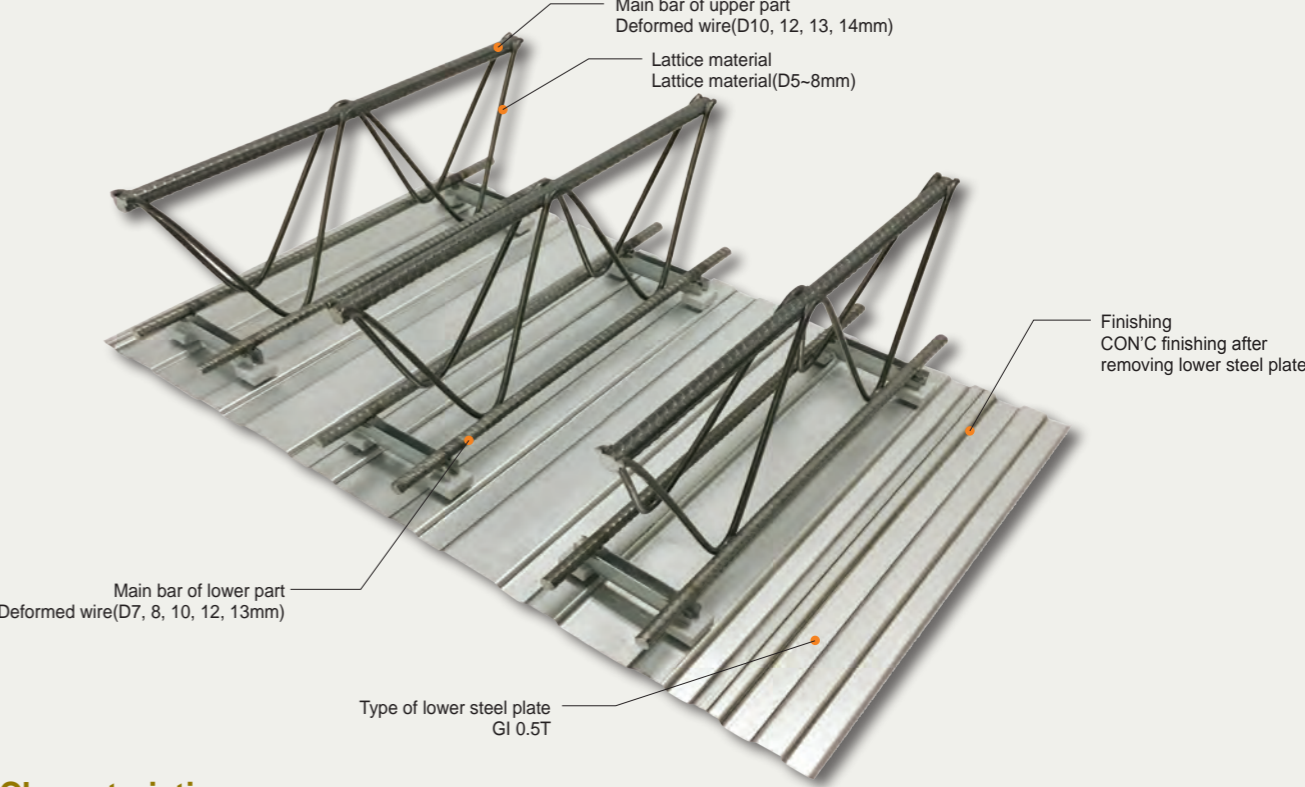
### Specifications / (Producible thickness : 120mm~300mm)

TYPE	TG1	TG2	TG3	TG4	TG5	TG6	TG7	TG8	TG9	TG10	TG11	TG12	TG13	Remarks
Main bar of upper part	1-D10	1-D10	1-D13	1-D13	1-D13	1-D10	1-D12	1-D12	1-D12	1-D14	1-D13	1-D14	1-D13	Lattice Ø5~8
Main bar of lower part	2-D8	2-D10	2-D8	2-D10	2-D13	2-D7	2-D7	2-D8	2-D10	2-D10	2-D7	2-D12	2-D12	

### Purpose of use

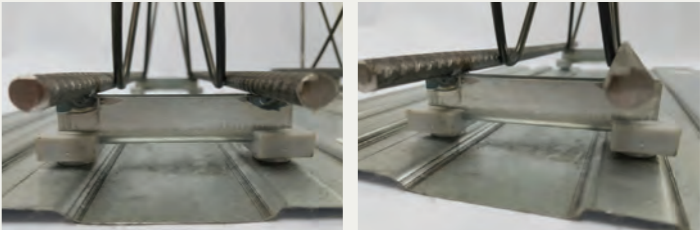
Reinforced concrete structure (RC structure), iron-framed structure (S structure), Reinforced concrete structure (SRC structure)

## GREEN DECK (Form removal)



### Characteristics

Easy to repair cracks and leaked spots due to removable steel plates  
Finished lower surface is compatible with the conventional sector  
Multipurpose installation through partial disassembly  
Possible to recycle the removed steel plates



### Specifications / (Producible thickness : 120mm~300mm)

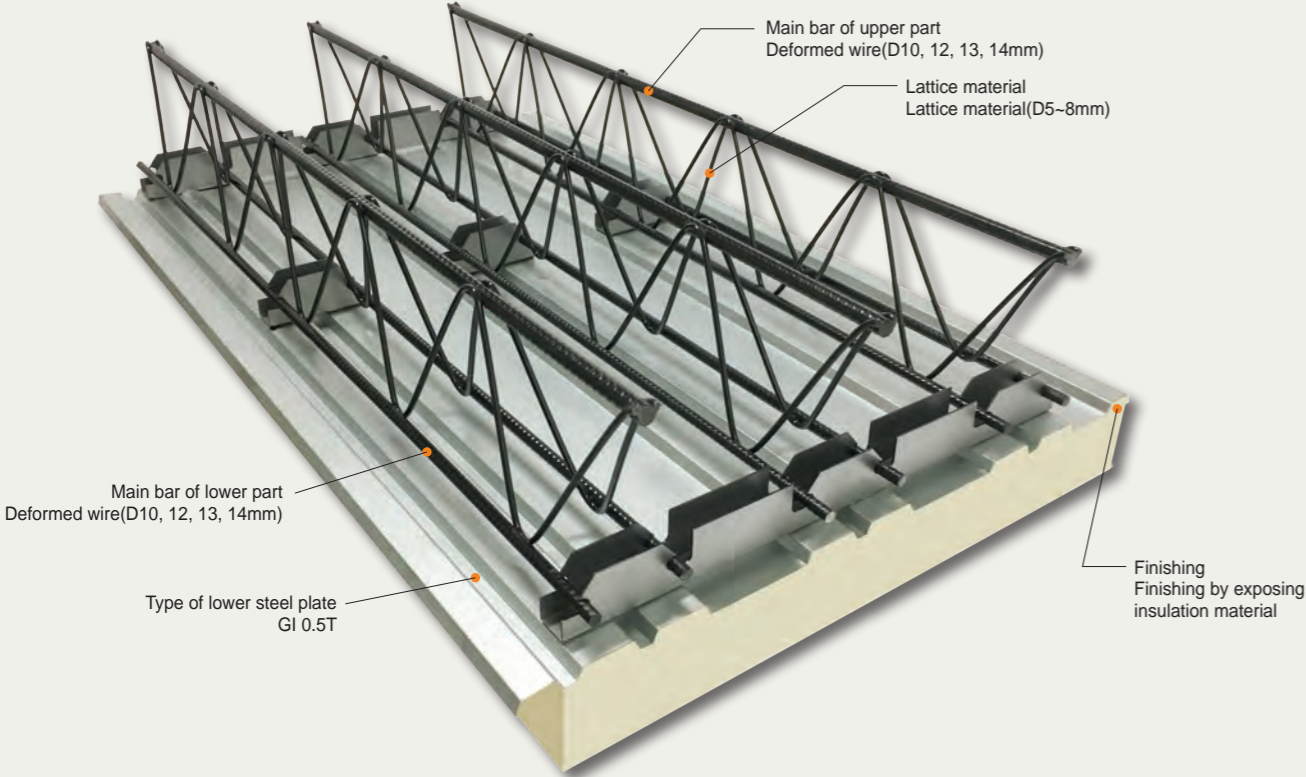
TYPE	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	Remarks
Main bar of upper part	1-D10	1-D10	1-D13	1-D13	1-D13	1-D10	1-D12	1-D12	1-D12	1-D14	1-D13	1-D14	1-D13	Lattice Ø5~8
Main bar of lower part	2-D8	2-D10	2-D8	2-D10	2-D23	2-D7	2-D7	2-D8	2-D10	2-D10	2-D7	2-D12	2-D12	

### Purpose of use

Reinforced concrete structure (RC structure), iron-framed structure (S structure), Reinforced concrete structure (SRC structure)

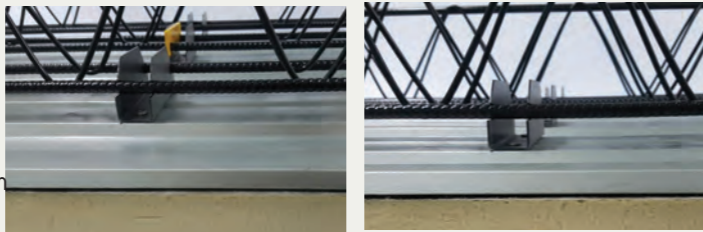
# TRUSS GIRDER DECK PLATE

## HEAT DECK (Insulation)



## Characteristics

Reducing construction period without an insulation process  
Excellent insulation performance with seamless construction (Energy saving effect)  
Reducing construction cost comparing to construction after insulation



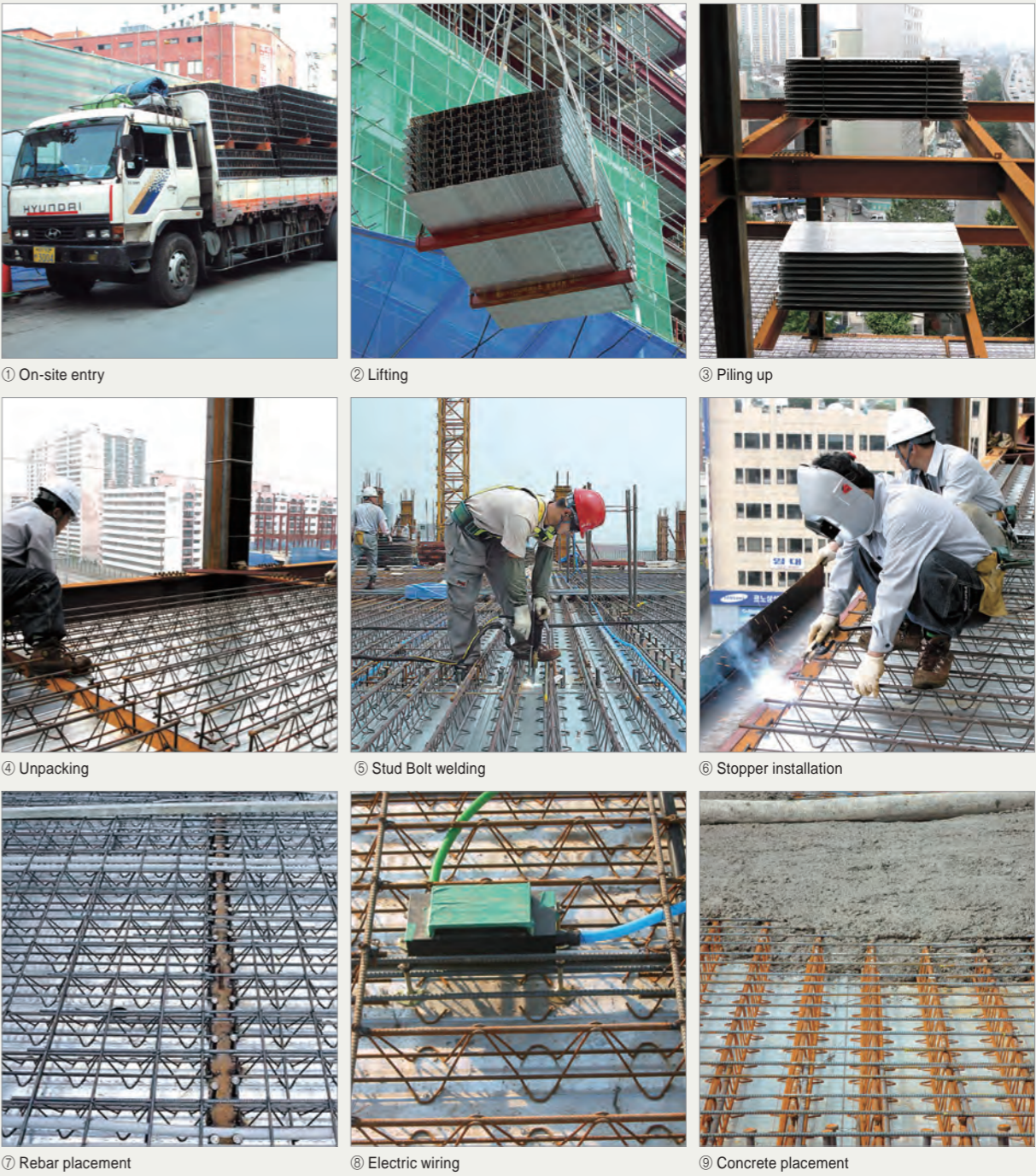
## Specifications / (Producible thickness : 120mm~300mm)

TYPE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	비고
Main bar of upper part	1-D10	1-D10	1-D13	1-D13	1-D13	1-D10	1-D12	1-D12	1-D12	1-D14	1-D13	1-D14	1-D13	레티스 Ø5-8
Main bar of lower part	2-D8	2-D10	2-D8	2-D10	2-D13	2-D7	2-D7	2-D8	2-D10	2-D10	2-D7	2-D12	2-D12	

## Purpose of use

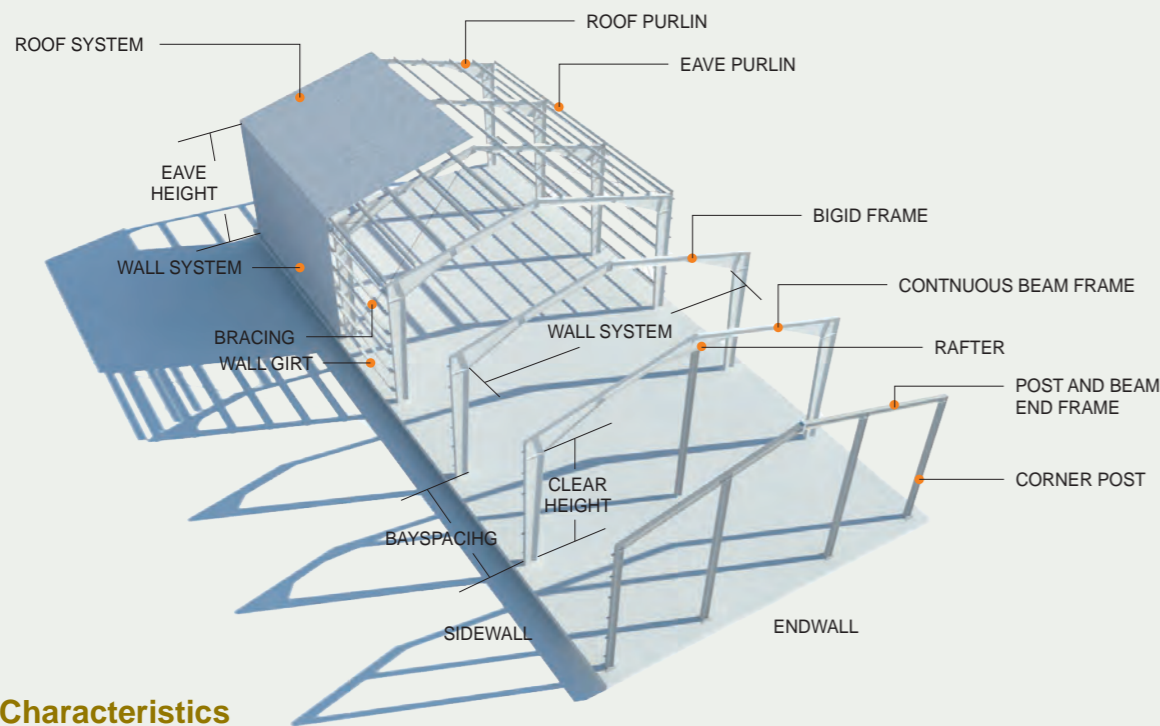
Reinforced concrete structure (RC structure), iron-framed structure (S structure), Reinforced concrete structure (SRC structure)

## Construction procedure



# PEB SYSTEM

TISS PEB SYSTEM, which is designed and produced by using accurate structural calculation, is a differentiated cutting-edge construction method realizing the beauty of construction, cost reduction and durability through economical design, by deciding the thickness and size depending on the imposed force of each subsidiary material.



### Characteristics

#### Economic feasibility

As it removes unnecessary parts through accurate structural calculation realized by using the structural calculation program, and uses lightweight steel structure made of high tensile steel plate, its materials cost is just 70% of that of the general steel frames.

#### Reducing construction period

As it is managed by a computer from the designing stage to construction, on-site welding is not necessary. As it is a bolt assembly system, it could maximize the reduction of construction period.

#### Solidity and beauty

As we design and produce sturdy building materials through diverse simulations considering aesthetic elements, it is a system with which you can get a structure with the best functionality.

#### Space utilization

As it is a structure that can be constructed without columns inside as long as maximum 120m, it can maximize the efficiency of space by being applied to the buildings, of which the indoor space should be used maximally, such as factories, storages and gyms.

### Price comparison



PEB SYSTEM, which is designed by using the structural calculation program, may reduce the cost by 30% comparing to the existing steel-frame structures.

### Comparison between PEB SYSTEM and general steel frame

	PEB	General steel frame
Insulation plate	Possible to reduce more than 30% of weight through structural calculation of steel frame Through PEB SYSTEM, it is possible to change the sectional shape depending on the stress change, and minimize the number of unnecessary parts.	It is not possible to reduce the weight, as the stress change cannot be reflected by using standardized products.
Use of Z-steel subsidiary material	By designing it with Z-steel continuous beam, it is possible to realize relatively long span and lightweight.	C-steel or c-steel Designing it with single or 2 consecutive beams.
Follow-up structural examination	All the product information is preserved by 티스케크 information system.	As it is calculated, produced and constructed by an individual business, there may be considerable difficulties when extending a building, in the future.
END Plate connection method	It is a connection method using the bolt's axial load capacity by utilizing its material strength, and it is realized by connecting bolts to the direction of the subsidiary material's axis, after installing END Plates on each side of the subsidiary material. It is relatively easy to construct.	It uses friction or bearing-type connection method that connects high tensile bolts after installing a Connection Plate to Flange and Web on the upper and lower parts. It needs lots of plates and bolts.
Use of high-strength steel material	Steel for welding construction SM490A (Fy=325 MPa) is mainly used.	Rolled shape for general construction SS400 (Fy=235 MPa) is mainly used.

### Uses of PEB SYSTEM

#### Works

Factories should be built according to the characteristics of products and line flow. PEB is an unfailing structure that can fulfill diverse demands.

#### Warehouses

PEB is the most suitable method for distribution centers where cargos should be moved freely.

#### Commercial Building

Passenger or cargo terminal with a large human traffic is the representative large buildings showing the characteristics of PEB, in a most appropriate way.

We may say that the benefits of PEB is its excellent economic feasibility considering free design and aesthetic sense realized in the exterior space where the purpose of building and demand are fulfilled each other.

#### Marts

Large shopping malls need a 3-dimensional display area and free variable floor area where customers can purchase products at one place. PEB SYSTEM, which is suitable for this kind of environment, will provide a wide indoor space and pleasant shopping area.

#### Gymnasiums

According to the demand for gyms, of which the number is increasing due to the vitalization of community sports, the number of PEB applications, which realizes beauty and function, is increasing. Being different from the narrow and standardized concrete buildings, PEB provides a large indoor space and comfortability.

### PEB production process



# SY CHEMICAL

'SY Chem' is a system house manufacturing polyurethane and other chemical materials, and it provides its affiliates with cheaper and quality materials to improve their competitiveness. While coping with the growing number of regulations for chemical substances through consistent R&D, the company is aiming to find a way to apply substitute materials, seek for recycling measures, and develop low-density PU foam.



## Products

	GRADE	Use	Characteristics
Polyol system	SYA-Series	EPS & glass wool panel	It has an excellent adhesive property, and is developed to make the panel production easy
	SYB-Series	For continuous board	It has an excellent insulation property, and is developed to reduce the defect ratio when producing boards
	SYD-Series	Intermittent panel for general injection	Excellent insulation property, good flow of foaming process, and easy to remove
	SYP-Series	For exterior polyurethane panel	It has an excellent insulation property, and is developed to make the panel production easy
EPS flame retardant material	SYF-Series	For flame retardant EPS panel	Good adhesive power when producing EPS blocks, and excellent flame retardant property in the combustion

## Flowchart of product manufacturing process



# FLASHING SUB MATERIAL

### Ridge Top (A type)

AxB	150x150
AxB	180x180
AxB	200x200
AxB	250x250

### Semi Ridge (Half truss)

50T	A	180
75T	A	180
100T	A	180
125T	A	180
150T	A	230
175T	A	255
200T	A	280

### Ridge Top (Shingle Type)

AxB	150x150
AxB	200x200

### Ridge Down

AxB	150x150
AxB	200x200

### C/S U bar

50T	A	51
75T	A	76
100T	A	101

### canopy Side

50T	A	405
75T	A	455
100T	A	505
125T	A	555
150T	A	605
175T	A	655
200T	A	705

### Gutter (Projected type)

50T	A	130
75T	A	155
100T	A	180
125T	A	205
150T	A	230
175T	A	255
200T	A	280

### Gutter (For Base)

50T	A	210
75T	A	210
100T	A	210
125T	A	210
150T	A	260
175T	A	285
200T	A	310

### Side water cut

AxB	150x150
AxB	200x200

### Projected gable

50T	A	95
75T	A	120
100T	A	145
125T	A	170
150T	A	195
175T	A	220
200T	A	245

### Flat gable

50T	A	180
75T	A	180
100T	A	180
125T	A	180
150T	A	230
175T	A	255
200T	A	280

### C/S Outside corner bar

50T	A	180
75T	A	180
100T	A	180
125T	A	180
150T	A	230
175T	A	255
200T	A	280

### Joint Cover

AxB	150x150
AxB	200x200

### GI base channel

50T	A	70
75T	A	90
100T	A	115
125T	A	140

### High GI base channel

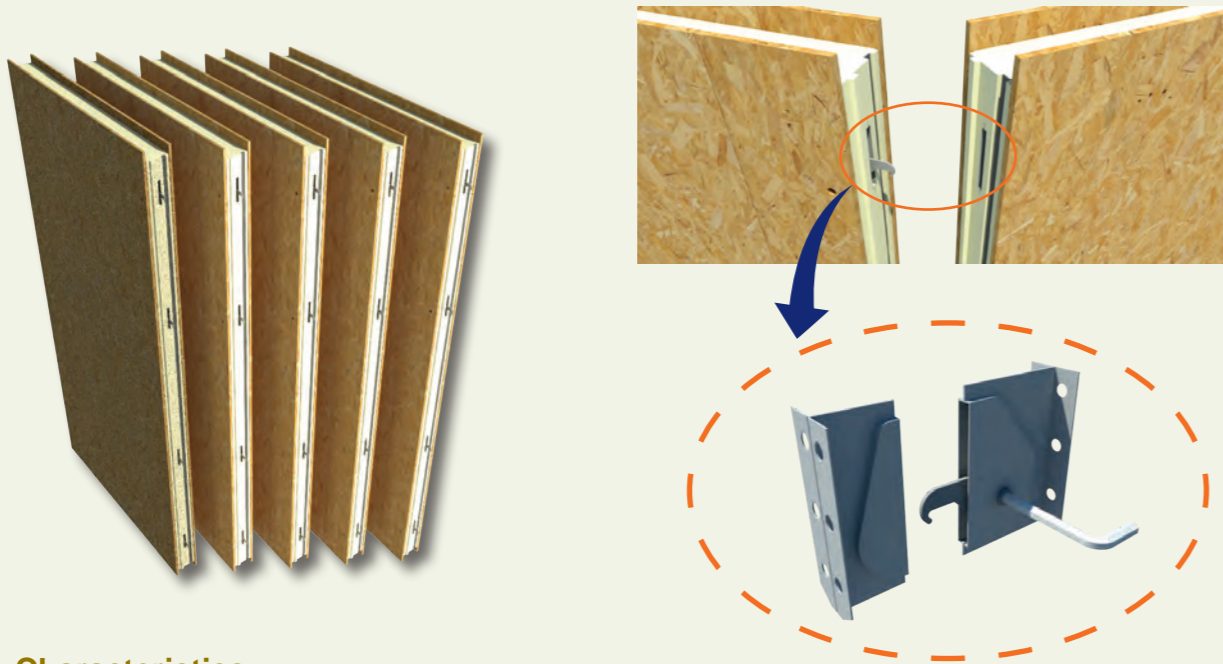
50T	A	70
75T	A	90
100T	A	115
125T	A	140

# POLYCAM MODULAR

Recyclable structure insulated panel (SIP) which is easy to be installed and removed without damages through CAM-LOCK connection method for the first time in Korea, and SY Builds applied for a patent for this.

## SIP (Structure Insulated Panel)

Modular construction material possible to be used as a bearing wall which is made by inserting an insulation material between the surface materials made of structure synthetic wood OSB (Oriented Strand Board).



## Characteristics

### Easy construction

Possible to reduce the construction period as it is easy to be installed.

### Reducing housing construction cost

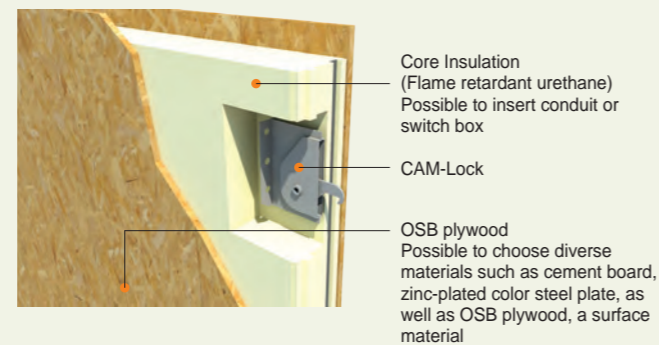
It guarantees excellent insulation performance realized by using urethane materials, and makes us possible to have a comfortable and quiet life by simplifying HVAC (heating, ventilation, air handling) system. It is possible to reduce construction cost by decreasing the cost for heating and cooling, and shortening the construction period.

### Eco-friendly construction material

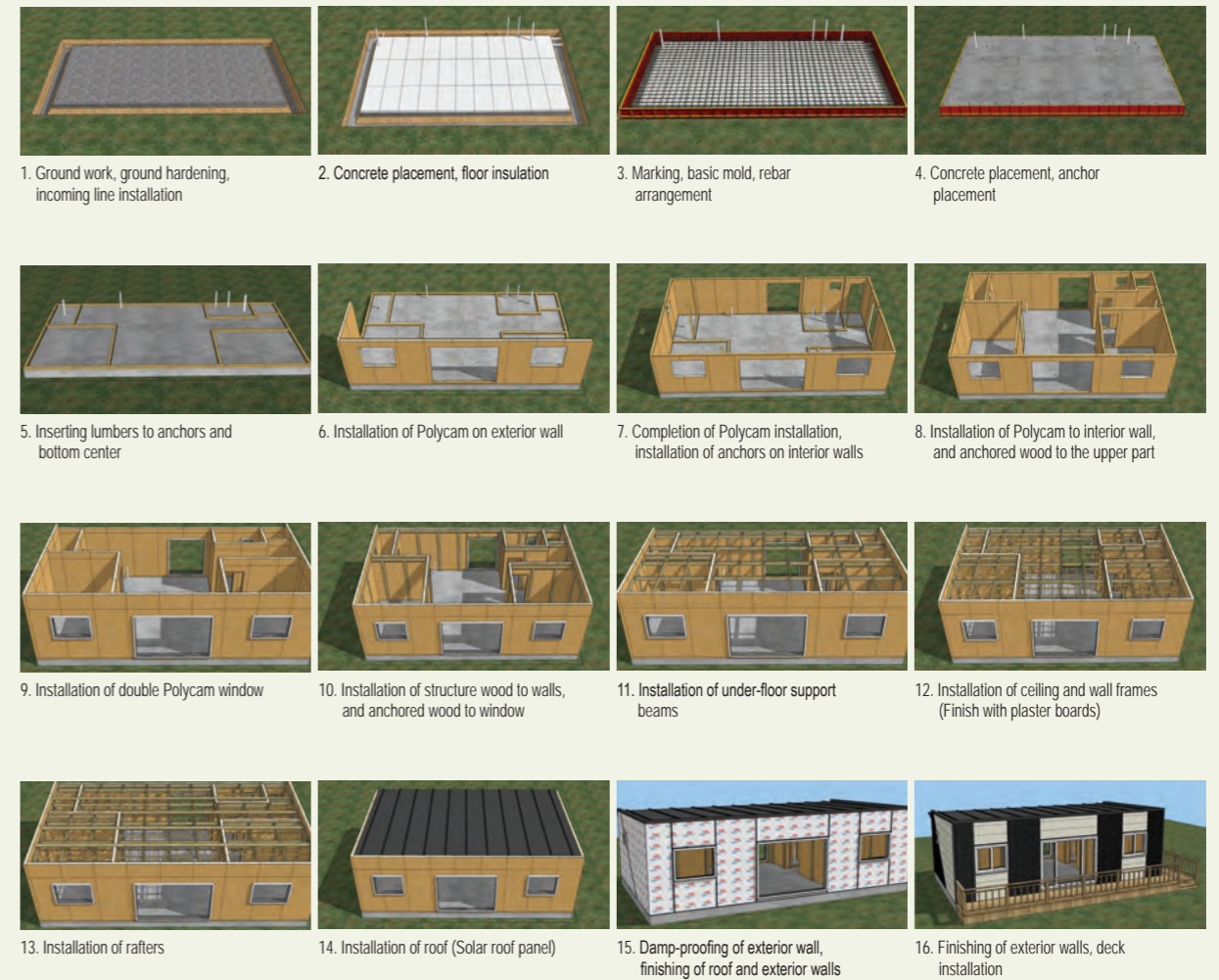
It is recyclable due to its easy installation and removal realized by CAM-LOCK system, and possible to reduce the amount of waste materials and lumbers, which are currently used.

Possible to construct with one engagement tool by adopting CAM-Lock structure.

There are 4 connecting parts in each panel, and it is easy to install and remove. Fixation power (340kg/ea)



## Construction procedure



## **SY GROUP**

### **SY PANEL**

Head office	: 7F, Rich Tower, 261 Gyeongsudae-ro, Suwon-si, Gyeonggi-do
Seoul office	: 4F, Boseong Building, 3, 82-gil, Nonhyeon-ro, Gangnam-gu, Seoul
Inju plant	: 23-120 Injusandan-ro, Inju-myeon, Asan-si, Chungcheongnam-do
2nd Inju plant	: 176-9 Geolmae-ri, Inju-myeon, Asan-si, Chungcheongnam-do
Nonsan plant	: 829-20 Maejukheon-ro, Gayagok-myeon, Nonsan-si Chungcheongnam-do
Dunpo plant	: 139 Asanvalley-ro, Dunpo-myeon, Asan-si, Chungcheongnam-do
Pyeongtaek plant	: 92-15 Gammidong-gil, Cheongbuk-myeon, Pyeongtaek-si, Gyeonggi-do
Jecheon plant	: 36 Biovalley3-ro, Jecheon-si, Chungcheongbuk-do
Yeongcheon plant	: 46-6 Seonjin-gil, Daechang-myeon, Yeongcheon-gun, Gyeongsangbuk-do
Paju plant	: 14-90, 76beon-gil, Jangsan-ro, Munsan-eup, Paju-si, Gyeonggi-do

### **SY CORNING**

Inju plant	: 23-120 Injusandan-ro, Inju-myeon, Asan-si, Chungcheongnam-do
Seonghwan plant	: 287 Yeonamyulgeum-ro, Seonghwan-eup, Seobuk-gu, Cheonan-si, Chungcheongnam-do

### **SY BUILD**

2nd Inju plant	: 75-82 Injusandan-ro, Inju-myeon, Asan-si, Chungcheongnam-do
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### **SY CHEMICAL**

Chungju plant	: 78 Chungjusandan3-ro, Chungju-si, Chungcheongbuk-do
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### **SY STEEL TECH**

Chungju plant	: 154 Segogae-ro, Eomjeong-myeon, Chungju-si, Chungcheongbuk-do
Seoul office	: 6F, Boseong Building, 3, 82-gil, Nonhyeon-ro, Gangnam-gu, Seoul

### **SY STEEL VINA**

### **SY PANEL VINA**

### **SY SNC**

### **SY KENCANA SY BUILD**