

Wanshield®63121

Anti-static Water-Based

Polyurethane Mortar

Product Description

Wanshield®63121 Anti-Static Water-Based Polyurethane Mortar is a five-component water-based polyurethane mortar flooring material. Its composite structure combines nearly all the advantages of organic polymers and inorganic concrete. Specifically developed for anti-static, chemical-resistant, corrosion resistance, and high cleanliness requirements in light industrial facilities. This 1-3 mm thin-layer anti-static polyurethane mortar self-leveling floor is suitable for light-load self-leveling surfaces, featuring anti-static properties, stain resistance, no peeling, high compressive strength, wear resistance, corrosion resistance, and temperature tolerance.

Product Characteristics

1. Chemical and Corrosion Resistance: Resists common organic acids, inorganic acids, alkalis, and salts;
2. Temperature Range: Maintains physical properties between -10℃ and 55a℃;
3. Tensile Strength Exceeds Concrete: Superior tensile strength and high abrasion resistance;
4. Enhanced Flexibility: Greater toughness than cement-based products reduces cracking risk and improves impact resistance.

Recommended Uses

1. Computer rooms, data processing centers, laboratories, and other electronics industries;
2. AGV factories;
3. Areas requiring anti-static measures.

Technical Specifications

Physical Parameters

Project	Technical Specifications
Condition in Container	Uniform consistency after mixing, no lumps
Compressive Strength (7d)/MPa	≥40
Flexural Strength (7d)/MPa	≥10
Abrasion Resistance (500g/100r)/g	≤0.15
Slip Resistance (Dry Friction Coefficient)	≥0.6
Tensile Bond Strength/MPa	≥2.0
Impact Resistance (1000g Steel Ball)	Surface free of cracks and flaking
Water Resistance (168h)	No bubbling, flaking, cracking, or discoloration
Alkali Resistance (20% NaOH, 24h), Acid	No bubbling, flaking, or cracking

Resistance (10% H₂SO₄, 48h), Oil Resistance Minor discoloration permitted
(120# Solvent Oil, 72h), Saltwater Resistance
(3% NaCl, 168h)

Surface Preparation

For all new and existing concrete surfaces, concrete strength must meet C25 or higher, with a pull-off strength of no less than 1.5MPa. Surface stains and loose dust must be completely removed down to sound concrete. Any concrete damaged by chemical exposure, loose material, or contamination from any substance should be removed down to sound concrete.

For old surfaces coated with paint, completely grind away loose or incompatible old paint coatings to expose the concrete surface. Clean, dry, and intact compatible coatings may remain.

For oil-contaminated surfaces, where oil severely compromises the adhesion of the floor coating to the substrate, the contaminated area must be completely removed and ground.

For new concrete surfaces, ensure the curing period has been completed and the moisture content is below 10%. It is highly recommended to use mobile sandblasting equipment. Achieving the correct surface roughness through grinding is critical.

Other surfaces

For application on other substrates, please consult the Technical Department of Wanhua Energy Saving Company.

For detailed documentation on substrate preparation, please contact the Technical Department of Wanhua Energy Saving Company to obtain relevant materials.

Application Guidance

Application Conditions

Ambient temperature range: 15 – 30 °C. Substrate temperature must be at least 3 °C above the ambient dew point.

Ambient humidity range: <80%. Concrete substrate moisture content must be below 10%.

Ventilation requirements: Ensure the application area is well-ventilated and dust-free. Avoid strong winds that may introduce dust particles and compromise surface appearance.

Application Method

Squeegee coating

Serial Number	Mixing Procedure	Temperature	Stirring Time	Rotational Speed
1	Pour Component A into the mixing bucket			
2	Add Component B and Component D		1 min	300r/min

		>35℃	1 min	
		15℃~35℃	2 mins	
3	Add Component C	10℃~15℃	4 mins	>800r/min
		<10℃	5 mins	
4	Add Component E		1.5 mins	>300r/min

Once the mixing time is determined, consistency must be maintained throughout the entire application process. Inconsistent mixing times per batch may result in surface color variations and differing textures.

1. During mixing, use a straight-edge trowel to scrape raw materials adhering to the sides and bottom of the container. This operation should be performed at least once to ensure complete final blending.
2. Only mix the entire contents of the factory packaging. Temperature affects application time and product curing time.
3. Mixing equipment may cause variations in flowability; use the recommended mixing paddle.

Primer:

1. Allow the primer to dry for 24 hours (at a floor temperature of 20℃; longer curing times are required at lower temperatures) before applying the topcoat.
2. If more than 72 hours have passed since the primer application or if contamination occurs, sand and vacuum the surface before applying the topcoat.

Topcoat:

Apply with a trowel or squeegee to the desired thickness. To ensure surface levelness, maintain an application rate of at least 4 kg/m². The material exhibits low flow during initial spreading but will slowly self-level through de-airing, achieving a smooth finish.

Mix Ratio

Mass ratio: Component A: Component B: Component C: Component E = 3.92: 3.92: 13: 0.013. Component D varies in weight depending on color.

Pot life: 25 minutes at 20℃. Higher temperatures reduce the usable time after mixing.

Application is generally not recommended when ambient temperature exceeds 30℃.

Thinner

No thinners may be added to the paint.

Film Thickness

Film Thickness	
Base Coating	0.5mm
Surface Coating	1.5-2mm

Drying time

Substrate Surface	20°C
Surface Dry	24 h
Fully Cured	7 days

Recoating Interval

Product Name		20°C
Anti-static	Lowest	24 h
Water-based Polyurethane Mortar	Highest	If more than 72 hours have passed or the surface has become contaminated, it must be re-sanded
Wanshield® 63121		

Ambient Temperature

Coating environment temperature range: 15 – 30°C . Coating environment humidity range: <80%. Concrete substrate moisture content must be less than 10%.

Substrate Temperature

Above the dew point by 3°C or more.

Mixing and Dilution

Wanshield®63121 is a five-component product with precise ingredient ratios. Once the mixing time is determined, consistency must be maintained throughout the entire application process. Inconsistent mixing times per batch may result in surface color variations and differing textures.

1. During mixing, use a straight-edge trowel to scrape material adhering to the sides and bottom of the container. This operation should be performed at least once to ensure complete final blending.
2. Only mix the entire contents of the factory packaging. Temperature affects both application time and product curing time.
3. Mixing equipment may cause variations in flowability; use the recommended mixing paddle.

No thinners may be added to the coating.

Ventilation

To ensure the safety of construction personnel and the proper performance of this product, the work area must be well-ventilated and dust-free. However, strong winds should be avoided to prevent the introduction of dust that could compromise the surface finish.

Packaging and Storage

Packaging

Five-component system, approximately 21kg combined packaging.

Plastic drum packaging:

Component A: 3.92kg

Component B: 3.92kg

Composite paper bag packaging:

Component C: 13kg

Bagged packaging:

Component D: 0.2-1kg

Component E: 0.013kg

Storage

Product storage must comply with national regulations. Storage and transportation conditions: Coatings should be stored in sealed containers at 5-30℃ in a dry, cool, and well-ventilated environment, away from high temperatures and open flames. During transportation, materials should be stacked securely to ensure the cargo compartment remains dry, enclosed, and protected from moisture and freezing.

Shelf Life

When stored under specified conditions, the shelf life of the product in its original packaging is 6 months from the date of manufacture.

Safety Precautions

Warning

May cause eye and skin irritation. Vapors may cause respiratory irritation in sensitive individuals. May cause skin sensitization. Avoid breathing vapors. Avoid contact with eyes and skin. Use eye, ear, and skin protection, and wear an appropriate respirator to avoid potential respiratory irritation. After use, thoroughly wash skin with water. If discomfort occurs, consult a physician. Wash clothing before reuse. If breathing has stopped, perform artificial respiration, preferably mouth-to-mouth, and seek medical attention. Burns: Exothermic reactions may cause product to become excessively hot. Handle mixtures with caution. Wear gloves. First Aid: If product contacts eyes, immediately flush with water for at least 15 minutes. Remove contaminated clothing and shoes. Wash exposed skin with soap.

Before and during use, observe all safety labels on the packaging. Consult the Safety Data Sheet and comply with relevant national or local government safety regulations.

Statement

The information listed in this document is reliable. Each value provided is calculated as theoretical data based on the product formulation. Upon request, our company can disclose the internal standard measurement methods used to determine any of the above data. Since usage conditions are beyond the manufacturer's control, this information is provided without warranty. The product is intended for professional use only. For any inquiries, please contact our company.

Our Technical Support and Customer Service Center is available to provide consultation and application technical services regarding the product. We welcome your inquiries via mail or phone. National Customer Service Hotline: 400-059-1116 ext. 3.