Product Technical Manual

Revision Date：2022-05 TDS Number：

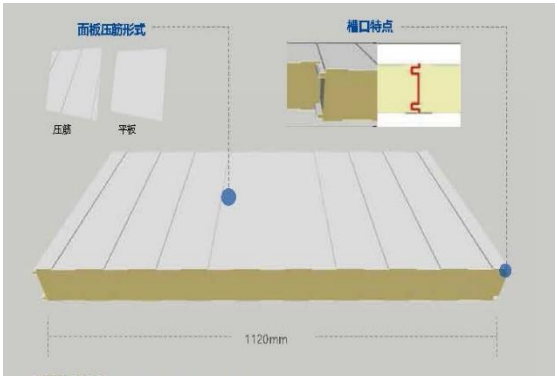
Product Name：Polyisocyanurate (PIR) Insulated Sandwich Panel

Version： V 3.1

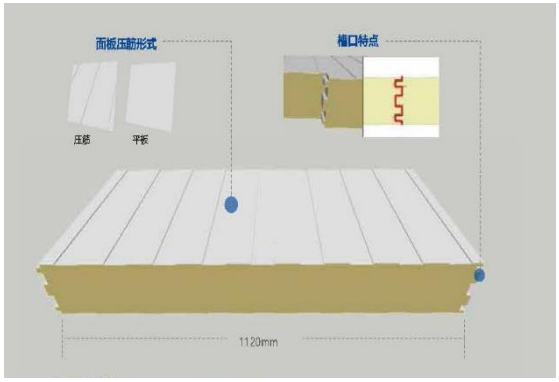
Product Introduction

The polyisocyanurate (PIR) insulated sandwich panel series for cold storage is a high-end product manufactured using the industry's most advanced imported HENNECKE-OMS seven-component continuous foaming system. It utilizes refrigerator-grade polyurethane-modified polyisocyanurate foam (PIR) as the insulation core material, which exhibits superior performance in fire resistance, thermal insulation, and seismic resistance compared to conventional polyurethane foam (PUR). These panels are suitable for various applications including prefabricated food cold storage rooms, temperature-controlled food processing workshops with artificial refrigeration systems, as well as non-load-bearing exterior walls, partition walls, and ceiling panels in related auxiliary buildings. Our company offers customization services for panel specifications including steel plate material (color-coated steel, stainless steel, galvanized/aluminum-zinc plate, etc.), profiling method (flat or ribbed), fire rating (B1 or B2), and dimensions. This product series includes four main types: PIR sandwich panel single-channel cold storage panels, PIR sandwich panel double-channel cold storage panels, PIR sandwich panel hook-lock box-type cold storage panels, and PIR sandwich panel hook-lock box-frame cold storage panels.

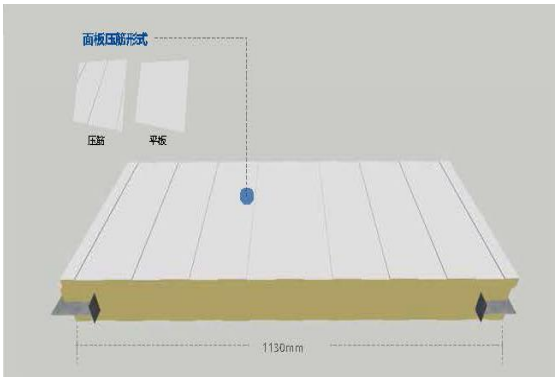
Polyisocyanurate (PIR) insulated sandwich panel - single-groove cold storage panel	**Polyisocyanurate (PIR) Insulated Sandwich Panel - Double-Channel Cold Storage Panel**

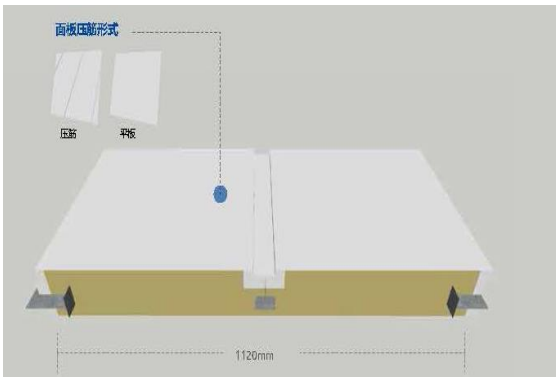


Polyisocyanurate (PIR) Insulated Sandwich Panel - Hook-Lock Box-Type Cold Storage Panel



Polyisocyanurate (PIR) Insulated Sandwich Panel - Hook-Lock Box-Frame Cold Storage Panel





Product Applications & Features

Product Name	Applicable Temperature Difference (°C) Between Interior and Exterior of Cold Storage	Product Features
Polyisocyanurate (PIR) Insulated Sandwich Panel - Single-Channel Cold Storage Panel	20/30/40/55	The tongue-and-groove structural design enhances insulation airtightness at panel joints, specifically engineered for cold rooms and warehouses. The steel-clad edges protect the grooves from damage, deformation, and disengagement while increasing bending strength.

Polyisocyanurate (PIR) Insulated Sandwich Panel - Double-Channel Cold Storage Panel	40/55/70	The dual-channel design ensures even and stable panel installation, delivering superior thermal insulation, enhanced waterproofing, lightweight construction, and an aesthetically refined appearance—effectively addressing temperature differential challenges in cold storage applications.
Polyisocyanurate (PIR) Insulated Sandwich Panel - Hook-Lock Cassette-Type Cold Storage Panel	20/30/40/55	Designed specifically for assembling small and medium-sized cold storage rooms, insulated rooms, and enclosures; each prefabricated panel is equipped with high-strength locks around its edges, making assembly extremely convenient.
Polyisocyanurate (PIR) Insulated Sandwich Panel - Framed Hook-Lock Cassette Cold Storage Panel	20/30/40/55	A high-strength insulated panel for building enclosures, offering excellent thermal performance. Within a modular system, the structure can be freely adjusted in length, width, and height, allowing for expansion or reduction as needed. The panels can also be disassembled and reinstalled in a different location.

Product Specifications

Product Name	Thickness Specificationsm m	Panel Weight Kg/m^3	Simply Supported Height of Wall Panel m	Simply Supported Height of Wall Panel m
Polyisocyanurate (PIR) Insulated Sandwich Panel for Single-Channel Cold Storage	50/100/150/200	10/12.5/15/17.5	3/3.8/4.2/5	2.5/3/3.6/4.2
Polyisocyanurate (PIR) Insulated Sandwich Panel for Double-Channel Cold Storage	150/200/250	15/17.5/20	3.8/4.2/5	2.5/3/3.6/4.2
Polyisocyanurate (PIR) Hook-Lock Box-Type Insulated Sandwich Panel for Cold Storage	50/100/150/200	10.6/13.1/15.6/18.1	3/3.8/4.2/5	2.5/3/3.6/4.2
Polyisocyanurate (PIR) Insulated Sandwich	50/100/150/200	10.6/13.1/15.6/18.1	3/3.8/4.2/5	2.5/3/3.6/4.2

Precautions for Use

1.During installation, labor protection measures must be observed to prevent injuries from falling panels and cuts from panel edges.

2.The construction site shall be a fire-prohibited area and kept away from ignition sources. Smoking is strictly prohibited. When hot work is performed nearby, a fire permit system must be strictly implemented with corresponding safety measures and a dedicated safety supervisor assigned.

Panel Packaging

.Panels are bundled by length with angle iron edge protection and secured with strapping.

2.Packing crates shall be constructed using structural steel, metal sheet or wooden boards.

3.To be mutually agreed between supplier and purchaser, in principle not exceeding 2.8m.

4.Polyethylene film or kraft paper shall be interleaved between sandwich panels.

5.Outer surfaces should be covered with protective film.

Transportation

1. The products can be transported by truck, train, ship, or container. Trucks may carry the goods in bulk, while other transport methods require boxed or bundled packaging. During transportation, the stacking height and width must comply with local road transport regulations.

2. During transit, sandwich panels must not be heavily compressed, violently dropped, or collided with sharp objects. They should be laid flat and secured with ropes

or other fasteners, with proper support to avoid pressure or mechanical damage. Open flames are strictly prohibited.

3. The storage area should be level, minimize vibration, and prevent collisions. Measures must be taken to avoid compression or mechanical damage, provide rain protection, and strictly prohibit open flames.

4. When handling longer sandwich panels, lifting from both ends is strictly forbidden to prevent breakage.

5. Transporting sandwich panels in the same truck, ship, or container as chemically reactive substances or damp materials is strictly prohibited.

6. During loading and unloading, collisions should be avoided, and throwing the panels is strictly prohibited.

Storage

1.Sandwich panels should be stored in a clean, dry, well-ventilated, and non-corrosive warehouse, protected from rain and snow. If stored outdoors, they must be isolated from corrosive agents and provided with waterproof, moisture-proof measures, avoiding direct sunlight.

2.The storage area should be firm and level. For bulk storage, the stacking height should not exceed 2.8m. The bottom layer should be supported with wooden blocks or foam boards, spaced no more than 2.0m apart, ensuring the panels do not bend or deform.

3.During storage, keep the panels away from heat sources, open flames, and avoid contact with chemical substances.

4.Storage should be in an environment with a temperature above 15℃. If the temperature drops below 10℃, the panels should be conditioned at room temperature before being moved outdoors.

Fire and Explosion Hazards

This product is not classified as flammable, explosive, oxidizing, corrosive, toxic or radioactive during storage and transportation, and does not fall under hazardous materials.

The core material of this product is self-extinguishing when removed from fire, and

the outer steel plate provides protection. Under normal circumstances, it will not cause fire. In case of fire, the product can be extinguished using water, carbon dioxide, foam or dry chemical fire extinguishers.

Firefighting procedure: Normal protection measures apply.

Solid Waste Disposal

The treatment of waste panels and cutting scraps generated during construction, transportation, and storage must comply with local government environmental regulations.

For more information, please refer to the Safety Data Sheet (SDS) of our product or contact our Customer Service Center.

The indicators and data provided in this document are based on our current level of technical knowledge and practical experience, and are for reference only. Specific guaranteed indicators are subject to the quality assurance certificate or supply contract. The user is responsible for testing the products purchased from our company to verify their suitability for their intended processes and applications, and to achieve the desired objectives. Further application and processing of our products are beyond our control. Therefore, our liability for the products provided is limited to the portion delivered by us and used by you. We do not assume responsibility for indirect losses incurred during the production process using our products as raw materials. Our technical support and customer service center are available to provide consultation and technical services related to our products. We welcome your inquiries and communication via mail or phone.

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