

Product Technical Manual

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Product Name: B1 Grade Polyurethane Rigid Foam Spray Combination Material for Water

Conservancy Use

Version: V3.1

Product Introduction

The B1 grade polyurethane rigid foam spray combination material for water conservancy use features an ultra-low thermal conductivity environmentally friendly blowing agent. When combined with WANNATE® 2208, it produces foam products with excellent flame retardancy (B1 rating according to GB 8624-2012).

This product can be applied to cement, brick, wood, and other substrates, offering strong adhesion and superior dimensional stability.

Product Applications

This rapid-curing system is designed for immediate load-bearing capabilities, meeting construction requirements for most spray insulation applications. Prior to use, tests must be conducted to ensure the reliability of the material system in specific engineering contexts.

Physical and Chemical Properties

Item	Specification
Viscosity at 25 °C (mPa s)	40-250
Density (g/cm ³)	1.10±0.10
Color	Pale yellow or yellow

Free Foaming Parameters

Item	Specification
Milky time (s)	2-3
Gel time (s)	9-10
De-adhesion time (s)	11-18
Free foaming density (kg/m ³)	32-45

Physical and Chemical Properties

Item	Specification
Mechanism foam density (kg/m ³)	≥50
Thermal conductivity (W/(m·K))	≤0.024
Compressive strength (10% deformation, kPa)	≥300
Dimensional stability (70 °C, 48h, %)	≤1.5
Tensile bonding strength (cement mortar, room temperature, MPa)	≥0.10
Water absorption (%)	≤3

≥50

Notes:

1. Mixing ratio: 1:1 (volume), temperature 25 °C, manual mixing with electric stirrer (2500 r/min).
2. High-pressure spray gun use ensures foam density >45 kg/m³
3. Values are typical test results; environmental variations may occur. Legal liability for data is disclaimed.

Usage Precautions

- Equipment: High-pressure spray gun required. Verify black/white material ratios and mixing pressure before use.
- Environment: Temperature 10–40°C, wind speed ≤5 m/s (Level 3 wind), relative humidity <75%. Avoid rain. Below 10 °C, implement technical measures to maintain quality.

- Application: Maintain material temperature $>30\text{ }^{\circ}\text{C}$. Ensure substrate dryness/cleanliness. Control foam thickness per pass to 1–1.5 cm (excluding base layers). Apply subsequent layers only after previous layer is non-sticky. Comply with GB 50404-2017 and other standards.

- Safety Zone: Designate as no-fire zone with proper ventilation. Prohibit smoking/open flames. Enforce hot work protocols if needed.

- Buyer Responsibility: Pre-test under identical conditions to validate reliability. Non-compliance voids seller liability.

Packing Details

200L green iron drums.

Storage (Usage) Precautions

- Seal containers to prevent moisture absorption.
- Store in cool ($5\text{--}35\text{ }^{\circ}\text{C}$), dry, shaded areas away from sunlight. Avoid prolonged storage $>40\text{ }^{\circ}\text{C}$ to preserve blowing agents.

Expiration Date

3 months under proper conditions. Retest after expiration for continued use.

Safety Precautions

- Skin/Eye Contact: Causes moderate eye irritation, mild skin irritation, or allergic reactions. Rinse affected areas ≥ 15 minutes and seek medical aid if needed.

- Inhalation: Prolonged vapor exposure risks respiratory allergies. Use protective gear (gloves, goggles, coveralls).

- Ingestion: Seek immediate medical attention.

Fire and Explosion Hazards

- Classification: Non-flammable, non-explosive, and non-hazardous under transport/storage regulations.

- Extinguishing Media: CO_2 , foam, dry chemical powder, or mist water. Clean residues post-extinguishment.

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.

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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