

Technical Data Sheet



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Silfluo SILZ-EPPSZ Epoxy Modified Polysilazane

Description:

SILZ-EPPSZ is an epoxy-modified polysilazane system using polysilazane as the primary film-forming material, combined with epoxy resin and formulated with small amounts of diluents, retarders, and leveling additives. After curing, the coating forms covalent bonds with the substrate, significantly enhancing mechanical strength, adhesion, and durability. The cured film exhibits high pencil hardness, excellent anti-yellowing performance, and outstanding heat resistance, making it suitable for high-temperature bonding, infrastructure and bridge construction bonding, weather-resistant anti-corrosion coatings, electrical insulation components, and mechanical protective coatings.

Applications

- High-temperature structural bonding
- Bridge and infrastructure adhesive systems
- Weather-resistant and anti-corrosion coatings
- Electrical insulation and heat-resistant components
- Mechanical protection coatings

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Test Item	Specification	Test Method
Appearance & Color	Transparent to semi-translucent light white liquid	GB/T 1721-79
Solid Content (120±2°C)	>65%	GB/T 1725-2007
Density (g/mL)	1.00±0.02	GB/T 6750-2007
Pencil Hardness	≥6H	GB/T 6739-2006
Adhesion	Grade 0	GB/T 9286-1998
Neutral Salt Spray Resistance	>500 h	GB/T 1771-2007
Water Contact Angle	≥105°	GB/T 26490-2011
Artificial Aging Resistance	3 d, no rusting, no powdering, no cracking, slight discoloration	GB/T 1865-2009
Dielectric Strength (V/mm)	≥10 ⁵	ASTM D149

Application Parameters & Curing Conditions

Item	Value	Curing Condition	Requirement
Theoretical Coverage (m ² /kg)	6 - 8	Room Temperature Cure	>24 h
Dry Film Thickness (μm)	20-150	Heat Cure (180°C)	<0.5 h
Pot Life (h)	3	Max Instant Temperature (°C)	500

Nanjing Silfluo New Material Co., Ltd.

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Diluents	Aromatics, lipids, ethers, etc.	Recommended Temp (°C)	Service	-30 to 300
Flash Point(°C)	<22 (solvent flash point)	Storage Temp (°C)		0 - 30

Special Notes:

This product is a single-component curing product. Use within 3 hours of opening. For longer application intervals, clean application tools thoroughly to prevent adhesion. It is recommended to apply in one coat, with a dry film thickness not exceeding 150μm; otherwise, coating performance will decrease.

Standard Application Procedure: Surface Cleaning → Roughening → Cleaning and Blowing → SILZ-EPPSZ Treatment → Curing

Instruction Manual

1. Roughening: Before coating, grind or sandblast the substrate surface to remove rust, dust, dirt, etc. Roughening significantly affects the adhesive layer effect; optimal Sa2.5, minimum St3 grade (no oxide scale) (GB/T 30790.4-2014), so please pay close attention.
2. Cleaning: Use a dedicated cleaner or degreaser to remove residual oil, dust, etc., from the roughened surface.
3. Substrate Drying: Ensure the substrate surface is dry and clean before coating.
4. Adhesive Filtration: This product is a single-component product. Take an appropriate amount and filter through a 120-mesh sieve as needed.
5. Adhesive Coating and Bonding: Apply the adhesive to the surfaces of the workpieces to be bonded and fix it in place. After surface curing, the adhesive layer has certain hydrophobic and oleophobic properties.
6. Curing: After application, surface drying takes more than 2 hours at room temperature and complete drying takes more than 24 hours. Alternatively, it can be cured at 180°C for half an hour.

Storage & Transportation

1. Store in a dry, cool, and well-ventilated environment away from heat and ignition sources.
2. Storage temperature: 5–30°C. Shelf life: 12 months.
3. Seal containers tightly after use.
4. Unused mixed material must not be recycled and should be disposed of according to local regulations.
5. Expired products may be used only after passing inspection.

Disclaimer

The information provided is based on laboratory tests and practical experience. As application conditions are beyond our control, the data does not constitute a guarantee of product performance. Specifications may be adjusted to comply with local regulations without prior notice. Users should consult technical support for specific application guidance.

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Packaging

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

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