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Technical Data Sheet (TDS)

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618A-FD-3+618B-FD

Product Description

The 618A-FD-3+618B-FD series is a two-component polyurethane resin system that cures at room or elevated temperatures, forming a transparent, glossy protective coating suitable for applications such as flooring, thin-film coatings, and shallow-depth coatings. Supplied as separate resin and hardener components, the product must be mixed thoroughly in the specified ratio to yield a transparent, flexible resin. Once cured, it exhibits exceptional weather and UV resistance, allowing for long-term indoor use of 4 to 5 years.

Composition

618A-FD-3 is the aspartic polyurea resin component, and 618B-FD is the isocyanate component. They meet the requirements for both manual and mechanical dispensing.

Product Features

1. Offers a long pot life and rapid heat-curing capabilities, helping to boost production efficiency.

2. Features a slightly higher viscosity and excellent air-release properties; the cured surface is smooth, glossy, and flat—free of ripples or tackiness.

3. Offers high transparency, along with excellent gloss and adhesion.

4. Exhibits outstanding weather and UV resistance after curing, maintaining excellent performance across a wide temperature range (0°C–80°C).

Physical Properties Before Curing

Property	Part A: 618A-FD-3	Part B: 618B-FD
Appearance	Colorless to Pale Yellow Liquid	Colorless Transparent
Density (g/ML)	1.06±0.03	1.08±0.03
Viscosity (mPa•s)	650±100	500±200
Mixing Ratio	A:B=1:1	
Working Time (25°C)	20–30 minutes	
Curing Time	70°C for 1.5 h or 25°C for 48 h	
Shelf Life	6 months	

Process Flow

Foundation Preparation

1. Clean the foundation surface: Remove impurities such as oil, dust, and rust to ensure the surface is clean and level.

2. Treat the foundation surface: Remove rust from affected areas using methods such as mechanical cleaning, sandblasting, or chemical treatment.

3. Address foundation defects: Repair surface defects—such as cracks or voids—using methods like filling and leveling.

Primer Application

1. Primer Application: Apply the polyurea primer to the substrate surface; the coating thickness is generally 50–100 μm, and the coating requires drying after application.

2. Primer Inspection: Inspect the primer coating to ensure the coating quality meets the requirements.

Intermediate Coating Application

1. Application: Apply the polyurea intermediate coating over the primer layer; the typical application thickness is 50–100 μm, followed by a drying process.

2. Inspection: Inspect the intermediate coating layer to ensure its quality meets the requirements.

Topcoat Application

1. Topcoat Application: Apply the polyurea topcoat over the intermediate coating layer, typically at a thickness of 50–100 μm, and allow it to dry.

2. Topcoat Inspection: Inspect the topcoat layer to ensure its quality meets the required standards.

Anti-corrosion Coating Inspection

1. Coating Inspection: Inspect the entire anti-corrosion coating to ensure its quality meets requirements.

2. Coating Maintenance: Maintain the coating by periodically checking its condition and performing timely repairs and upkeep.

The above outlines the application process for polyurea anti-corrosion coatings; adhering to a rigorous application process ensures the quality and service life of the coating.

Properties After Curing

Appearance	Colorless and transparent, with a smooth surface free of ripples.
Hardness (Shore D)	65±5
Tack-free time (h)	2-4
Full cure (h)	24-36

Packaging Specifications

Packaged in 5 kg PE plastic drums and 20 kg iron cans.

Storage, Transportation, and Precautions:

1. This product is classified as non-hazardous and may be transported as a general chemical.

2. Store in a sealed container, protected from light, at a temperature of 15–25°C and relative humidity below 70%. Refer to the packaging drum for the product's shelf life.

3. Component B is unstable upon exposure to air; therefore, the container must be

resealed immediately after use. Both Components A and B are highly hygroscopic; strict protection against moisture is required.

4. For manual dispensing, weigh components accurately according to the specified ratio and mix thoroughly. Note that if the batch size exceeds 100g, the usable pot life will be reduced.

Note: The performance data above represents typical values obtained under test conditions of 65% humidity and 25°C. These figures serve as a reference for customers and do not guarantee identical results in every specific application environment. Customers should rely on their own actual test data for specific use cases. For optimal results, Component A may be vacuum-treated to remove moisture prior to use.