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Epoxy Coating Technical Data Sheet

Product Description

Epoxy Coating is a high-performance, two-component protective coating designed for industrial and commercial applications. It is formulated using advanced epoxy resins and curing agents, creating a durable, long-lasting, and chemically resistant surface. Epoxy Coatings are widely used in areas that demand superior protection against physical wear, moisture, chemicals, and high temperatures, making them ideal for floors, walls, machinery, and other surfaces exposed to harsh environments.

The coating provides excellent adhesion to a variety of substrates, including concrete, steel, and wood, and forms a seamless, non-porous surface that resists stains, corrosion, and abrasion. Once cured, Epoxy Coating offers outstanding resistance to oils, solvents, acids, alkalis, and other industrial chemicals, ensuring a protective barrier that can withstand heavy traffic and harsh working conditions.

Epoxy Coating also enhances the aesthetic appeal of industrial spaces, with a smooth, glossy finish that is easy to maintain. It can be customized with colors and anti-slip additives to suit specific needs, whether for safety purposes or decorative applications.

The quick-drying nature of Epoxy Coating reduces downtime, making it an efficient solution for busy facilities, while its high chemical resistance makes it an ideal choice for factories, warehouses, laboratories, food processing plants, and other environments where chemical spills or contamination risks are common.

Recommended Use

1. **Industrial Floors**:
   Epoxy Coating is perfect for use on industrial floors exposed to heavy traffic, equipment, and chemicals. Its ability to resist oils, solvents, and other industrial substances makes it ideal for factories, warehouses, and manufacturing plants where floors are subjected to frequent wear and tear.
2. **Chemical and Manufacturing Plants**:
   In chemical processing and manufacturing environments, where floors may come into contact with aggressive chemicals or solvents, Epoxy Coating offers superior protection against corrosion, making it a long-lasting solution.
3. **Automotive Garages**:
   For garages or repair shops where oil spills and automotive fluids are a constant concern, Epoxy Coating provides an easy-to-clean, chemical-resistant surface that withstands heavy foot and vehicle traffic.
4. **Food Processing Areas**:
   In food manufacturing plants, the non-porous surface of Epoxy Coating helps prevent the absorption of oils, grease, and bacteria. It is also resistant to frequent cleaning with industrial-strength detergents and hot water, making it a hygienic choice for these environments.
5. **Laboratories and Clean Rooms**:
   Epoxy Coating is an excellent choice for laboratory floors and clean rooms due to its resistance to chemicals, moisture, and dust accumulation. It provides a smooth, durable surface that is easy to maintain and clean.
6. **Parking Garages and Warehouses**:
   For use in parking garages or warehouses, Epoxy Coating protects concrete floors from heavy machinery and vehicle traffic. It offers enhanced durability, extends the life of the floor, and creates an aesthetically pleasing finish that is easy to clean.

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7. **Marine and Offshore Applications**:
   Epoxy Coating provides superior corrosion protection, making it ideal for use in marine environments or on offshore platforms. It is resistant to saltwater, oil, and other harsh substances typically found in these industries.
8. **Steel Structures and Machinery**:
   Epoxy Coating is widely used for protecting metal surfaces, including steel structures, pipes, and machinery, from rust, corrosion, and chemical degradation. It creates a tough, long-lasting bond that protects against wear and ensures the integrity of the structure.

Technical Data Specification

- **Colour**: Customizable (available in a wide range of colors).
- **Finish**: Glossy, satin, or matte.
- **Binder**: Epoxy-based.
- **Viscosity**: 200–250 KU (Krebs Units).
- **Specific Gravity**: 1.5–1.7 g/cm³.
- **Drying Time**: Touch dry in 6–8 hours; full cure in 7 days.
- **Coverage**: 10–12 m² per liter per coat, depending on surface texture and condition.
- **Flash Point**: > 100°C.
- **pH**: 7–8.
- **Volume Solids**: 60–70%.
- **VOC Content**: < 50 g/L.
- **Abrasion Resistance**: Excellent (ASTM D4060).
- **Chemical Resistance**: Excellent to acids, solvents, oils, and alkalis.
- **Slip Resistance**: Optional anti-slip additives available.

Dosage, Addition, and Method of Application

1. **Dosage**:
   - Typically, Epoxy Coating requires 1 liter per 10–12 square meters, depending on surface porosity and texture. For best results, a two-coat application is recommended to achieve maximum durability and protection.
   - On highly porous or rough surfaces, additional coats may be needed to ensure full coverage and performance.
2. **Addition**:
   - **Pigments**: Epoxy Coating can be tinted to any RAL or custom color using compatible colorants.
   - **Thinning**: In cases where thinning is necessary for spray application, use only the recommended thinner for epoxy coatings. Avoid excessive thinning to preserve the product's protective properties.
   - **Anti-Slip Additives**: To enhance safety, anti-slip aggregates or additives can be mixed into the coating. These can be broadcast onto the wet surface or mixed directly into the coating for customized slip resistance.
3. **Method of Application**:
   - **Surface Preparation**:
     Thorough surface preparation is essential for the best adhesion. The surface should be clean, dry, and free of contaminants such as oils, grease, and dust. Concrete floors should be ground or shot-blasted to remove any existing coatings, dirt, and laitance, ensuring proper bonding of the epoxy. For metal surfaces, remove rust and scale by sandblasting or

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using a wire brush. Smooth, non-porous surfaces should be lightly sanded to promote better adhesion.

- **Mixing**:
  Epoxy Coating is a two-component system. Mix the resin and hardener in the recommended ratio (usually 4:1 by volume) until the mixture is homogenous. After mixing, allow the product to stand for 5–10 minutes before application to allow for proper chemical reaction.
- **Application by Roller**:
  Use a medium-pile roller to apply the epoxy evenly, working in a "W" or "M" pattern to minimize streaks. Ensure the coating is applied smoothly and uniformly, without leaving gaps or thin spots. For larger areas, use a paint tray to load the roller.
- **Application by Brush**:
  Use a high-quality, synthetic bristle brush to apply the epoxy to corners, edges, and intricate details. This method ensures that all surfaces, including hard-to-reach areas, are covered.
- **Spray Application**:
  For larger applications, spray application is the most efficient. Use a high-pressure spray gun with the appropriate nozzle size to apply a thin, even coat. Maintain a consistent distance from the surface and apply the epoxy in multiple passes to avoid runs or drips.
- **Drying and Curing**:
  Allow the first coat to dry to the touch in 6–8 hours before applying a second coat. Full curing typically takes 7 days, although the coating can withstand light foot traffic after 24–48 hours. The final surface should be fully cured before exposing it to chemicals, heavy machinery, or traffic.
- **Clean-Up**:
  Immediately clean tools and equipment with the appropriate solvent or water (depending on the type of epoxy used) before the coating hardens. Proper clean-up ensures that brushes, rollers, and spray equipment can be reused.

Safety Instructions

1. **Handling**:
   - Wear appropriate personal protective equipment (PPE), including gloves, goggles, and a respirator with an organic vapor cartridge to prevent inhalation of fumes. Epoxy coatings can be irritating to the skin, eyes, and respiratory system.
2. **Ventilation**:
   - Ensure the area is well-ventilated, especially when applying epoxy in enclosed or poorly ventilated spaces. Open windows, use exhaust fans, or wear a respirator to minimize inhalation of vapors.
3. **First Aid**:
   - **Skin Contact**: Wash with soap and water immediately. If irritation persists, seek medical advice.
   - **Eye Contact**: Flush eyes with plenty of water for 15 minutes. If irritation persists, seek medical attention.
   - **Inhalation**: Move to fresh air immediately. If symptoms persist, seek medical attention.
   - **Ingestion**: Rinse mouth with water and drink a large glass of water. Do not induce vomiting. Seek medical attention immediately.
4. **Storage**:

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- Store the epoxy components in a cool, dry place, away from direct sunlight and heat sources. Ensure that the containers are tightly sealed to prevent contamination or evaporation.

5. **Disposal**:
   - Dispose of unused epoxy coating and containers according to local environmental regulations. Do not pour it down the drain or into waterways.
6. **Fire Hazards**:
   - Epoxy coatings are not highly flammable but should be kept away from open flames, sparks, or excessive heat. Ensure proper ventilation to prevent buildup of flammable vapors.

Epoxy Coating is the ideal solution for creating high-performance, durable, and chemically resistant surfaces in industrial and commercial environments. It offers protection, enhances safety, and ensures a long-lasting finish with minimal maintenance.

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