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Epoxy Sealant Technical Data Sheet

Product Description

Epoxy Sealant is a high-performance, two-part adhesive and sealant formulated with epoxy resin and a hardening agent. Known for its superior bonding strength and chemical resistance, it forms a tough, durable, and waterproof seal upon curing. This sealant is ideal for applications that require a high level of protection against moisture, chemicals, and mechanical stress. It provides excellent adhesion to a variety of materials, including metals, plastics, ceramics, wood, and concrete.

Once mixed, the Epoxy Sealant undergoes a curing process, which results in a hard, strong bond. Its excellent resistance to water, heat, oils, solvents, and acids makes it a preferred choice for use in industrial, automotive, marine, and construction applications. It can be used to fill gaps, cracks, and joints, as well as to create a watertight seal between various surfaces. Additionally, the product is highly durable and can withstand extreme conditions, including exposure to UV light, temperature fluctuations, and vibration.

The two-part formulation ensures optimal performance and customization based on the specific requirements of the application. The mix ratio is typically 1:1, but it is important to follow manufacturer recommendations for best results. The product is easy to apply, offers fast curing times, and provides long-lasting protection.

Epoxy Sealant is available in a range of colors, allowing it to blend seamlessly with different materials. Once cured, the sealant provides a smooth, solid finish that is resistant to wear, making it ideal for both functional and aesthetic purposes. It also exhibits low shrinkage during curing, maintaining a strong and consistent bond. The sealant can be sanded, drilled, or painted after curing, offering additional flexibility for a variety of applications.

Recommended Use

- 1. Construction and Building:
 - Sealing Joints and Cracks: Epoxy Sealant is widely used in the construction industry to seal joints in concrete, brick, and masonry structures. Its water-resistant properties make it ideal for sealing gaps and cracks in walls, floors, and foundations, preventing water infiltration.
 - Sealing Plumbing and Pipe Connections: The sealant is ideal for sealing plumbing systems, pipes, and fittings. It is resistant to water and chemical exposure, providing a reliable, long-term seal in environments such as bathrooms, kitchens, and industrial plumbing systems.
 - Concrete and Floor Coatings: It can be used as a protective coating for concrete floors, providing resistance against abrasion, chemicals, and impact, while also sealing any minor cracks that may develop over time.

2. Automotive and Marine:

- Sealing Gaskets: Epoxy Sealant is ideal for sealing gaskets and other automotive parts. It is particularly useful in applications where high resistance to heat, oil, and other chemicals is necessary.
- **Marine Applications**: The sealant's excellent waterproof properties make it perfect for marine environments, where it is used for sealing boat hulls, decks, and fittings. It resists water, salt, and UV exposure, ensuring a durable, long-lasting seal in harsh conditions.

3. Industrial and Manufacturing:

• **Machinery and Equipment**: Epoxy Sealant is used in manufacturing settings to seal machinery and equipment, protecting critical components from dust, water, and chemicals.

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Its resistance to wear and mechanical stress makes it an ideal choice for high-performance industrial environments.

• **Electronics and Electrical Sealing**: Epoxy Sealant is also used to seal electrical components, junction boxes, and cables. It offers superior insulation properties and protects against moisture, dust, and other contaminants that can damage electrical systems.

4. DIY and General Applications:

- **Home Repairs**: The sealant can be used for general home repairs, such as sealing cracks and gaps in walls, floors, and furniture. It is especially useful for restoring worn or damaged surfaces, providing a strong and lasting bond.
- **Craft and Hobby Projects**: Epoxy Sealant can be used in crafting projects, such as bonding metals, ceramics, and plastics. It allows for precise application and can be sanded or painted once cured.

Technical Data Specification

- Colour: Transparent, White, Grey, or Custom colors available
- **Base**: Epoxy resin and hardener
- Appearance: Paste, smooth texture
- Specific Gravity: 1.2–1.5 g/cm³
- Viscosity: High
- Curing Time: 1-3 hours (depending on temperature and thickness)
- Tensile Strength: 20-30 MPa
- Elongation at Break: 5-10%
- Shore D Hardness: 70-80
- Water Resistance: Excellent
- Chemical Resistance: Good (resistant to oils, acids, and solvents)
- Temperature Resistance: -40°C to +120°C
- Shelf Life: 12 months (unmixed, stored in a cool, dry place)
- Mix Ratio: 1:1 (epoxy resin to hardener)
- VOC Content: Low

Dosage, Addition & Method of Application

- 1. **Dosage**: The amount of Epoxy Sealant required will depend on the size of the area to be sealed. Typically, a 1:1 mix ratio is used, and for general applications, one cartridge (300ml) is sufficient for sealing 8–12 linear meters with a 6mm bead. For larger or deeper cracks, additional material may be required.
- 2. Addition: Epoxy Sealant comes in two parts: the resin and the hardener. These components must be mixed thoroughly to activate the curing process. Mix the resin and hardener in a 1:1 ratio (or as specified by the manufacturer) until the mixture is uniform in color and consistency.
- 3. Surface Preparation:
 - Clean the surfaces to be sealed. Remove dirt, grease, oil, dust, and old sealants from the area using a suitable cleaner.
 - For better adhesion, lightly sand smooth or glossy surfaces. Ensure the area is completely dry before applying the sealant.

4. Application Method:

- Step 1: Mix the epoxy resin and hardener thoroughly in the recommended 1:1 ratio.
- Step 2: Load the mixed sealant into a caulking gun or apply with a spatula or putty knife, depending on the application.

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- Step 3: Apply the sealant evenly along the joint, crack, or surface to be sealed. Ensure complete coverage for an airtight and waterproof seal.
- Step 4: Smooth the surface of the applied sealant with a tool or wet finger for a neat finish.
- Step 5: Allow the sealant to cure for the recommended time, typically 24–48 hours, before using the sealed area.
- 5. **Post-Application**: Once the sealant has cured, it forms a durable, hard, and waterproof seal. If necessary, the surface can be sanded, painted, or drilled once fully cured.

Safety Instructions

1. Handling:

- Always wear protective gloves, goggles, and suitable clothing to prevent skin and eye contact.
- Ensure the area is well-ventilated when applying the sealant to avoid inhaling fumes from the curing process.
- Avoid direct contact with the uncured product. In case of contact with skin, wash immediately with soap and water.

2. Storage:

- Store the components (resin and hardener) in a cool, dry place, away from heat, sparks, and open flames.
- Keep containers tightly sealed when not in use to prevent contamination.

3. First Aid Measures:

- **Skin Contact**: Wash thoroughly with soap and water. Seek medical attention if irritation persists.
- **Eye Contact**: Flush immediately with plenty of water for at least 15 minutes. Seek medical help if irritation continues.
- o **Inhalation**: Move to fresh air immediately and seek medical attention if symptoms persist.
- **Ingestion**: Do not induce vomiting. Rinse mouth and seek medical attention immediately.

4. Disposal:

- Dispose of unused or cured Epoxy Sealant according to local regulations. Do not dispose of it in drains or the environment.
- Clean tools and equipment with an appropriate solvent before the sealant hardens.

By adhering to safety instructions and proper application methods, Epoxy Sealant will provide a reliable, durable, and long-lasting solution for sealing and bonding in a wide range of industrial, automotive, and construction applications.