Technical Data Sheet

www.silfluosilicone.com

Silfluo LR-PV101

Phenyl Vinyl Silicone Resin

Description:

Silfluo LR-PV101 is a vinyl-functional phenyl polysiloxane resin series for addition-cure silicone systems, supplied as colorless to light yellow clear liquids with impurity content below 50 ppm. When crosslinked with Si－H polymers via platinum catalysis, the cured resin network provides high hardness, high refractive index (up to 1.5420), and optical clarity.

The phenyl substituents on the siloxane backbone raise the refractive index above standard methyl silicone base resins, enabling refractive index matching to LED chips and optical elements in encapsulant formulations. Low impurity content (< 50 ppm) and low volatile content (⩽1% at 150°C / 3h) support non-yellowing performance under long-term thermal and UV exposure. Five standard grades are available, differentiated by viscosity and refractive index; custom grades available on request.

Chemical Name: Vinyl-Functional Phenyl Silicone Resin

Synonyms: Phenyl Vinyl Polysiloxane, High Refractive Index (HRI) Silicone Base Resin; Phenyl Vinyl Silicone Resin;

Typical Technical Properties:

Silfluo Code:	LR-PV101-71	LR-PV101-72	LR-PV101-171	LR-PV101-172	LR-PV101-451
Appearance	Colorless to light yellow clear liquid	Colorless to light yellow clear liquid	Colorless to light yellow clear liquid	Colorless to light yellow clear liquid	Colorless to light yellow clear liquid
Viscosity (25°C, mPa.s)	7000~9000	7000~9000	17000~20000	17000~20000	45000~60000
Vinyl Content(%)	5.23~5.37	5.17~5.38	5.30~5.65	5.62~5.97	5.50~5.90
Refractive Index	1.5320~1.5380	1.5250~1.5290	1.5380~1.5420	1.5310~1.5360	1.5300~1.5400
Volatile Content (150°C/3h, %)	≤1	≤1	≤1	≤1	≤1

Note: It could be customized upon requirement.

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Applications:

1. High-Power LED and Optical Encapsulation

The base resin for formulating high-refractive-index encapsulants, optical lenses, and potting compounds for high-brightness LEDs and microelectronics, providing light transmission and non-yellowing performance.

2. Aerospace and Aviation Composites

Impregnated into glass fiber and carbon fiber matrices to manufacture high-strength, rigid, and ablation-resistant composite structures for aerospace and automotive applications.

3. Industrial Infrastructure

Used as a structural resin for high-temperature and corrosion-resistant linings, pipes, and containers for chemical processing, petroleum, and pharmaceutical facilities.

4. Dielectric Insulation

Formulated into electrical impregnating varnishes for coils, fiberglass sleeving, and bonded mica insulation for high-voltage electronic components.

5. Silicone Pressure-Sensitive Adhesives (PSA)

Used as a cohesive binder in high-temperature silicone PSAs for industrial masking, splicing, and electronic assembly applications.

Package &Storage:

In 25kg pail, 200kg drum.

Keep in cool, dry and ventilated place. Keep away from sunlight and fire sources. Keep in unopened containers, shelf life is 24 months from the date of production. Transported as non-hazardous substance.

Storage beyond the shelf life does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

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