



Silfluo SILZ-EPPSZ-2K

Epoxy-Modified Two-Component Polysilazane Ceramic Coating

Description

Silfluo SILZ-EPPSZ-2K is a room-temperature-curing, epoxy-modified, two-component polysilazane ceramic coating containing pigments, zinc phosphate and inorganic silicon powders. It is designed for one-pass thin-film anticorrosion and antirust protection with high hardness, dense water resistance, acid and salt-spray resistance, weather resistance and thermal stability.

Applications

- Boiler parts, pipes, valves, heat exchangers, radiators and steel equipment in chemical plants.
- Railway bridges, marine engineering, oil pipelines, metallurgical and chemical facilities and steel structures.
- Welds, bolts, railings, greenhouses and repair areas requiring thin anticorrosion/antirust protection.
- Small appliances, cookware and other components requiring a hard protective ceramic film.

Applicable Substrates

Carbon steel, stainless steel, cast iron, aluminum alloy, titanium alloy, high-temperature alloy steel, glass-ceramics, ceramics and cement. Match surface pretreatment and coating formulation to the substrate and exposure conditions.

Applicable Temperature

Recommended long-term service temperature: up to 300°C; short-term maximum: 400°C. Actual temperature resistance depends on the substrate, coating thickness, A:B mixing accuracy and cure.

Basic Product Data

Item	Typical Value	Test Method
Coating Appearance	Gray	Visual
Component Type	Two-component, A:B = 1:1	Not specified
Mixed Density (g/cm ³)	1.5-1.7	Measured

Coating Performance

Test Item	Performance Indicator	Test Method
Condition in Container	Uniform; no lumps or sediment	Visual
Mixed Color	Gray	Visual
Mixed Viscosity	21-30 s	GB/T 1723-1993

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Technical Data Sheet



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Test Item	Performance Indicator	Test Method
Adhesion	Grade 0	GB/T 9286-1998
Pencil Hardness	≥5H	GB/T 6739-2006
Neutral Salt Spray Resistance	5000 h: no blistering, cracking or rust spots	GB/T 10125-2021
Artificial Aging Resistance	30 d: no rust, powdering or cracking; slight discoloration	GB/T 1865-2009
Thermal-Shock Test	300°C / 1 h, water quench >4 cycles: no visible cracking	GB/T 30873-2014

Construction Parameters

Item	Parameter	Item	Parameter
Coating Solids (%)	65-80	Curing Temperature	Room temperature or 150°C
Theoretical Coverage (m ² /kg)	6-10	Curing Time	>24 h at room temperature; <0.5 h at 150°C
Dry Film Thickness (μm)	40 ± 5	Working Time	6 h
Thinner	Alkanes, esters, ethers, etc.	Max. Instantaneous Temperature	400°C
Flash Point	<22°C (solvent flash point)	Recommended Service Temperature	-30 to 300°C
Storage Temperature	5-35°C	Shelf Life	6 months

Special Notes

Mix Components A and B at 1:1 by mass and use the mixed coating within 6 hours. Apply one coat where possible and keep dry-film thickness at or below 60 μm unless a thicker system is validated.

Standard Application Procedure: Surface Cleaning -> Roughening -> Cleaning and Drying -> A:B = 1:1 Mixing -> SILZ-EPPSZ-2K Application -> Curing

Application Instructions

1. Roughening: Pretreat or sandblast the substrate to remove rust, dust and dirt. Target Sa 2.5; minimum St 3 with no mill scale (GB/T 30790.4-2014).
2. Cleaning: Remove residual oil and dust with a suitable cleaner or degreaser, then ensure that the substrate is dry.

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3. Component Mixing: Mix Components A and B at 1:1 by mass until uniform, then filter through a 300-mesh screen.
4. Coating Application: For laboratory spraying, a 1.0 mm nozzle generally provides better appearance and uniformity.
5. Curing: At room temperature, surface-dry in approximately 1 hour, touch-dry after more than 2 hours and fully dry after more than 24 hours. Accelerated curing: 150°C for 30 minutes.

Safety and Storage

1. Store in a dry, cool and well-ventilated area away from heat and ignition sources. Keep containers tightly closed and handle them carefully.
2. Maintain the storage temperature between 5°C and 35°C. Shelf life is 6 months in the original, unopened and tightly sealed container under the recommended conditions.
3. Store Components A and B in their original, tightly sealed containers and prevent cross-contamination.
4. Do not return dispensed, mixed or contaminated material to the original container. Dispose of unused material in accordance with local regulations.
5. Material beyond its shelf life may be used only after it passes an appropriate inspection.

Packaging

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

Special Note

The information above is based on currently available technical 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.

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