

# **Expanded Polystyrene Board Thermal-Insulation Decorative Panel System**

The molded polystyrene board thermal insulation decorative board is specially launched by 3trees according to the requirements of Document No. 46 "Interim Regulations on Fire Protection of External Thermal Insulation Systems and External Wall Decoration of Civil Buildings" jointly issued by the Ministry of Public Security and the Ministry of Housing and Urban-Rural Development. The combustion performance is B1. It is a high-grade thermal insulation decorative board that integrates thermal insulation, decoration and fire protection. The thermal insulation brick decorative board can be widely used in various buildings and is not limited by height.

The EPS board insulation decorative board is made of non-combustible EPS insulation material and non-combustible inorganic resin board through a special process. Compared with the traditional EPS board, the EPS board thermal insulation decorative board overcomes the shortcomings of the traditional EPS board such as low strength and poor thermal stability through the improvement of the production method and production process, so that the EPS board with excellent thermal insulation performance can be used safely. In all kinds of building wall insulation system.





### **Main features:**

- a. High fire rating; the thermal insulation material is made of flame-retardant B1-grade material, and the inorganic resin panel is A-grade or otherwise, and the overall fireproof performance meets the highest fireproof standard requirements;
- b. Low water absorption, good waterproof effect;
- c. High strength to ensure the safety performance of the system;
- d. Good thermal insulation effect:
- e. The decorative effect is excellent; the finishing effect is comparable to the high-grade effects of aluminum plate, aluminum-plastic plate, stone and so on.

# Scope of application:

- 2.1 External wall thermal insulation and decoration works of various new and reconstructed civil buildings, especially suitable for high-rise buildings;
- 2.2 Refurbishment of old walls.

### **Main technical indicators:**

PROJECT		TECHNICAL INDICATORS
Tensile Strength	Standard Status,	≥0.10, Destruction interface on insulation material
	After Immersion	
	After freezing and thawing, MPA	≥0.10
Impact resistance, J		The first floor of the building: 10J impact qualified Other layers: 3J impact qualified
Impermeable		No water penetration inside the sample protective
Flammability rating		B1 class
Thermal conductivity of thermal		≤0.039

### **Application Description:**

1.1 Directly applied to exterior wall thermal insulation decoration system

When applying the EPS board thermal insulation decorative board to the external thermal insulation decorative board, follow the following steps:

- a. Cutting EPS board insulation decorative board;
- b. Configure special bonding mortar;
- c. Apply the special bonding mortar on the sticking surface of the EPS board thermal insulation decorative board, and the height of the mortar stacking should be about 1 times the actual sticking thickness;
- d. The bonding method of the thermal insulation decorative board can adopt the point frame method or the strip bonding method. The height is less than 50m, and the effective bonding area between the thermal insulation decorative board and the base wall shall not be less than 50%; if the height is greater than 50m, the effective bonding area shall not be less than 70%.
- e. Immediately paste the EPS board thermal insulation decorative board with the scraped mortar to the corresponding part of the wall, and keep kneading to make the flatness and board seam meet the requirements; the mortar extruded around is scraped off;
- f. Install anchors;
- g. After the mortar is solidified (at least 24h), use special caulking material to deal with the board seam at the position of the fire isolation belt.
- h. Apply masking tape and apply silicone sealant. (or refer to relevant local standards around the country).

# 1.2 Application to old wall renovation







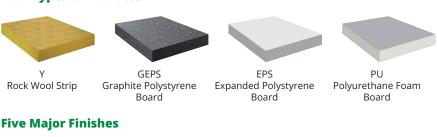


# **Rock Wool Strip Board Thermal-Insulation Decorative Panel System**

The rock wool thermal insulation decorative board is a set of grade A combustion performance specially launched by 3trees in accordance with the requirements of the document No. 46 "Temporary Regulations on the Fire Protection of External Thermal Insulation Systems and External Wall Decoration of Civil Buildings" jointly issued by the Ministry of Public Security and the Ministry of Housing and Urban Rural Development. A thermal insulation decorative board integrating thermal insulation, decoration and fire protection. The thermal insulation brick decorative board can be widely used in various buildings and is not limited by height.

The rock wool thermal insulation and decoration integrated board is made of non combustible rock wool thermal insulation materia I and non combustible inorganic resin board through a special process. Compared with the traditional rock wool board, the rock wool used in the rock wool thermal insulation decorative board overcomes the shortcomings of the traditional rock wool board such as low strength and easy water absorption through the improvement of the production method and production process, making the rock wool with excellent fire resistance performance. Thermal insulation materials can be safely used in various building wall th ermal insulation systems.

### **Four Types of Products**











(Calcined)

Constant Color





Solid Color Paint Metallic Paint

- a. High fire rating; non combustible A grade materials are used for thermal insulation materials, and inorganic resin panels and bottom plates are also A grade materials, and the overall fireproof performance meets the highest if reproof standard requirements;
- b. Low water absorption, good waterproof effect;
- c. High strength to ensure the safety performance of the system;
- d. The thermal insulation effect is good, and its thermal insulation effect is equivalent to that of the EPS board;
- e. The decorative effect is excellent; the finishing effect is comparable to the high grade effects of aluminum plate, aluminum plastic plate, stone and so on.

# Scope of application:

- 2.1 External wall thermal insulation and decoration works of various new and reconstructed civil buildings, especially suitable for high rise buildings;
- 2.2 The fire isolation belt designed in the external wall thermal insulation decoration system;
- 2.3 Refurbishment of old walls.

#### Main technical indicators:

PROJECT		TECHNICAL INDICATORS
Tensile Strength	Standard Status, MPa	≥0.15, Destructio n interface on insulation material
	After Immersion, MPa	
	After freezing and thawing MPa	≥0.15
Impact Resistance J		Building Ground Floor 10J Shock qualified Other layers 3J Shock qualified
Impermeable		No water penetration inside the sample protective
Flammability Rating		Not lower than A( A 2)
Thermal conductivity of thermal insulation materials		≤0.048

### **Application Description:**

- 14.1 Directly applied to exterior wall thermal insulation decoration system Refer to relevant local standards around the country.
- 4.2 Application to fire barrier When applying the rock wool thermal insulation decorative board to the fire barrier, follow the steps below:
- a. Cut the rock wool thermal insulation decorative board according to the width and size of the designed isolation belt;
- b. Apply special waterproofing agent for rock wool thermal insulation decorative board on the cut surface;
- c. Configure special bonding mortar;
- d. Fully coat the special bonding mortar on the pasting surface of the rock wool thermal insulation decora tive board, and the height of the mortar stacking should be about 1 times the actual pasting thickness;
- e. The bonding method of the thermal insulation decorative board can adopt the point frame method or the strip bonding method. The height is less than 5 0m, and the effective bonding area between the thermal insulation decorative board and the base wall shall not be less than 50%; if the height is greater than 50m, the effective bonding a rea shall not be less than 70%
- f. Immediately paste the stone wool thermal insulation decorative board with the scraped mortar to the corresponding part of the wall, and keep rubbing it to make the flatness and board seam meet the requirements; the mortar extruded around is scraped off;
- g. Install anchors;
- h. After the mortar is solidified (at least 24h), use special caulking material to deal with the board seam at the position of the fire isolation belt.
- i. Apply masking tape and apply silicone sealant. (The following steps are for conventional

# 4.3 Application to old wall renovation

- 5.1 If the rock wool thermal insulation decorative board is cut on site, the cutting edge must be painted with a special waterproofing agent for the rock wool thermal insulation decorative board to achieve the overall waterproof effect.
- 5.2 When using rock wool thermal insulation decorative board for construction of fire isolation belt, when applying mortar on the pasting surface, it must be carried out in strict accordance with steps d and e in 5.2 to ensure that the mortar on the back of the pasted rock wool thermal insulation decorative board is full. Sticky form to meet fire protection requirements.
- 5.3 The board joints at the fire isolation belt must be treated with special fireproof joint filling materials, and the produced foam strips etc. shall not be used. In order to achieve the real fire isolation effect.
- 5.4 The contact of rock wool fibers with the skin may cause skin allergies, so attention should be paid to labor protection during cuttin g and construction.





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