

Product Technical Manual

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Product Name: B1 Grade Polyurethane Rigid Foam Spray Combination Material for Hydraulic Water Level Fluctuation Areas

Version: V 3.1

Product Introduction

The B1 grade polyurethane rigid foam spray combination material for hydraulic water level fluctuation areas uses an ultra-low thermal conductivity environmentally friendly blowing agent. When used with WANNATE®2208, it produces foam products with excellent flame retardant properties (B1 rating according to GB 8624-2012). This product can be applied to cement, brick, wood surfaces, and other substrates, offering strong adhesion and good dimensional stability.

Product Applications

As a rapid-curing system, this material can bear loads immediately and meets construction requirements for most spray insulation applications. Prior to use, tests must be conducted to ensure reliability 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	Light 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 Properties

Item	Specification
Mechanism foam density (kg/m ³)	≥70
Thermal conductivity (W/(m K))	≤0.024
Compressive strength (10% deformation, kPa)	≥500
Dimensional stability (70 °C, 48h, %)	≤1.5
Tensile bonding strength (cement mortar, room temperature, MPa)	≥0.10
Water absorption (%)	≤3

1. The material requires a mixing ratio of 1:1 (volume), temperature of 25 °C, and manual mixing with an electric stirrer (2500 r/min).
2. Using a high-pressure spray gun as per these instructions ensures a foam density >45 kg/m³.
3. Values provided are typical test results and may vary slightly due to environmental conditions. Legal liability for data is disclaimed.

Usage Precautions

- Equipment: Use a high-pressure spray gun. Check and calibrate the black/white material ratio and mixing pressure before operation.
- Environment: Optimal temperature: 10–40°C; wind speed ≤5 m/s (Level 3 wind); relative humidity <75%. Do not apply in rain. For temperatures <10 °C, implement technical measures to ensure quality.
- Application: Maintain black/white material temperature >30 °C. Ensure substrate dryness and cleanliness. Control foam thickness per pass to 1–1.5 cm (excluding base

layers). Apply subsequent layers only after the previous layer is non-sticky. Follow national standards (e.g., GB 50404-2017) for additional requirements.

- **Safety Zone:** Designate construction areas as no-fire zones with proper ventilation and fire prevention measures. Smoking and open flames are prohibited. Implement hot work approval protocols if necessary.

Buyer Responsibility: Conduct pre-construction tests under identical conditions to verify product reliability. Failure to comply absolves the seller of liability.

Packing Details

200L

green iron drums.

Storage (Usage) Precautions

- Store in sealed containers to prevent moisture absorption.
- Keep in a cool (5–35 °C), dry, shaded area away from direct sunlight. Avoid prolonged storage above 40 °C to prevent blowing agent loss.

Expiration Date:

3 months under proper storage conditions. Extended use requires retesting.

Safety Precautions

- **Skin/Eye Contact:** May cause moderate eye irritation, mild skin irritation, or allergic reactions. Rinse affected areas with water for ≥ 15 minutes and seek medical attention if necessary.
- **Inhalation:** Prolonged exposure to vapors may trigger 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:** CO₂, foam, dry chemical powder, or mist water. Clean up residues after extinguishing.

Spill and Leakage Handling

- Small spills: Rinse with water.
 - Large spills: Contain, recover, and clean contaminated areas 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.

Address: Wanhua Energy-Saving Technology (Yantai) Co., Ltd.

No. 56 Taiyuan Road, Yantai City, Shandong Province, China

Email: mouwen@126.com
