Product Technical Manual

Revision Date： TDS Number：

Product Name：Primary Recommended Translation

Version： V 3.1

Product Introduction

This product is a factory-manufactured composite board that combines a polyurethane insulation core with cement-based reinforced interface layers through a specialized continuous production line, delivering superior thermal insulation performance. (Abbreviation: PIR Panel)

Standard Specifications:

Dimensions: 1200mm × 600mm (Custom sizes available)

Insulation Thickness: 20mm – 120mm

Product Features

1. Excellent Thermal Insulation Performance with Thin Insulation Layer

The thermal conductivity coefficient is ≤0.024 W/(m·K). Compared to other materials with the same insulation effect, the polyurethane foam layer is thinner, resulting in reduced dead load moments and significantly improved safety.

2. Superior Fire Resistance

Rigid polyurethane foam is a thermosetting insulation material. When exposed to fire, its surface forms a carbonized charring layer and is self-extinguishing upon flame removal, effectively preventing fire spread.

3. Wide Operating Temperature Range

The service temperature range of rigid polyurethane foam is -50℃ to 150℃, with short-term exposure resistance up to 250℃ without damage, making it one of the most temperature-resistant insulation materials available.

4. Outstanding Weather Resistance

The material maintains excellent physical and chemical stability, enabling a service life matching that of the building structure.

5. Low Water Absorption and Excellent Waterproofing Performance

Featuring a closed-cell structure with >95% closed-cell ratio, rigid polyurethane foam demonstrates extremely low water absorption and superior waterproofing characteristics.

Performance Indicators

Item	Unit	Technical Specifications
Thermal conductivity (average temperature 25℃)	W/（m·k）	≤0.024
Density	kg/m³	≥30
Compressive strength (at 10% compression strain)	kpa	≥150Kpa
Tensile strength perpendicular to the panel surface	MPa	≥0.1
Water absorption (by volume)	%	0.30%
Combustion performance	-	Grade B1

Production process

Wanhua's rigid polyurethane composite panels adopt domestically advanced continuous production technology. Compared with traditional mold casting and adhesive bonding methods, the continuous process enables more effective cavity-free bonding between the rock wool layer and interface layer. The entire production process features real-time dynamic monitoring, ensuring stable and controllable

product quality, while achieving 10 times higher production efficiency than conventional manufacturing processes.

System Process

The rigid polyurethane foam board thin plastering system adopts a "bonding + anchoring" process for double insurance.

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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