Technical Data Sheet

www.silfluosilicone.com

Silfluo Silazane SILZ-701

Description:

SILZ-701 Methylhydrosilazane is a polymer whose main chain is composed of Si-N bonds. Due to its special structure, it can be transformed into SiCNO, SiCN, or silica ceramics under high temperature conditions, making it an important precursor for the preparation of Si-C-N ceramics. The Si-H bonds provide active sites for hydrosilylation, which can be used to modify resins containing unsaturated olefins. When compounded with methylvinylsilazane, ceramic precursors with ceramic yields exceeding 75% can be obtained.

Application:

The Si-N and Si-H bonds readily react with hydroxyl-containing substances, making them suitable as amine curing agents. They can also modify hydroxyl-containing resins to improve their temperature and weather resistance, such as phenolic resins, epoxy resins, alkyd resins, and acrylic resins.

Silazanes have widespread applications in the rubber and ceramics industries. For example, in the silicone rubber processing industry, silazanes are excellent additives, acting not only as structure-optimizing control agents but also improving the heat resistance and mechanical strength of vulcanized rubber. Therefore, silazanes are added in the processing of other organic synthetic rubbers to improve their thermal stability and mechanical strength.

The main characteristics of the SILZ-701 coating are as follows:

Coating performance

Test Items:	Performance indicators	Test Methods
Color and Appearance	Pale yellow to colorless transparent liquid	GB-T 1721-79
Viscosity (Ford Cup 4)	11-60s	GB-T 1723-1993
Quality Specifications	≥95%	Q/YX 10-2023
Solid Content ((120±2)℃)	＞98%	GB/T 1725-2007
Density (g/mL)	1.04±0.01	GB/T 6750-2007
Relative Molecular Mass	177-581	GB/T 27843-2011
Hardness (Pencil)	≥4H	GB/T 6739-2006
Adhesion	Class 0	GB-T 9286-1998
Salt Spray Resistance	＞500h	GB-T 10125-2021

Temperature	165℃	180℃	200℃	250℃

Curing conditions (dry film thickness 5-25 μm, humidity 50%)	Surface dry time	1h	0.2h	0.1h	0.1h
	Full Cure Time	1h	1h	0.5h	0.5h

Standard Application Procedure: Surface Cleaning → Roughening → Cleaning and Blowing → SILZ-701 Treatment → Curing

Instruction Manual

1. Surface Roughening: Before coating, grind or sandblast the substrate surface to remove rust, dust, dirt, etc. Surface 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 specialized 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. Coating Mixing: This product is a single-component product. Take an appropriate amount and filter through a 120-mesh sieve as needed.
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, allow the surface to dry for 10 minutes, then cure at 180℃ for 30 minutes (for coatings used below 400℃), or at 250℃ for 30 minutes (for coatings used above 400℃).

Safety and Storage

1. Must be stored in accordance with national regulations. The storage environment should be dry, cool, and well-ventilated, away from heat and fire sources. Packaging containers must be kept tightly sealed and handled with care.
2. Storage temperature should be maintained between 5℃ and 30℃. Shelf life is 6 months.
3. Unused paint after opening must be tightly sealed and stored.
4. Unused mixed paint cannot be recycled and should be disposed of according to local regulations.
5. Products exceeding their shelf life may only be used after passing inspection.

Note:

The information provided above is entirely based on our knowledge gained in laboratories and in practice. The use of the product is generally beyond our control, therefore we only guarantee the quality of the product itself. To comply with local regulations, the product may be adjusted accordingly, and we reserve the right to modify the instructions without further notice. Users should consult our New Materials Division for specific guidance on the applicable performance of the product, based on their own needs and specific applications.

Packaging

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