

Insulated Panel Technical Specifications and Data

Cold room panels are key components used in the construction of cold storage rooms and freezer rooms. These panels are typically made of high-density polyurethane or polystyrene (EPS) materials, providing excellent thermal insulation to effectively maintain stable indoor temperatures. Cold room panels typically have superior sealing properties to prevent cold air leakage, and feature antimicrobial and easy-to-clean surfaces to ensure stored products remain of high quality and safe. These panels can be quickly installed, reducing project costs, and can be customized in size and design according to requirements. Overall, cold room panels are the ideal choice for constructing efficient, reliable, and energy-saving cold storage and freezer rooms.

Technical Advantages and technical specifications

1. Best heat & cool insulation materials

< Heat Conductivity Comparison Data (K cal/mh °C) >

Polyurethane (P.U.R.)	0.018
Styro Foam	0.033
Glass wool	0.035
Carbonization cork	0.040
Concrete (cement)	0.150

2. Environment friendly materials.

PU foam is a popular choice for cold room panels due to its excellent insulation properties, which help to reduce energy consumption and lower carbon emissions. PU foam is also recyclable and can be reused in other applications. By choosing cold room panels made from environmentally friendly materials, businesses can reduce their environmental impact, improve energy efficiency, and contribute to a more sustainable future.

3. Water, Moisture and Sound proof.

cold room panels offer effective water, moisture, and soundproofing solutions, creating a controlled and efficient environment for storing temperature-sensitive products. It is essential to choose high-quality cold room panels and ensure proper installation to maximize their performance in providing these key features.

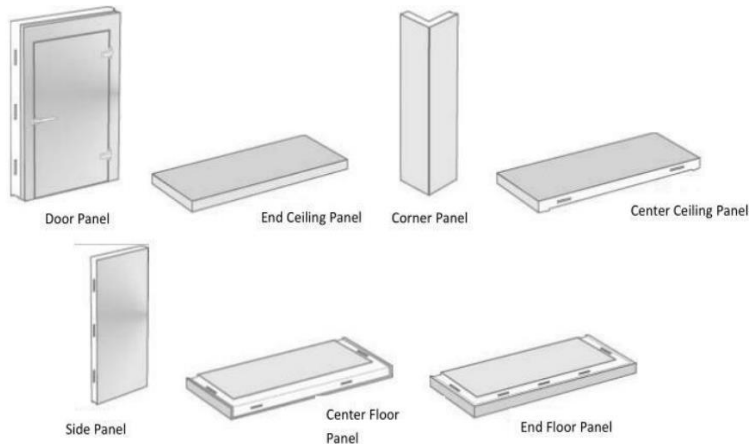
4. Easy and simple construction design.

Modular Design: Utilize a modular design approach where cold room panels can be easily connected and rearranged to accommodate different room sizes or configurations. This flexibility allows for rapid assembly and customization based on specific requirements.

Hot-pressed & High Density Polyurethane Insulated Panel

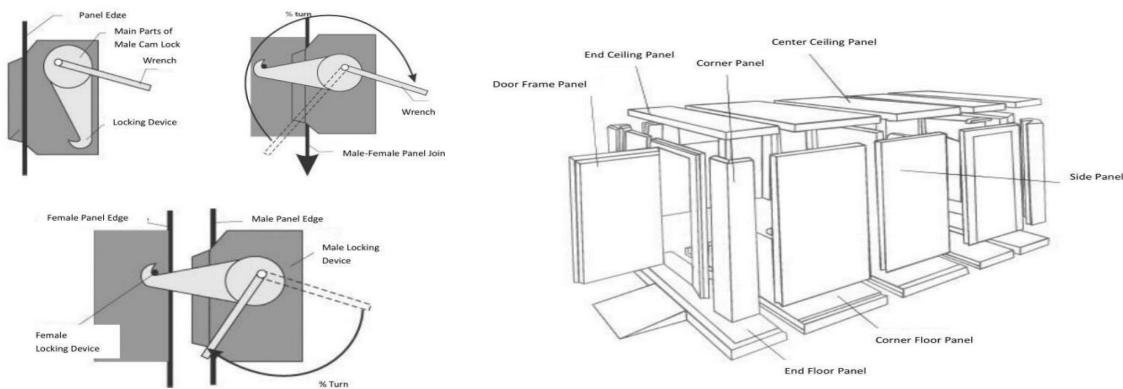
Core Material	Polyurethane(P.U.) Foam
Density	44kg/m ³
Blowing Agent	HCFC 141b
Skin: Plain or Corrugated type	1. Polyester Resin Coated G.L.(Galvalume) and G.I.(Galvanized Iron) 2. PVDF 3. Plastisol (PVC) 4. ABS sheets with 1.5mm and 2.0mm thickness 5. Stainless steel 304, 316, Aluminum, color steel are available by requirements.
Thermal Conductivity	0.018k Cal/ m h °C
Effective width:	Standard: 960mm.
End connection	Tongue and groove/plain

Polyurethane Insulated Panel Connection Structure System



Hot-pressed & High Density Polyurethane Insulated Panel

Understanding how to use the Permanent Cam Lock System: Before starting panel assembly, ensure the locking devices are in the stop position by using a wrench to turn them counter-clockwise firmly until they no longer move. Push the panels together and turn the wrench 1/4 turn clockwise to engage the male locking device over the female one. Continue turning the wrench until it stops moving. If issues arise with the cam locks, turn the wrench forcefully counter-clockwise until it stops, returning the locking device to its initial position, then attempt reassembly by turning the wrench clockwise.

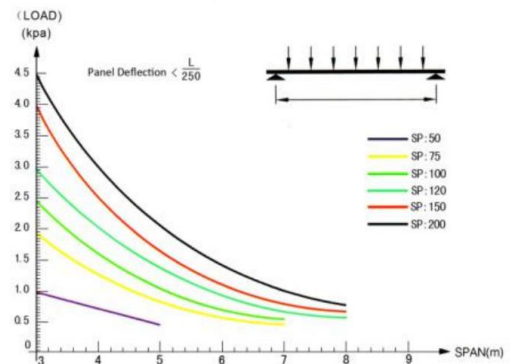


Polyurethane Insulated Panel Thermal Resistance (R-Value) Calculation

Thickness (mm)	R - Value(m ² .k/w)
50	2.28
75	3.42
100	4.55
120	5.6
150	6.82
200	9.12

Polyurethane insulated panels with improved U-values, reduced weight, and cantilever data.

Length (mm)	Tolerance (mm)			Straightness
	Length	Width	Thickness	
500 - 3600	±1	0 - 3	±1	1/500
3600 - 6000	±4	0 - 3		
6000 - 12000	±6	0 - 3		



Types of skin for polyurethane insulated panels; coil outline variations.

- Top coating of coil on the base steel substrate to be suitable for food processing purpose interior/exterior application
 - PPGL – Pre-painted by polyester/ silicon polyester resin and aluminium/zinc alloy plated galvalume
 - PPGI - Pre-painted by polyester /silicon polyester resin Galvanized zinc plate Iron
 - PVDF – Pre-painted by polyvinylidene Fluoride Galvalume or Galvanized Iron
 - PVC Plastisol – Pre-painted by PVC Plastisol (100 to 200 μm paint) GL or GI
- ABS (Acrylonitrile Butadiene Styrene – Synthetic Thermoplastic Polymer) skin
- Stainless Steel 304 or 316 skin – 0.5 to 1.0 mm Thickness, for Food Grade – Hygiene and , No-rusting purpose application

Polyurethane Insulated Panel - Core foam – Chemical Specifications.

- Outline of Characteristics of Polyurethane rigid Foam
 - Polyurethane rigid foam consists of two main chemicals, mixing with blowing agent
 - § Main chemical A - Isocyanate (MDI)
 - § Main Chemical B - Polyol with various catalysts pre-mixed
 - § Blowing agent (Cyclo-Pentane, R-141B)
 - Polyurethane rigid foam is composed of independent closed fine cells by 90 -95% which provides the lowest "K" and highest "R" factors – lowest thermal conductivity.
 - § Lowest thermal conductivity and best thermal stability
 - § Light weight and high strength to weight ratio insulated material
 - § Most energy and cost efficient insulation material currently available
 - § Excellent adhesion to most substrate materials
 - Thanks to the unique characteristics of Polyurethane rigid foam is for ideal application of cold storages, freezers, and various and wide range of temperature control facilities.
- Properties of Polyurethane rigid foam



Cold Room Door Type and Advantage

1. Long-lasting hardware with stylish hinges.
2. Secure release handles.
3. Heating wire for doors.
4. Aluminum or stainless steel railings.
5. Enhanced airtightness.
6. Customized and lightweight design

