



Polysilazane SILZ-150U

Description:

SILZ-150U is a solvent-free, one-component polysilazane resin that self-cures at room temperature. Curing mainly involves hydrolysis and oxidation of Si-NH-Si groups. These groups also react with hydroxyl groups on substrate surfaces, promoting strong adhesion. With a suitable catalyst, reactions involving Si-H and Si-NH-Si form a three-dimensional cross-linked network. The cured coating provides high hardness and resistance to yellowing. Typical uses include insulating, wear-resistant, flame-retardant, outdoor hydrophobic self-cleaning, weather-resistant and antibacterial coating systems. The resin may also serve as an amine-type curing agent or modify hydroxyl-functional phenolic, epoxy, alkyd and acrylic resins to improve heat and weather resistance.

Benchmark reference: Durazane 1033. *This reference is for comparative evaluation only and does not imply composition or performance equivalence. Suitability must be confirmed by application testing.*

Applicable substrates:

Carbon steel, stainless steel, cast iron, aluminum alloy, titanium alloy, high-temperature alloy steel, microcrystalline glass, ceramics and cement. Different substrates require different coating formulations; adjust the system to the substrate and service conditions.

Applicable Temperature:

Suitable for outdoor service below 400°C and short-term high-temperature exposure up to 600°C. Actual coating temperature resistance depends on the substrate and complete coating system. Formulations may need to be adjusted for different substrates and thermal-cycling conditions.

The main characteristics of the SILZ-150U coating are as follows:

Coating performance

Test Item	Performance Indicator	Test Method
Color and Appearance	Pale yellow to colorless transparent liquid	GB/T 1721-1979
Solid Content (120 ± 2°C)	>98%	GB/T 1725-2007
Density (g/mL)	0.97 ± 0.1	GB/T 6750-2007
Pencil Hardness	≥7H	GB/T 6739-2006
Adhesion	Grade 0	GB/T 9286-1998
Neutral Salt Spray Resistance	>500 h	GB/T 10125-2021
Water Contact Angle	>100°	GB/T 26490-2011
Artificial Aging Resistance	30 d: no rust, powdering, cracking or discoloration	GB/T 1865-2009
Dielectric Strength (V/mm)	≥10 ⁵	ASTM D149
Volume Resistivity (Ω·m)	≥10 ¹²	GB/T 35856-2018

Construction basic parameters

Nanjing Silfluo New Material Co., Ltd.

Web: www.silfluo.com Email: inquiry@silfluo.com

The offered information of this docs is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are fully satisfactory for end use. Suggestions of use shall not be taken as inducements to infringe any patent. Please confirm with us prior to any problems.

Technical Data Sheet



www.silfluo.com

Item	Parameter	Item	Parameter
Coating Solids Content (%)	>90	Volatility	Volatile
Theoretical Coverage (m ² /kg)	6-8	Curing Temperature	Room temperature
Dry Film Thickness (μm)	20-50	Curing Time (h)	>24
Working Time (h)	4	Max. Instantaneous Temperature (°C)	600
Thinner	Aromatics, esters, ethers, etc.	Recommended Service Temperature (°C)	-30 to 400
Flash Point (°C)	<22 (thinner/solvent flash point)	Storage Temperature (°C)	5-35

Special Notes:

This is a one-component self-curing product. Once opened, use it within 4 hours. If application is interrupted, clean the tools to prevent unintended curing. Apply one coat where possible and keep dry-film thickness at or below 50 μm; thicker films may reduce coating performance.

Standard Application Procedure: Surface Cleaning → Roughening → Cleaning and Blowing → SILZ-150U Treatment → Curing

Application Instructions

1. Roughening: Before coating, grind or sandblast the substrate to remove rust, dust and dirt. Surface preparation strongly affects coating performance. Target Sa 2.5; minimum St 3 with no mill scale (GB/T 30790.4-2014).
2. Cleaning: Use a suitable cleaner or degreaser to remove residual oil and dust from the roughened surface.
3. Substrate Drying: Ensure that the substrate is dry and clean before coating.
4. Material Preparation: This is a one-component product. Take the required amount and filter through a 120-mesh screen before use.
5. Coating Application: For laboratory spraying, a 1.0 mm nozzle generally provides better appearance and uniformity. The cured coating is hydrophobic and oleophobic; repeated coating is not recommended.
6. Curing: After spraying at room temperature, the coating is surface-dry in approximately 2 hours, touch-dry after more than 3 hours and fully dry after more than 24 hours.

Safety and Storage

1. Store in accordance with applicable requirements in a dry, cool and well-ventilated area away from heat and ignition sources. Keep the container tightly closed and handle it carefully.
2. Maintain the storage temperature between 5°C and 35°C. Shelf life is 12 months in the original, unopened and tightly sealed container under the recommended conditions.
3. Reseal and store any unused material immediately after opening.
4. Do not return dispensed or contaminated material to the original container. Dispose of it in accordance with local regulations.

Nanjing Silfluo New Material Co., Ltd.

Web: www.silfluo.com Email: inquiry@silfluo.com

The offered information of this docs is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are fully satisfactory for end use. Suggestions of use shall not be taken as inducements to infringe any patent. Please confirm with us prior to any problems.

Technical Data Sheet



www.silfluo.com

5. Material beyond its shelf life may be used only after it passes inspection.

Packaging

Available in 1 kg, 2 kg, 5 kg and 25 kg pails.

Special Note:

The information above is based on supplier data, laboratory knowledge and practical experience. Because application conditions are outside our control, Silfluo warrants only the quality of the supplied product. Users must determine suitability through their own formulation and application tests and verify applicable local requirements. Contact Silfluo for application guidance.

Nanjing Silfluo New Material Co., Ltd.

Web: www.silfluo.com Email: inquiry@silfluo.com

The offered information of this docs is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are fully satisfactory for end use. Suggestions of use shall not be taken as inducements to infringe any patent. Please confirm with us prior to any problems.