Product technical specification

Revision Date：2021-06-01 TDS Number：WHF_102

Product name：Polyurethane Rigid Foam Spray Composite Material for Flooring Applications

version： V 3.1

Product profile

The polyurethane rigid foam spray composite material for flooring applications utilizes an ultra-low thermal conductivity eco-friendly blowing agent. When used with WANNATE® 2208, it can be applied on concrete, brick, wood, and other substrates, featuring strong adhesion, excellent dimensional stability, and superior flame retardancy. The product is available in two combustion classes: B1 or B2 (GB 8624-2012).

Product Application

This product is designed for spray applications in cold storage and building insulation where working temperatures exceed -25 ℃, primarily for floor insulation. The polyurethane rigid foam spray composite material for flooring is a rapid-curing system suitable for most spray insulation applications. Prior to using this material, preliminary testing must be conducted to verify the reliability of the composite material system for the specific project requirements.

Physicochemical Properties

Item	Specifications / Technical Indicators
Viscosity at25°C, mPa•s	50-200
Density，g/cm^3	1.10±0.10
Color	Light Yellow or Yellow

Free-Rise Foaming Parameters

Item	Specifications / Technical Indicators
Cream Time，s	2-3
Gel Time，s	9-10
Tack-Free Time，s	10-13
Free-Rise Density，Kg/m^3	30-45

Physical Properties

Item	Specifications / Technical
Density，kg/m^3	≥40（进叉车≥45）
Initial Thermal Conductivity (23 ℃ mean temp.)，W/m·K	≤0.024
Compressive Strength (Compressive Stress at 10% Deformation)，kPa	≥250（Forklift entry≥300）
Dimensional Stability（-20℃，48h），%	±1.0
Closed-cell Content，%	≥90
Water Absorption (by Volume)，%	≤4
bond strength，MPa	≥0.1
combustion performance	**Class B1 or Class B2**

(1) For ground-applied polyurethane rigid foam spray compounding material:

Foaming requirements: Material temperature at 25 ℃, volumetric mixing ratio 1:1.

Mixing method: Manual blending using an electric mixer (2500 rpm).

(2) When operated in accordance with the usage precautions provided in this document:

The foam product produced by high-pressure spraying equipment shall achieve an overall density >40 kg/m³.

(3) Note on data accuracy:

The values provided herein are typical test results; actual data may vary slightly due to environmental conditions.

For our company's products, the listed data are not legally binding.

Safety Precautions

For the ground-applied polyurethane rigid foam spray composite material, the

construction equipment required is a high-pressure spraying machine. Before construction, please check and calibrate the delivery ratio of Component A/B and the mixing pressure of the high-pressure spraying machine.

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

During spraying operations, control the temperature of Component A/B at the spray gun nozzle to be above 30℃, and ensure the substrate is dry and clean. Control the foam thickness per spray pass within the range of 1-2cm (excluding the base coat). During construction, the next layer can only be sprayed after the previously applied polyurethane rigid 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 be conducted in accordance with GB 50404-2017 "Technical Code for Polyurethane Rigid Foam Insulation and Waterproofing Engineering".

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

Before formal construction, the buyer must conduct tests under conditions identical to the actual construction environment to verify the reliability of the composite material system for the specific project. Commencement of formal construction shall be deemed

as the buyer's acceptance that the product performance has passed inspection. If operations are not conducted according to the above requirements, all responsibilities shall be borne by the buyer.

Packaging Specifications

200L green steel drum

Storage and Handling Precautions

The polyurethane spray foam compound must be stored in airtight containers to prevent moisture absorption, ensuring containers remain dry and properly sealed during storage and transportation. For ground-applied polyurethane rigid foam spray compounds, store at room temperature between 5-35℃ in a cool, ventilated area away from direct sunlight. Prolonged storage above 40℃ must be avoided to prevent excessive blowing agent evaporation, which would compromise storage stability and product performance. Maintain relative humidity below 75% and keep containers upright to prevent leakage. The recommended shelf life is 6 months from production date when stored under proper conditions. Always keep away from heat sources and open flames, use appropriate personal protective equipment when handling, and ensure adequate ventilation in storage areas.

Shelf life

Under proper storage conditions, the shelf life of the ground-applied polyurethane rigid foam spray compound is 3 months. After this period, the material may remain usable if inspection confirms it meets specifications.

Safety Precautions

Safety Precautions for Ground-Applied Polyurethane Rigid Foam Spray Compound: Direct contact may cause moderate eye irritation, mild skin irritation, and potential skin sensitization. Repeated inhalation of high-concentration vapors may lead to respiratory allergies. Immediate medical attention is required with anti-inflammatory and anti-allergic treatment. During handling, take precautions to avoid skin contact and eye exposure by wearing proper PPE (gloves, safety goggles, and protective clothing).

If material contacts skin or eyes, immediately flush with plenty of water for at least 15 minutes (use soap for skin cleansing) and seek medical attention if irritation persists. If swallowed, obtain immediate medical treatment. Ensure adequate ventilation during use and avoid breathing vapors. Keep container tightly closed when not in use. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Store in a cool, well-ventilated area away from incompatible materials.

Fire and Explosion Hazards

This product is not classified as a flammable liquid, explosive, oxidizer, corrosive, toxic substance or radioactive hazard during storage and transportation, and does not constitute a dangerous good. For fire extinguishing, suitable media include carbon dioxide, foam or dry chemical powder extinguishers. In the absence of other extinguishing agents, large amounts of water mist may be applied. After fire suppression, any spilled material must be properly cleaned (refer to Spill Handling Procedures). Standard protective measures apply for firefighting operations.

Spill Handling

For small spills, rinse away with water. In case of large spills, contain and recover the material, then clean the contaminated area with water or detergent. Disposal of waste compound must comply with local environmental regulations.

For more information, please refer to the safety technical manual for our products or contact our customer service center.

The indicators and data given in this data are based on our existing technical knowledge level and practical experience and are for reference only. The specific guarantee index shall be subject to the provisions of the quality guarantee certificate or the supply contract. Users have the responsibility for testing the products purchased to verify whether they are suitable for the proposed process and use and to achieve the intended purpose. Further application and processing of our products are beyond our control, so our liability for the products provided is limited to the parts delivered by us and used by you. We will not bear the indirect losses caused by the production process

of using our company's products as raw materials. Our company technical support and customer service center is willing to provide you with product consulting and application technology services, welcome to contact.

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