Silfluo SILZ-RT7

Description:

SILZ-RT7 is a high-performance, room-temperature curable polysilazane clear coating. Based on a polysilazane film-forming system and formulated with specialized diluents, inhibitors, and leveling additives, SILZ-RT7 addresses the long-standing limitation of conventional ceramic coatings that require high-temperature curing. The cured coating exhibits ultra-high surface hardness (≥8H), excellent transparency, and outstanding color stability, maintaining non-yellowing performance under long-term exposure up to 500°C, with short-term resistance up to 800°C (substrate-dependent).

Applications

SILZ-RT7 is suitable for applications requiring ambient-temperature processing combined with ceramic-like protection. After curing, the coating forms covalent bonds with the substrate, significantly enhancing mechanical strength and durability.

- Surface protection clear coats
- High-voltage electrical insulation coatings
- Wear-resistant and fire-resistant protective layers
- Outdoor hydrophobic, self-cleaning, and anti-aging coatings
- Electronic encapsulation and functional coatings
- Skin-contact-friendly and antibacterial topcoats

When used in hybrid formulations, SILZ-RT7 demonstrates performance characteristics comparable to SILZ-HT21 systems, including excellent resistance to acids, alkalis, UV radiation, and environmental cracking. It has been widely applied in aerospace, petrochemical, metallurgy, power generation, and military-related facilities.

Technical Data:

Test Items:	Performance indicators
Appearance:	Light yellow to colorless transparent liquid
Density:	0.86 ± 0.02 g/mL
Solid Content (120 ± 2°C):	>55%
Pencil Hardness:	≥8H
Adhesion:	Class 0
Neutral Salt Spray Resistance:	30 days, no blistering, cracking, or rust
Artificial Aging Resistance:	30 days, no chalking or cracking, slight color change
Chemical Resistance:	5% NaCl /H_2SO_4 /HNO_3 for 30 days, no corrosion
Water Contact Angle:	>110°

Temperature		<10°C	<25°C	<30°C	<180°C
Curing Conditions	Surface dry time	2h	2h	1h	0.1h

(DFT 20–200 μm, RH 70%)	Full Cure Time	>6 days	>5 days	>3 days	0.5h

Special Note: SILZ-RT7 is a single-component, room-temperature curable product. After opening, use within 6 hours. Recommended single-coat application with dry film thickness not exceeding 200 μm.

Standard Processing Procedure: Standard Processing Procedure: Surface Cleaning → Roughening → Cleaning and Blowing → SILZ-RT7 Room Temperature Curing Silazane Treatment → Curing

Instruction Manual

1. Roughening: Before applying SILZ-RT7 room temperature curing silazane, grind or sandblast the substrate surface to remove rust, dust, dirt, etc. Roughening significantly affects the coating effect; optimal Sa2.5, minimum St3 (no oxide scale) (GB/T 30790.4-2014), so please pay close attention.
2. Cleaning: Use a special cleaning agent or degreaser to remove residual oil, dust, etc., from the roughened surface.
3. Substrate Drying: Ensure the substrate surface is dry and clean before applying SILZ-RT7 room temperature curing silazane.
4. Coating Mixing: This product is a single-component product; shake well before use and filter through a 400-mesh sieve.
5. Coating Application: For laboratory spraying, a 0.5-1.0 mm nozzle spray gun will provide better appearance and uniformity.
6. Curing: After spraying, the coating should cure at room temperature. Surface dryness should occur in 1 hour, touch dryness in more than 3 hours, and fully dryness in more than 24 hours. Heat curing can also be used for rapid curing.

Storage & Transportation

Store in a dry, cool, and well-ventilated environment away from heat and ignition sources. Storage temperature: 5–30°C. Shelf life: 6 months. Reseal containers tightly after use. Unused material must not be returned and should be disposed of in accordance with local regulations.

Disclaimer

The information provided is based on laboratory and practical experience. Application conditions are beyond our control and therefore no guarantee of performance is implied. Specifications may be revised without prior notice to comply with regulatory requirements.

Packaging

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