

Technical Data Sheet

Farapol Jam Chemical Indus. Co.

FARAZHAD Stone Adhesive

Product Description FARAZHAD Stone Adhesive is a high-performance two-component stone adhesive formulated with amine-accelerated unsaturated polyester resin. The product cures rapidly at room temperature when mixed with benzoyl peroxide (BPO) paste as the initiator. It is specially developed for bonding natural and artificial stones and mineral-based materials.

- Fast curing at room temperature
- MEKP- and cobalt-free formulation
- Excellent adhesion to stone, concrete, and mineral surfaces
- Good color stability and polish ability
- Weather and moisture resistance
- It Can be pigmented for color matching

Applications and Use

FARAZHAD Stone Adhesive is a high-performance adhesive based on unsaturated polyester resin, designed to provide strong and durable bonds between stone pieces. After curing, it offers high mechanical strength, reliable adhesion, a smooth surface finish, and excellent sanding capability. It can also be produced in custom-matched colors to harmonize with various types of natural stone.

Typical Applications:

- Bonding natural stone pieces such as marble, granite, and travertine
- Repairing and rejoining broken stone parts
- Installing decorative stone elements for interior and exterior applications
- Fixing stone slabs, tiles, or profiles in construction and architectural projects
- Performing structural or aesthetic repairs where high adhesion is essential
- Use in stone workshops and factories for assembly and repair purposes

Certificates and Approvals

Farapol Jam Chemical Industrial Company carries out the production, quality control, and distribution of this resin in compliance with ISO 9001, 14001, 45001, 10002, 10004, 10015, and 17065 standards.

Typical Paste Properties

| <i>Property @ 25 °C</i> | <i>Unit</i> | <i>Specification</i> | <i>Method</i> |
|---|-------------|----------------------|-------------------------|
| Viscosity Brookfield (Spindle 4, RPM 6) | Pa.s | 60-100 | ASTM D 2196 |
| Gel Time | minute | 5-10 | ASTM D 3056 |
| Lap Shear (Iron-Iron) | MPa | 5-8 | ISO 4587 |
| Color ¹ | - | According to order | Farapol Internal Method |
| Appearance | - | Visco liquid | Visual |
| Tack-Free Time | minute | 10 | Farapol Internal Method |
| Hardness (after cure) | barcol | Min 50 | ASTM D 2583 |
| Relative Density | relative | 1.7-1.8 | ISO 2811 |
| Solid Content | % | Min 85 | ASTM D 1259 |

1. This product can be produced in a wide range of colors to meet the diverse needs of customers based on updated technical knowledge, advanced technology, and the global RAL standard. Farapol Jam manufactures and supplies various pigment pastes based on solvent-free unsaturated polyester resin of the highest quality which is specifically designed for the composite industry. For more information, please refer to the Farapol Pigment Paste datasheet.

NOTICE IN USE

Before applying FARAZHAD Stone Adhesive, ensure that all substrates are clean, dry, and free of dust, oil, or any contaminants that may impair adhesion. Mechanical abrasion or sanding is recommended on highly polished surfaces to improve bonding.

This adhesive is a two-component system:

- Component A: Pre-accelerated unsaturated polyester resin paste (amine-accelerated)
- Component B: Benzoyl peroxide (BPO) paste initiator

Mixing ratio:

- **Component A:** 100 parts by weight
- **Component B:** 2 parts by weight
- Homogenize thoroughly for 1–2 minutes using a spatula or mechanical stirrer at low speed to avoid air entrapment.

Application conditions:

- Recommended ambient temperature: 15–30°C
- Relative humidity: below 80%
- Working time (pot life) after mixing: 5–10 minutes, depending on temperature and catalyst level
- Apply using a spatula, trowel, or cartridge dispenser, ensuring full wetting of both surfaces
- Maximum recommended adhesive layer thickness: 3 mm

Curing and finishing:

- Initial set time: 20–40 minutes at room temperature
- Machining, sanding, or polishing operations can be performed after 1–2 hours, depending on temperature
- Avoid moving or stressing bonded parts during the curing period

Important notes:

- Do not mix large quantities at once, as the reaction is exothermic and may cause excessive heat buildup.
- Never return unused mixed adhesive to the original container.
- Proper ventilation is essential; use personal protective equipment when handling component

Handling, Storage and Stability

To ensure optimal performance and stability, both components of this adhesive system should be stored under the following conditions:

◆ **Component A – Amine-Accelerated Unsaturated Polyester Resin:**

- Storage temperature: 5–25°C (41–77°F)
- Keep away from direct sunlight and heat sources. Elevated temperatures can cause premature polymerization or reduce resin reactivity.
- Ensure containers are tightly sealed to prevent air and moisture ingress.
- Shelf life: Up to 12 months in unopened containers under recommended conditions
- Note: Minor discoloration or thickening over time may occur but does not necessarily indicate loss of performance. It is recommended to perform a test before use if approaching the end of the shelf life.

◆ **Component B – Benzoyl Peroxide (BPO) Paste:**

- Storage temperature: 0–20°C (32–68°F) – preferably refrigerated
- Store away from heat, direct light, and combustible materials.
- Keep in original packaging and avoid contamination.
- Shelf life: 6–12 months, depending on storage temperature and formulation
- Check for signs of degradation such as phase separation, unusual odor, or loss of activity.

Healthy and Safety For safe use of FARAZHAD Stone Adhesive and to prevent potential hazards, the following safety guidelines must be followed:

- ◆ Safety Measures When Working with Resin and Peroxide Components:
 - Proper ventilation: Use in well-ventilated areas or with local exhaust systems to avoid inhaling fumes.
 - Protective gloves and goggles: Always wear chemical-resistant gloves and safety goggles.
 - Respiratory protection: Use appropriate respiratory masks if working in confined spaces or where vapor concentrations may exceed safe levels.
 - Protective clothing: Wear protective clothing, such as an apron or lab coat, to avoid direct skin contact.

- ◆ Special Safety Notes:
 - Mixing materials: Use appropriate tools when mixing Component A and Component B, and avoid direct contact with eyes or skin.
 - Maintain appropriate temperature: The ambient temperature should not exceed the recommended range to prevent unwanted reactions or excessive heat buildup.
 - Proper storage: Avoid storing materials in temperatures higher than recommended, and take immediate action if any container is damaged or leaking.

- ◆ First Aid Procedures in Case of Emergency:
 - Eye contact: Immediately rinse eyes with plenty of water and seek medical attention.
 - Skin contact: Wash affected areas with soap and water in case of skin contact.
 - Inhalation of fumes: Move to fresh air and seek medical attention if necessary

Packaging FARAZHAD Stone Adhesive is supplied in 0.5, 1.0 and 5 Kg Buckets.

Notice The information contained herein is provided in good faith and is with the best of our accurate knowledge, but we assume no liability for its accuracy or completeness. Therefore, the buyer is advised to determine the suitability of this product for the intended use. We retain the right to make any changes according to technological progress or further developments. Please note that variations in testing conditions across different laboratories may result in discrepancies, and a tolerance of up to 5% in test results should be expected.
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