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Zinc-Rich Coating Technical Data Sheet

Product Description

Zinc-Rich Coating is a specialized protective paint that contains a high percentage of zinc, providing superior corrosion resistance for metal surfaces. This coating is primarily used as a primer or undercoat for steel and iron surfaces exposed to harsh environmental conditions, offering galvanic protection to the metal. The zinc particles in the coating react with oxygen and moisture to form a protective barrier that prevents rust and corrosion, even in extreme environments.

Designed for both industrial and commercial applications, Zinc-Rich Coating is highly effective for use on structural steel, pipelines, metal frames, bridges, and marine applications where durability and protection from corrosion are critical. The coating creates a sacrificial layer on the metal surface, ensuring long-lasting protection even when the surface is damaged.

Zinc-Rich Coating is ideal for use in areas with high humidity, salt exposure, and extreme weather conditions. It has excellent adhesion properties, allowing it to bond well to steel, iron, and other ferrous metals. The coating's superior corrosion resistance also extends the lifespan of the metal surface, reducing the need for frequent maintenance and repainting.

Available in various colors, the Zinc-Rich Coating can be tailored to meet the aesthetic requirements of the project while still providing the necessary protection. It is typically used as a first coat in multi-coat systems, ensuring that the surface remains rust-free for extended periods.

Recommended Use

- 1. Steel and Iron Structures: Zinc-Rich Coating is commonly applied to large steel structures like bridges, buildings, and towers to protect against corrosion. This coating helps to maintain the integrity of the metal over time, especially in areas that are constantly exposed to moisture, salt, and atmospheric elements.
- 2. **Marine Applications**: For ships, offshore platforms, docks, and other marine structures, Zinc-Rich Coating offers exceptional resistance to saltwater corrosion. It forms an effective barrier against rust, ensuring the longevity of steel in the harshest conditions found in marine environments.
- 3. **Pipelines and Tanks**: Zinc-Rich Coating is highly effective for protecting underground or submerged pipelines, storage tanks, and other metal structures. The coating provides a protective layer against corrosion caused by moisture and aggressive chemicals, ensuring a longer service life for vital infrastructure.
- 4. **Industrial Equipment and Machinery**: Machinery and equipment exposed to high moisture and industrial pollutants benefit greatly from Zinc-Rich Coating. It helps to prolong the life of these assets, reducing the need for frequent maintenance due to rust and corrosion.
- 5. Offshore Oil and Gas Industry: In offshore oil and gas extraction sites, where metal surfaces are exposed to extreme weather conditions and corrosive environments, Zinc-Rich Coating is an ideal solution for ensuring long-term corrosion protection.
- 6. **Infrastructure and Industrial Buildings**: Zinc-Rich Coating can be used as a primer for structural steel used in industrial plants, warehouses, and other infrastructure projects. It prevents rusting and enhances the durability of the steel under challenging conditions.
- 7. Automotive Industry: The automotive industry uses Zinc-Rich Coating to protect metal parts from rust and corrosion, especially in vehicles that are exposed to salt during winter months or in coastal areas.



8. **Electrostatic Protection**: Zinc-Rich Coating is used on electrical enclosures and other metal parts that require shielding from electrical currents, providing both corrosion resistance and electrostatic protection.

Technical Data Specification

- **Colour**: Grey (standard); custom colors available
- **Finish**: Matte to semi-gloss
- Viscosity: 70–90 KU (Krebs Units)
- Specific Gravity: 2.5–3.0 g/cm³
- Flash Point: > 24°C (Closed Cup)
- Dry Film Thickness (DFT): 50-75 microns per coat
- Coverage: 8–10 m² per liter per coat
- Solids Content: 60–70%
- Drying Time: Touch dry in 1 hour; fully cured in 24 hours
- Flash Point: > 24°C (closed cup)
- Chemical Resistance: Excellent resistance to water, salt, mild acids, alkalis, and oils
- Heat Resistance: Up to 200°C (392°F)
- Solvent Content: 30–40%

Dosage, Addition, and Method of Application

- 1. Dosage:
 - **Coverage**: Apply Zinc-Rich Coating at a coverage rate of 8–10 square meters per liter for each coat. The coverage will vary depending on the surface texture and porosity. A typical application will require two coats for optimal protection.
- 2. Addition:
 - **Pigments**: Zinc-Rich Coating is available in a variety of shades, but custom colors can be mixed to meet specific project requirements. Ensure that pigments are compatible with the zinc content for best results.
 - **Thinners**: Use the recommended solvent or thinner to adjust the viscosity for spray application if necessary. For airless spray, thinning might not be required, but for conventional spray systems, up to 10% thinning may be needed depending on ambient temperature and application equipment.

3. Method of Application:

- Surface Preparation: The surface must be clean, dry, and free from rust, grease, oil, dirt, or any contaminants. Steel surfaces should be prepared by abrasive blasting to a near-white metal finish (Sa 2¹/₂) to ensure optimal adhesion of the Zinc-Rich Coating. In cases where abrasive blasting is not possible, use power tools like grinders to remove loose rust and mill scale.
- **Mixing**: Stir the product thoroughly before application to ensure uniform distribution of the zinc particles. If necessary, thin the product with the recommended solvent to adjust the viscosity for the specific application method.
- Application by Brush:
 - Apply the Zinc-Rich Coating with a high-quality brush, ensuring even coverage across the entire surface. Use long, consistent strokes to avoid creating streaks or uneven thickness. For hard-to-reach areas, use smaller brushes or applicators.
- Application by Roller:



• A roller with medium or short nap should be used for flat surfaces. Apply in a consistent manner, making sure to overlap the strokes for even coverage.

• Spray Application:

• For large surfaces, using an airless spray gun is recommended. Set the pressure to around 2000–2500 psi and adjust the nozzle to ensure a uniform coating with a smooth finish. For best results, apply in thin, even coats, allowing each layer to dry before re-coating.

• Drying and Curing:

- Zinc-Rich Coating dries to touch in approximately 1 hour, but full curing takes around 24 hours under standard conditions (25°C and 50% relative humidity). Avoid exposing the surface to rain or moisture during this curing period.
- Clean-Up:
 - Clean all equipment, brushes, and rollers immediately after use with the recommended solvent or thinner. Dried material can be difficult to remove, so prompt cleaning is essential.

Safety Instructions

1. Personal Protection:

• Always wear suitable personal protective equipment (PPE), including gloves, goggles, and a respirator. The use of protective clothing is highly recommended to avoid skin contact.

2. Ventilation:

• Ensure good ventilation during application and drying, especially when using the coating in confined spaces. Open windows and use fans to promote airflow. Use respiratory protection if adequate ventilation cannot be guaranteed.

3. First Aid:

- **Inhalation**: Move the person to fresh air immediately. If symptoms persist, seek medical attention.
- **Skin Contact**: Wash affected skin areas immediately with soap and water. If irritation occurs, consult a healthcare professional.
- **Eye Contact**: Flush eyes with water for at least 15 minutes. If irritation persists, seek medical attention immediately.
- **Ingestion**: Rinse mouth thoroughly with water. Do not induce vomiting. Seek immediate medical attention.

4. Storage:

• Store Zinc-Rich Coating in a cool, dry place, away from direct sunlight, heat, and open flames. Ensure the container is tightly sealed to prevent contamination and evaporation.

5. Disposal:

• Dispose of the product according to local regulations. Do not dispose of the product in the environment, drains, or water sources.

6. Fire Hazards:

• While Zinc-Rich Coating has a high flash point, it is still important to exercise caution and avoid open flames, sparks, or other sources of ignition near the product during application and storage.

Zinc-Rich Coating provides highly effective protection against corrosion for metal surfaces, making it essential for industrial and commercial applications where metal longevity is critical. By offering galvanic

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This document provides brief details of our product and is subject to change. For the latest version, please contact us at support@spakslube.com.



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protection, it helps ensure the long-term performance of steel and other metals, even in the most challenging environmental conditions.

