

Technical Data Sheet



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Silfluo SILZ-RT31

Description:

SILZ-RT31 is a room-temperature curable polysilazane-based high-temperature ceramic coating formulated with copper-chromium black pigment, phosphates, and inorganic silicon fillers. The cured coating provides excellent heat resistance above 600°C, high hardness, dense waterproof structure, and outstanding resistance to acids, salt spray corrosion, and aging. As a novel organic – inorganic hybrid system, SILZ-RT31 integrates high-temperature polymer materials, anti-corrosion fillers, ultrafine powders, and polymer dispersions. After curing, fillers are tightly packed with the resin matrix, forming a compact coating with moderate gloss. The coating chemically bonds to substrates via covalent bonding, significantly enhancing mechanical strength.

Applications

- High-temperature anti-corrosion protection for industrial equipment;
- Chimneys, flue ducts, heat exchangers, furnaces, and desulfurization units;
- Petrochemical cracking equipment and exhaust systems;
- Power, metallurgy, aerospace, and military applications;
- Steel structures exposed to high temperature and corrosive environments;

Technical Properties

Test Item	Specification	Test Method
Appearance	Black	Visual
Solid Content (%)	70 - 85	GB/T 1725-2007
Density (g/cm ³)	1.63 - 1.72	Measured
Pencil Hardness	≥5H	GB/T 6739-2006
Adhesion	Class 0	GB/T 9286-1998
Neutral Salt Spray Resistance	>30 days, no blistering, cracking or rust	GB/T 1771-2007
Viscosity	21 - 26 s	GB/T 26490-2011
Artificial Aging Resistance	3 days, no rusting, chalking or cracking	GB/T 1865-2009

Application Parameters & Curing Conditions

Item	Value	Curing Condition	Requirement
Theoretical Coverage (m ² /kg)	10 - 15	Room Temperature Cure	>24 h
Dry Film Thickness (μm)	30 ±5	Heat Cure (180°C)	<0.5 h
Pot Life (h)	6	Max Instant Temperature (°C)	800
Diluents	Aromatics, lipids, ethers, etc.	Recommended Temp (°C)	Service -30 to 600
Flash Point(°C)	<22 (solvent flash point)	Storage Temp (°C)	0 - 30

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Special Notes: SILZ-RT31 is a two-component, room-temperature curable coating. Mixed material should be used within 6 hours. Clean application tools promptly to avoid curing inside equipment. Single-coat application is recommended with dry film thickness not exceeding 50 µm.

Standard Procedure:

Surface Cleaning → Surface Roughening → Cleaning & Drying → SILZ-RT31 Treatment → Curing

Instruction Manual

1. Surface Preparation: Abrade or sandblast substrate to remove rust, dust, and contaminants. Recommended surface grade is Sa2.5, minimum St3.
2. Cleaning: Remove oil and residues using appropriate cleaners.
3. Drying: Ensure substrate is clean and dry.
4. Mixing: Mix two components thoroughly according to ratio and filter through 300-mesh sieve.
5. Application: Spray application using 1.0 mm nozzle recommended.
6. Curing: Air dry for >24 h or accelerate by heating at 180° C for 20 minutes.

Storage & Transportation

1. Store in accordance with regulations in a cool, dry, and well-ventilated area away from heat and ignition sources.
2. Storage temperature: 5 – 30°C. Shelf life: 6 months.
3. Seal containers tightly after opening.
4. Unused mixed material must not be reused and should be disposed of according to local regulations.
5. Expired products may be used only after passing quality inspection.

Disclaimer

The information provided is based on laboratory and practical experience. Actual application conditions are beyond our control; therefore, this data does not constitute a product quality guarantee. Product specifications may be adjusted to comply with local regulations without prior notice. Users should consult the supplier for application-specific guidance.

Packaging

In 1kg, 2kg, 5kg, 25kg pail.

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