
DONG SHIN
PANEL SYSTEMS

A Company pursuing the best with a Corporate Spirit of challenge

Dongshin has placed the spirit of challenge and frontiership as its corporate ideology, and has realized that only the development of advanced products and technology can progress the company and maintain the competitiveness in this era of harsh international competition. Hence we have continuously put our best efforts to achieve what we have today.

KS UL ISO 9002

Dongshin was the first to produce and construct the polyurethane sandwich panel and is the only company in Korea to have achieved the UL mark and **ISO 9002** in this area.
Not satisfied with these achievement, however, Dongshin has continuously learnt new construction methods from advanced countries, and has strived for new progress, thus, its capabilities have been recognised both home and abroad.

URETHANE PANEL SYSTEM

The Combination of Dong shin's know-how for a perfect Building Environment

Polyisocyanurate (P.I.R.) foam

One of the best insulating materials available so far is rigid polyurethane foam (P.U.R.) PUR foam, however, has not been extensively used in building construction due to its poor properties on flammability, thermal stability and smoke developed, as compared to other heat insulating materials. PUR foam also does not meet building application safety requirements of most countries. With an effort to improve the performance of PUR, DongShin developed polyisocyanurate (P.I.R.) foam. PIR foam improved the flammability, thermal stability, and smoke developed properties of PUR while still maintaining the strong properties of PUR. Aside from these, the main advantage of PIR is that it does not induce oxidation of metals in contact.

Perfect Heat Insulation

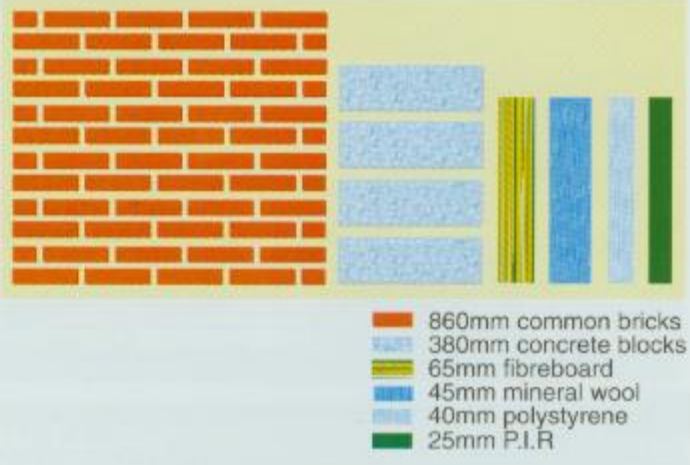
URETHANE PANEL is the energy conser- vation type of comprehensive construction material as the best heat insulation material (P.I.R.) ever known is used.

Thermal Conductivity

INHERENT PHYSICAL CHARACTERISTICS OF P.I.R.

Classification	Physical Property	Classification	Physical Property
Incombustibility Characteristics	U.L. CLASS I	Compression Strength	Over 1 kg / cm²
Application Temperature	-196°C ~ -230°C	Bending Strength	2.0~2.5 kg / cm²
Heat Conductivity	0.018kcal / mh °C	Shearing Strength	2 kg / cm²
Density	35± 5kg / m³	Adhesive Power	1 kg / cm²
Elasticity Coefficient	20 kg / cm²	Absorption Rate	Under 1g / 100cm²

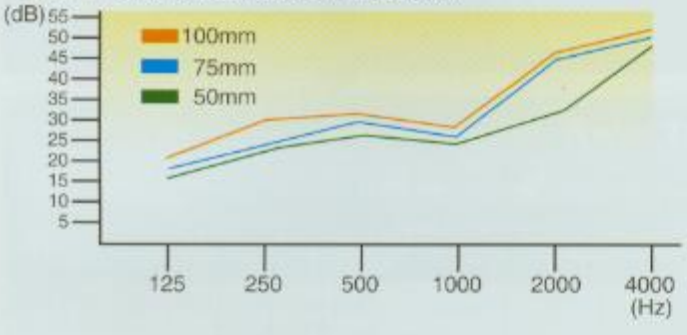
Comparative Thickness of Insulation



Superior Sound Proof

The URETHANE PANEL maintains a superior sound proof effect as it is composed of 2 layers of colour steel sheets and sandwiched rigid P.I.R. inbetween.

Urethane Panel (Soundproof Efficiency)



Rigidity and Lightweight

As URETHANE PANEL is a lightweight structure with an excellent rigidity, the design and construction is very simple and the cost of steel supporting material can be extremely saved.

Rigidity and Lightweight

Simple Erection

The simplification of erection with standardization shortens the construction period and saves the cost thereof.

Water and Moisture Proof

As the rigid P.I.R. does not absorb water and moisture, the URETHANE PANEL maintains the remarkable effect of water and moisture proof.

Excellent Effect of Dewdrop Prevention

Due to the perfect heat insulation effect by using P.I.R. the URETHANE PANEL is completely free from dewdrop.

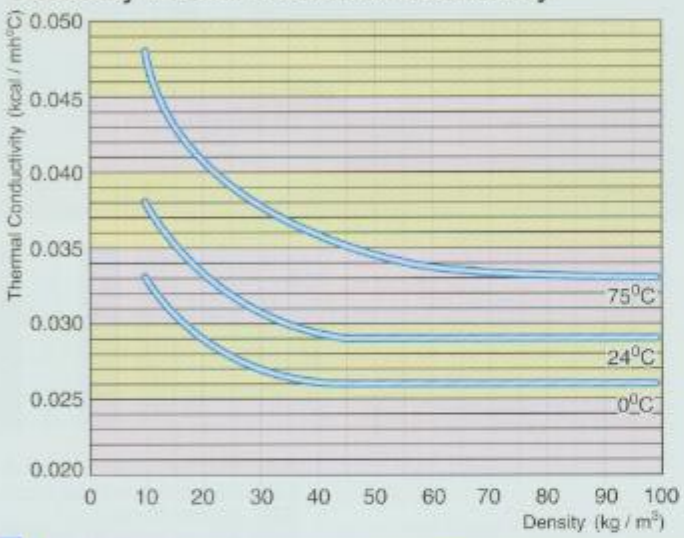
GLASS WOOL PANEL SYSTEM

DongShin Glasswool Panel, born by the efforts of continuous research and development, has the full satisfaction to the function, structure and beautity required for modern architect.

Heat-insulation effect under any circumstance;

Dongshin glasswool panel is made of 4-6u thin and uniform glass fiber by the ultra modern machine. Thus, Dongshin glasswool panel has the superior heat-insulation effect due to the characteristics of glass fiber itself and uniformity of glasswool board.

Density versus Thermal Conductivity



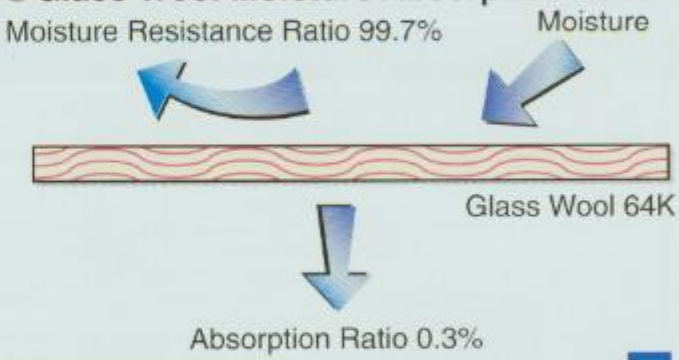
Non-Combustibility

As Dongshin glasswool panel is made of non-combustible glass fiber, it is neither burned by the fire nor does cause the toxic gas.

Non-Combustibility and Moisture Absorption

Item	Characteristics	Standard
Combustion	Non-Combustibility	KS F2271, BS476
	Flame Spread : 0 Smoke- Developed : 10	ASTM E 84 F.S.: 25 under S.D.: 50 under
Moisture Absorption	0.5(Vol)% under	KSF4701

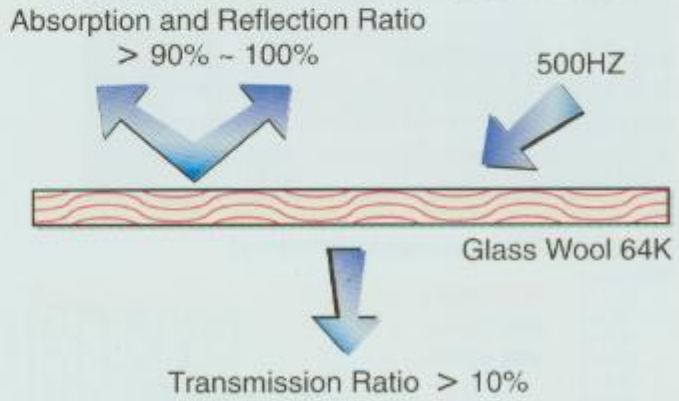
Glass Wool Moisture Absorption Ratio



Sound absorption;

As the glasswool board itself is formed with air stratum inbetween glass fiber, Dongshin glasswool panel has a great sound absorption effect.

Glass Wool Sound Absorption Ratio



Strong Rigidity;

As Dongshin glasswool panel is produced in the form of glass fiber texture being vertically erected and bonded with urethane adhesive, the rigidity of Dongshin glasswool panel is strong enough.

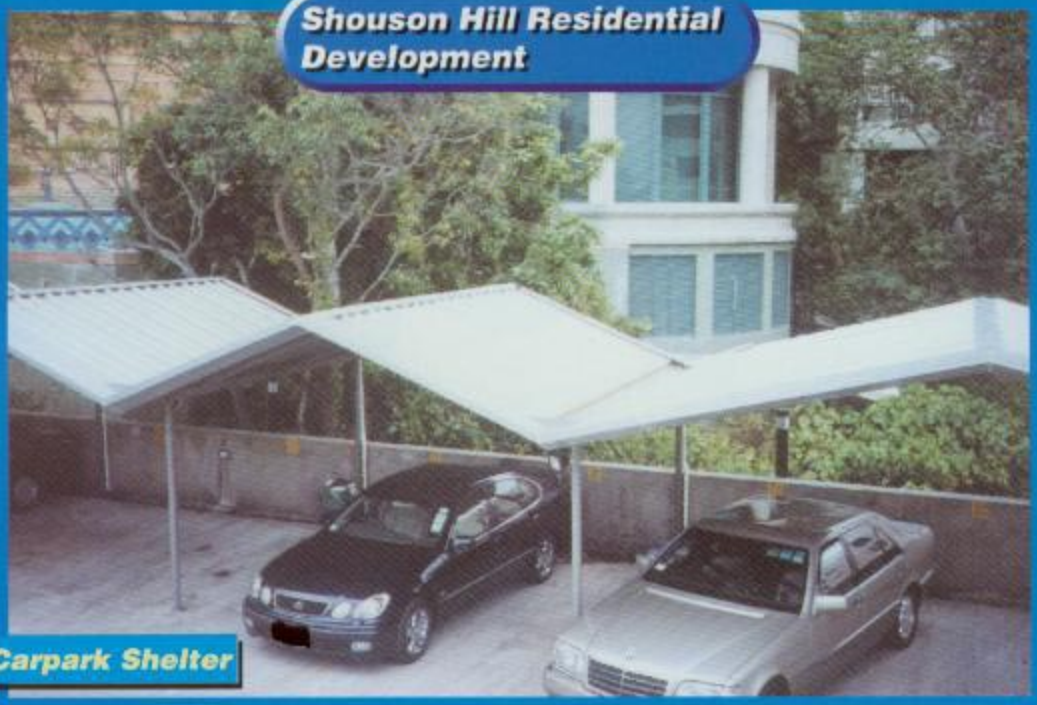
Easy Installation;

The easy installation is realized under any circumstances with the standardization of panel size.

Absorption Coefficent

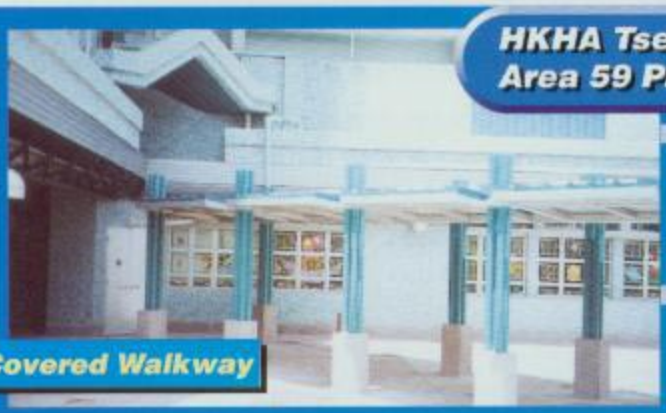
Item	Density (kg / m³)	Thickness mm	Frequency (Hz)						NCR
			125	250	500	1000	2000	4000	
Glass Wool	24	50	0.29	0.67	0.92	0.86	0.76	0.51	0.80
	32		0.64	0.75	0.94	0.85	0.76	0.90	0.83
	40		0.36	0.71	0.92	0.87	0.80	0.62	0.83
	48		0.60	0.86	0.97	0.92	0.80	0.60	0.89
	64		0.29	0.83	0.99	0.99	0.90	0.62	0.93

Shouson Hill Residential Development



Carpark Shelter

HKHA Tseung Kwan O Area 59 Phase 5 & 6



Covered Walkway

PSPS TUEN MUN T.L 395 Lung Mun Road Area 18

Covered Walkway & Canopy

Kwai Tsing Tunnel

Noise Mitigation Measure

UP-250 ROOF PANEL SYSTEM

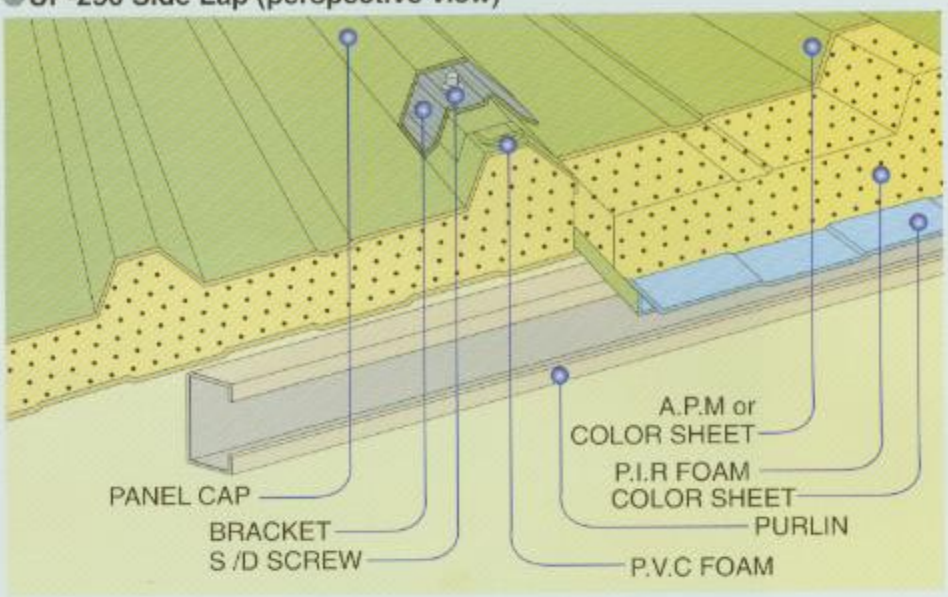
UP-250 Roof Panels are designed for easy drainage under severe rainfall conditions, having a 33mm crease depth at intervals of 250mm. The panel profile design was a result of extensive research and experiments.

●SPECIFICATION

Thickness (mm)	Weight (kg / m²)	Thermal Conductivity (kcal / m²h°C)	Width (mm)	Application
50	12.4	0.38	1000	Roofing
75	13.4	0.23		
100	14.4	0.18		

■ UP-250 BOLTLESS ROOF PANEL SYSTEM

●UP-250 Side Lap (perspective view)



UPW-200 WALL PANEL SYSTEM

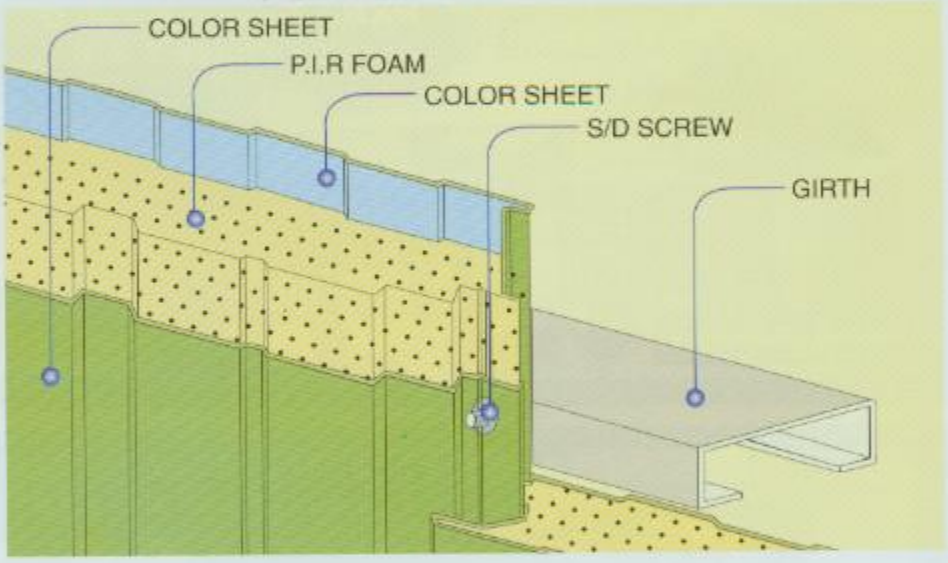
UPW-200 a boltless panel for wall application is both functional and aesthetically sound. Wall construction time is drastically reduced with this system when compared to conventional concrete and plaster method. It also provides concelled fastening to further enhance its aesthetic property as it also adds to the water tightness of the panels there being no exposed holes from fastening screws.

●SPECIFICATION

Thickness (mm)	Weight (kg / m²)	Thermal Conductivity (kcal / m²h°c)	Width (mm)	Application
50	10.1	0.34	1000	Wall
75	11	0.23		
100	14.3	0.18		

■ UPW-200 BOLTLESS WALL PANEL SYSTEM

●UPW-200 Side Lap (perspective view)



UPD-250 DECK PANEL SYSTEM

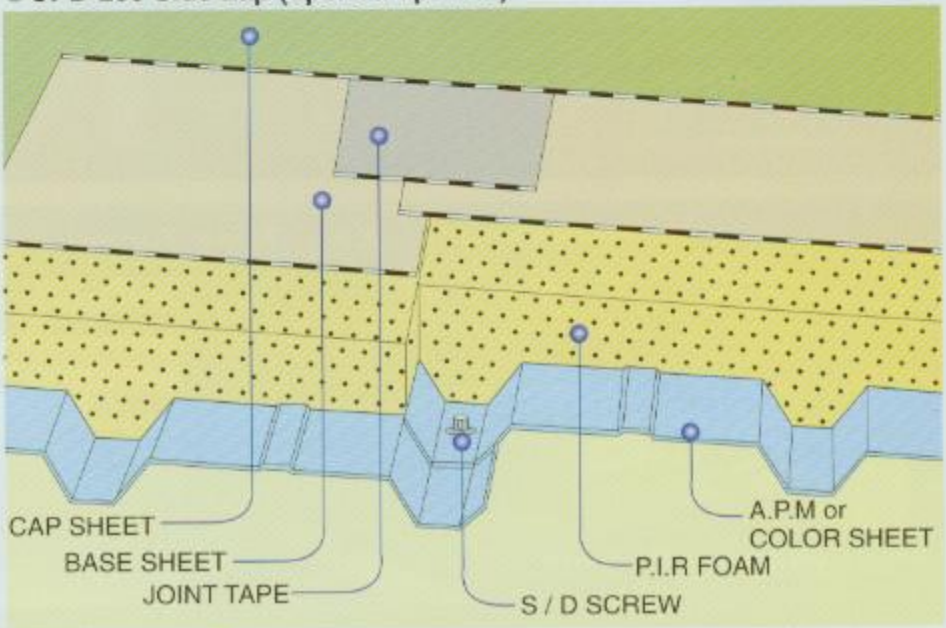
Ultra Deck Panel System provides a flat roof deck surface which is ideal for low pitched roof. It is lightweight and more economical than a concrete deck roof with the advantage of having a fast and easy installation method. Ultra Deck Panel are compatible with most types of waterproofing membranes and can be subjected to from light to medium traffic.

●SPECIFICATION

Thickness (mm)	Weight (kg / m²)	Thermal Conductivity (kcal / m²h°C)	Width (mm)	Application
50	13.9	0.38	1000	Roofing
75	14.9	0.23		
100	15.9	0.18		

■ UPD-250 DECK PANEL SYSTEM

●UPD-250 Side Lap (opened up view)



GP-250 ROOF PANEL SYSTEM

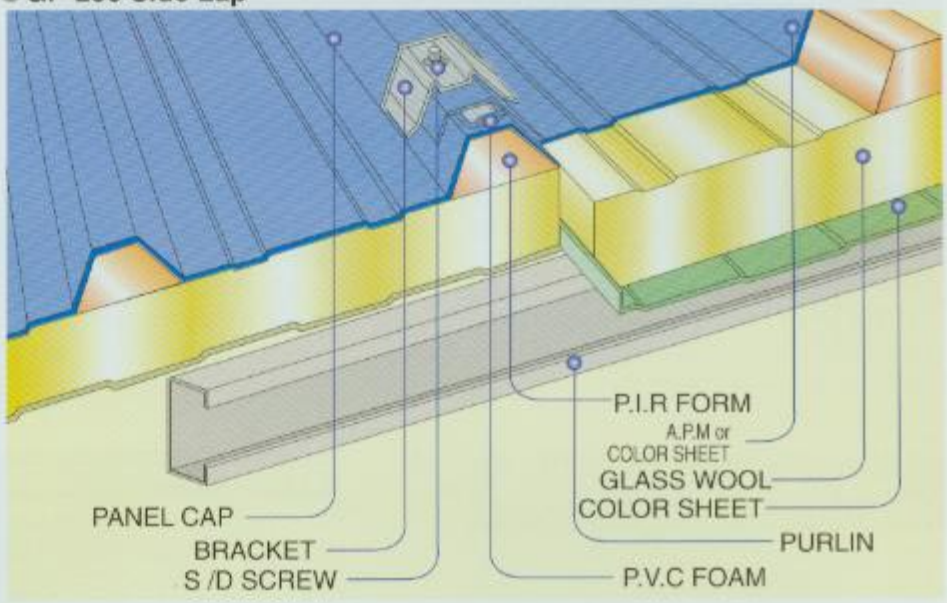
GP-250 roof panel designed for easy drainage, having 35mm depth of corrugated part foamed with urethane, has an excellent rigidity and strength.

SPECIFICATION

Thickness (mm)	Weight (kg / m²)	Thermal Conductivity (kcal / m²h°C)	Width (mm)	Application
50	14.0	0.536	1000	Roof
75	15.6	0.367		
100	17.2	0.279		

GP-250 BOLTLESS ROOF PANEL SYSTEM

GP-250 Side Lap



GPW-330 WALL PANEL SYSTEM

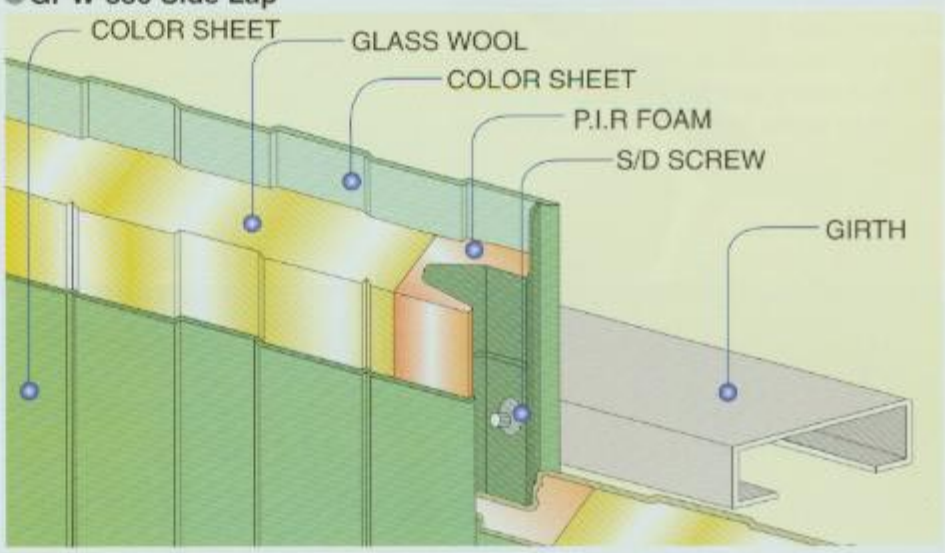
GPW-330 a boltless panel for wall application maintains a superior appearance as the panel connection hole and bolt are completely concealed.

SPECIFICATION

Thickness (mm)	Weight (kg / m²)	Thermal Conductivity (kcal / m²h°C)	Width (mm)	Application
50	13.7	0.531	1000	Walls
75	15.2	0.364		

GPW-330 BOLTLESS WALL PANEL SYSTEM

GPW-330 Side Lap



GPD-250 ROOF PANEL SYSTEM

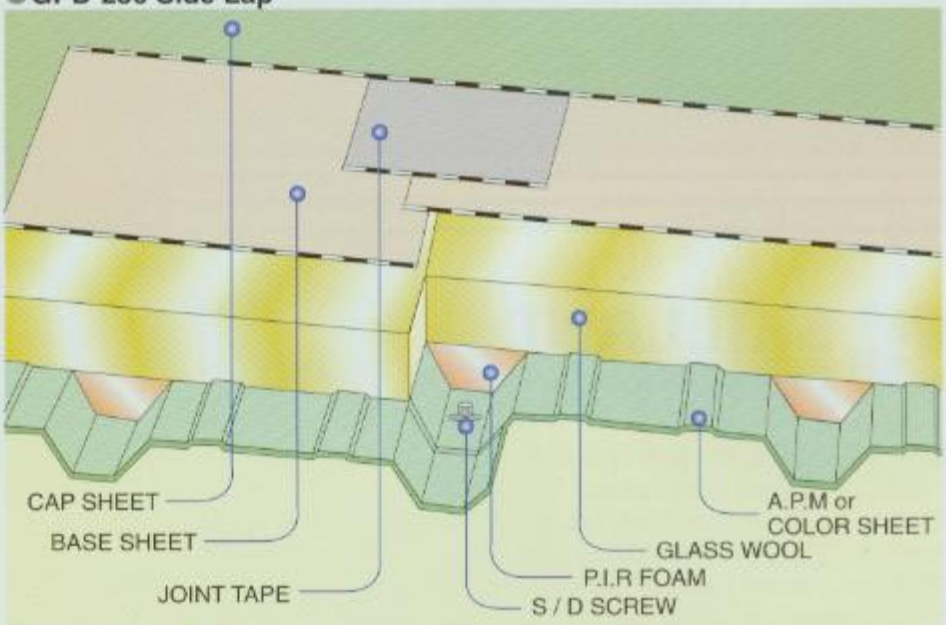
GPD-250 as a sandwich deck panel for roof, has a remarkable effect in respect of heat-insulation, fire-resistance and rainfall drainage. As GPD-250 itself has a strong rigidity, it can save the cost of steel structure in designing the super-structure building.

SPECIFICATION

Thickness (mm)	Weight (kg / m²)	Thermal Conductivity (kcal / m²h°C)	Width (mm)	Application
50	16	0.536	1000	Roof
75	17.6	0.367		
100	19.2	0.279		

GPD-250 BOLTLESS ROOF PANEL SYSTEM

GPD-250 Side Lap



Dong Shin Panel Product Application

GARMENT AND CHEMICAL FACTORIES

The DongShin Panel System is pre-insulated with PIR foam which prevents condensation. This results to increase resistance against oxidation. It is also highly resistant to corrosive chemical fumes with its advanced coating system.

FOOD AND PHARMACEUTICAL PLANTS

The DongShin Panel System does not absorb, moisture and odor. It is vermin proof and easily cleaned for maintenance purposes.

ELECTRONICS, AUTOMOBILE AND PRECISION MACHINERY FACTORIES.

Moisture proofing, heat insulating and sound proofing characteristics of the DongShin Panel system makes it ideal for precision manufacturing processes where controlled environments are needed.

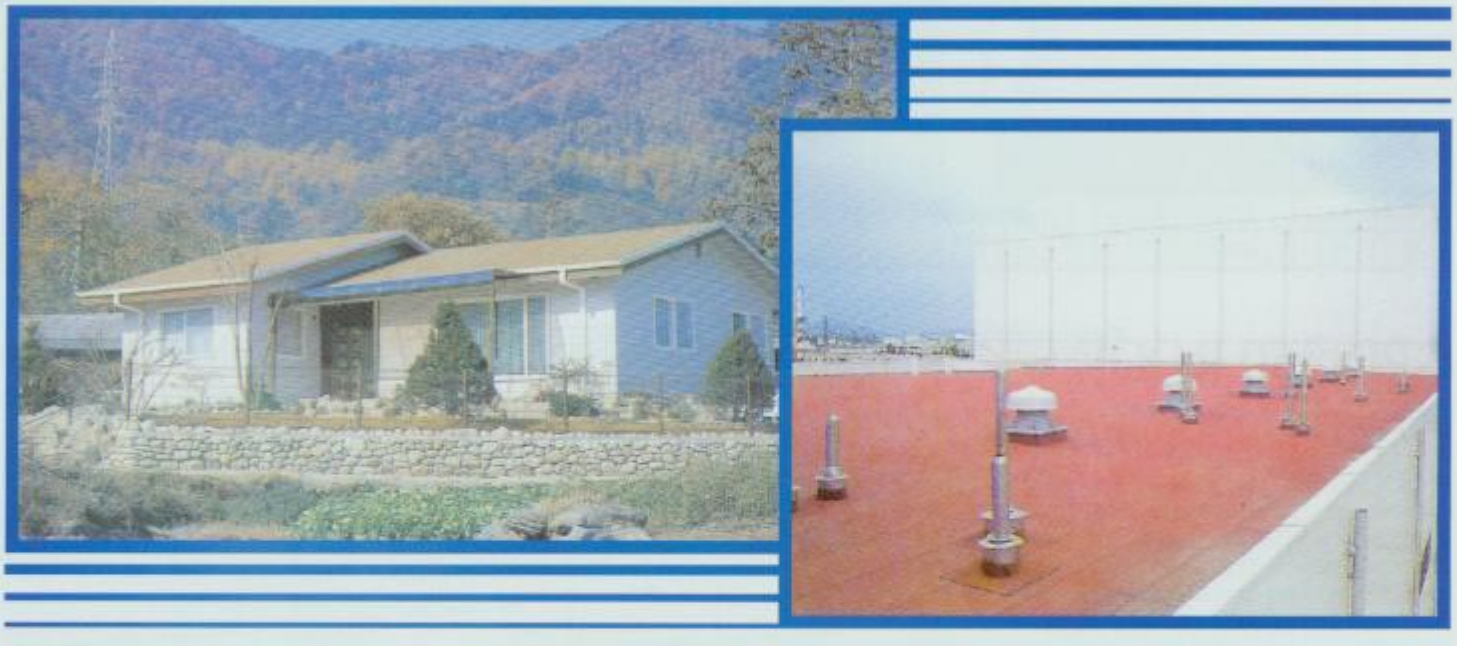
WAREHOUSE AND COLD STORAGE FACILITIES

The efficient thermal insulating properties of the DongShin Panel System is a distinct advantage for warehouse of finished products that are perishable and highly sensitive to elevated temperatures.

OTHER APPLICATIONS

With a fast and easy installation method of the DongShin Panel System, it is highly recommended for:

- School, training institutes, auditoriums and churches.
- Gymnasiums and indoor swimming pools
- General factories and warehouses
- Livestock products storage facilities
- Agriculture and marine products warehouses
- Covered walkway, canopies



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