

Shenzhen Jianghe New Materials Technology Co.,Ltd

Technical Data Sheet (TDS)

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616-50

Features

Water-based mulch film adhesive 616-50 is an acrylic emulsion that cures at ambient or moderate temperatures; it offers excellent leveling and water resistance, and can be cured at room temperature or with applied heat.

Applications

Water-based landscape bonding adhesive 616-50 is specifically designed for bonded stone applications.

1. It secures landscape materials—such as gravel, crushed stone, wood chips, and bark—in gardens and courtyards, preventing displacement or scattering caused by wind, rain, or foot traffic.
2. Suitable for use on garden paths, patio surfaces, and flowerbed borders; its water-based formula is safe for plants and pets.

Technical Specifications

Model	616-50
Color	Milky White Liquid
Density (g/cm ³)	1.03 ± 0.05
Viscosity (mPa•s)	400 ± 200
Brookfield DV2TRV Test Method	25°C

Curing Time

Initial Cure (2 mm Thickness)	Approx. 18 Hours at Room Temperature
Final Cure (2 mm Thickness)	24 Hours at Room Temperature
Service Temperature Range	10°C–70°C

Instructions for Use

Work Environment

Keep the adhesive container clean; reseal it promptly after opening.

Safety Precautions

1. Wear gloves, safety goggles, and protective clothing during application to prevent direct contact of the adhesive with skin or eyes.
2. In case of skin contact, rinse immediately with plenty of water; if splashed into the eyes, rinse thoroughly and seek medical attention promptly.
3. Store the product in a sealed container in a cool, dry place, out of reach of children and pets; do not store alongside food or beverages.

Key Considerations

1. Application Environment: During application and for 48 hours thereafter, the ambient temperature must be $\geq 15^{\circ}\text{C}$ and humidity $\leq 90\%$; weather conditions must be free of rain or snow.
2. Substrate Preparation: Before application, ensure the substrate is clean, dry, and solid, and free of debris such as dust, weeds, or standing water.
3. Tool Cleaning: Immediately rinse tools (such as sprayers) with water after spraying to prevent the adhesive from hardening and causing clogs.
4. Maintenance Schedule: Re-application is recommended every 12 months for high-traffic areas and every 24 months for decorative areas.

Application Methods

Spraying Method (Suitable for existing landscape surfacing)

1. Shake the product well before use and pour it into a sprayer.
2. Spray an even first coat of the binder, then immediately rake the gravel to ensure the binder coats the bottom of the material as well.
3. Spray a second coat, compact the surface, and allow it to dry overnight.
4. Spray a third coat the next day as a sealer, and keep the area ventilated and dry for 12–36 hours.

Mixing Method (Suitable for new landscape surfacing installations)

1. Mix the binder and gravel in the appropriate ratio, stirring until the surface of the material is evenly coated.
2. Lay down weed-control fabric in the application area beforehand, then spread the mixture evenly to a thickness of approximately 20 mm.
3. Compact the surface using a trowel or wooden board, and allow it to dry in a ventilated area for 12–36 hours.

Model: 616-50

Gravel Weight	Binder Amount (kg)	Coverage Area	Mixing Ratio (by weight)
10kg	0.4kg	0.4m ²	Binder : Gravel = 1:25
15kg	0.6kg	0.6m ²	Binder : Gravel = 1:25
20kg	0.8kg	0.8m ²	Binder : Gravel = 1:25
25kg	1.0kg	1.0m ²	Binder : Gravel = 1:25
30kg	1.2kg	1.2m ²	Binder : Gravel = 1:25
50kg	2.0kg	2.0m ²	Binder : Gravel = 1:25

Application Area	Usage per Square Meter (kg)	Total Usage (kg)	Water Dilution Ratio for Spraying (Adhesive : Water)
1m ²	0.5kg/m ²	0.5kg	100:20-30
2m ²	0.5kg/m ²	1.0kg	100:20-30
4m ²	0.5kg/m ²	2.0kg	100:20-30
8m ²	0.5kg/m ²	4.0kg	100:20-30

Surface Recommendations

Surface depth: 6–12 mm (optimal), 19–25 mm (good), >25 mm (not recommended).

Gravel size: 4–7 mm (optimal), 19–25 mm (good), >25 mm (not recommended).

Working Principle

1. Evenly spray the ground-covering adhesive onto the surface of the gravel or wood chips.
2. The water in the formula evaporates within 48 hours.
3. This ultimately binds the gravel firmly together.

Pro Tips

1. Importance of Compaction: Thoroughly compact the surface during application to increase bond strength by approximately 70%.
2. Tool Cleaning: Rinse the spray gun with warm water immediately after use to prevent the adhesive from hardening and clogging the nozzle.
3. Stain Removal: Clean up any spills or splatters immediately while the adhesive is still wet; it is difficult to remove once dry.
4. Additional Sealing Coat: For enhanced durability, apply a thin final sealing coat and allow an additional 12–36 hours for drying.

Precautions

The container lid must be sealed tightly after use to prevent product spoilage caused by moisture evaporation. It is recommended to apply the product at temperatures of 25°C or higher, as low temperatures will slow down the curing process; application should be carried out on clear, sunny days. Before using the adhesive, ensure the bonding surfaces are dry; the stones to be bonded must be completely dry and free of moisture.

Sealing Procedure

The bucket lid must be sealed within 5 minutes after use to prevent moisture evaporation caused by a delay in sealing.

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Frost-Sensitive	Yes
Moisture-Sensitive	Yes
Recommended Storage Temperature	20°C–30°C
Shelf Life	12 Months in Original Packaging