Product Technical Manual

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Product Name：Roofing Spray Polyurethane Rigid Foam Compound (Type Ⅱ)

Version: V 3.1

Product Introduction

Roofing Spray Polyurethane Rigid Foam Compound (Type II) utilizes an ultra-low thermal conductivity environmentally friendly blowing agent, which when combined with WANNATE® 2208 produces foam products with exceptional flame retardant properties. This Type II compound can be applied on cement, brick, wood, and other substrates, demonstrating strong adhesion, excellent dimensional stability, and superior flame retardancy with a B2 combustion rating (GB 8624-2012).

Product Applications

The product is designed for roofing insulation spraying applications in cold storage facilities, food processing plants, chemical plants, industrial buildings, and civil structures. Roofing Spray Polyurethane Rigid Foam Compound (Type II) features a rapid-curing system capable of immediate load-bearing, meeting construction requirements for most spray insulation applications.

Physicochemical Properties

Item	Specifications
Viscosity25°C, mPa•s	40-450
Viscosity，g/cm^3	1.10±0.10
Color	Colorless or Pale Yellow

自由发泡参数

Item	Specifications
Cream Time，s	2-3

Gel Time，s	9-10
Tack-Free Time，s	10-13
Free-Rise Density，kg/m^3	35-41

物理性能

Item	Specifications
Viscosity，kg/m^3	≥45
Thermal Conductivity，W/(m·k)	≤0.024
Compressive Strength（at 10% Deformation），kPa	≥200
Water Impermeability (Non-Skinned)0.2Mpa,30min	Waterproof
Dimensional Stability（70℃，48h）(%)	≤1.5
Closed-Cell Content(%)	≥92
Water Absorption(%)	≤2
Combustion Rating	B2

(1) Roofing Spray Polyurethane Rigid Foam Compound (Type II) Foaming Requirements: Material temperature: 25 ℃, material volume ratio 1:1, mixed by electric stirring at 2500 rpm.

(2) When operated according to the precautions in this document using high-pressure spraying equipment, the resulting foam product has an overall density greater than 45 kg/m ³.

(3) The values provided in this document are typical test values, and actual data may vary slightly depending on environmental conditions. For our company's products, the listed data are not legally binding in any way.

Precautions for Use

The construction equipment for Roofing Spray Polyurethane Rigid Foam Compound (Type II) is high-pressure spraying equipment. Before construction, check and calibrate the feeding ratio of Component A and B as well as the mixing pressure of the equipment.

The recommended ambient temperature for spraying is 10-40 ℃, with wind speed not exceeding 5m/s (Beaufort Scale 3), relative humidity below 75%, and no construction during rain. When the ambient temperature is below 10 ℃ during construction, reliable technical measures must be taken to ensure spraying quality.

During spraying operations, control the temperature of Components A and B entering the spray gun to be above 30 ℃, and ensure the substrate is dry and clean. Control the foam thickness per spray pass within 1-1.5cm (excluding the base coat). During construction, the next layer can only be applied after the previously sprayed polyurethane foam surface becomes tack-free. Other relevant standards shall comply with national standards. If the above conditions are not met, all responsibilities shall be borne by the buyer.

Spraying operations shall comply with GB 50404-2017 "Technical Code for Polyurethane Rigid Foam Insulation and Waterproofing Engineering".

The construction site shall be a no-flame zone with good ventilation, kept away from ignition sources, and smoking is strictly prohibited. When hot work is required nearby, the hot work permit system must be strictly implemented with corresponding safety measures and dedicated supervision.

The Buyer must conduct field tests under identical environmental conditions to the actual construction site prior to formal application, to verify system reliability for the specific project.Commencement of formal construction shall be deemed as the Buyer's acceptance of the product's qualified performance. All liabilities arising from non-compliance with these procedures shall be borne solely by the Buyer.

Packaging Specifications

200L Green Steel Drum.

Storage (Usage) Precautions

The compound must be stored in airtight containers to prevent moisture absorption. During storage and transportation, containers must be kept dry and tightly sealed.

Roofing Spray Polyurethane Rigid Foam Compound (Type II) should be stored sealed at room temperature (5-35 ℃) in a cool, ventilated area, protected from direct sunlight. Prolonged storage above 40 ℃ must be avoided as it may cause excessive blowing agent volatilization, adversely affecting both storage stability and product performance.

Shelf Life

The Roofing Spray Polyurethane Rigid Foam Compound (Type II) has a 6-month storage life when properly stored, and may continue to be used after this period upon passing quality inspection.

Safety Precautions

Direct contact with Roofing Spray Polyurethane Rigid Foam Compound (Type II) may cause moderate eye irritation and mild skin irritation, and may lead to skin sensitization. Repeated inhalation of high-concentration vapors may cause respiratory allergies. Immediate medical attention should be sought, with anti-inflammatory and anti-allergy symptomatic treatments administered.

During operation, exercise caution to prevent direct skin contact and splashing into eyes. Necessary protective equipment must be worn (gloves, safety goggles, work clothes, etc.).

In case of contact with skin or eyes, immediately rinse with clean water for at least 15 minutes. Wash skin with soap and water, and seek medical attention if necessary. If ingested, seek immediate medical treatment for symptomatic management.

Fire and Explosion Hazards

This product is not classified as a flammable liquid, explosive, oxidizer, corrosive, toxic or radioactive hazardous material during storage and transportation, and does not qualify as a dangerous good.

Acceptable extinguishing agents include carbon dioxide, foam, or dry chemical powder fire extinguishers. In the absence of other extinguishing agents, large amounts of water mist/spray may be used. Once the fire is extinguished, spilled material must be thoroughly cleaned (refer to Spill Response Procedures).

Firefighting Procedure: Standard Protection

Spill and Leakage Handling

•Small Spills: Rinse with water.

• Large Spills: Contain, recover, and clean with water/detergent. Dispose of waste per local environmental regulations.

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

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