



## Silfluo LR-S165/S165L

Ambient-Curing Methyl Phenyl Silicone Resin

### Description

Silfluo LR-S165/LR-S165L is an ambient-curing methyl phenyl silicone resin produced by copolymerization of methyl, phenyl, and functional silane monomers, supplied as a 50% solids solution in toluene-containing solvent. The resin crosslinks at room temperature without oven baking, and achieves full crosslinking in 1 hour at 180°C when accelerated cure is required.

Phenyl and methyl substituents on the siloxane backbone provide continuous service resistance to 200–300°C. When formulated with leafing aluminum powder at a 4:1 resin-to-pigment ratio, the cured coating withstands 500 ± 10°C for 3 hours without peeling, cracking, or blistering — relevant for exhaust system, boiler, and industrial furnace coating applications where oven baking of the coated part is not feasible.

### Typical Technical Properties:

Silfluo Code:	LR-S165/S165L
Chemical Name: Synonyms:	Ambient-Curing Methyl Phenyl Silicone Resin Air-Drying Silicone Resin, Room Temperature Vulcanizing (RTV) Methyl Phenyl Siloxane Binder
Appearance	Colorless to light yellow transparent liquid, opalescence is permitted
Solid content, %	50±1
Viscosity (4# cup, 25°C),S	20 - 60
Drying time, ≤	Surface dry in ≤ 2 hours at ambient temperature; full crosslinking achieved in 1 hour at 180°C
Heat Resistance (Varnish mixed with leafing aluminum powder at a 4:1 ratio, exposed to 500±10°C for 3 hours):	Excellent stability with absolutely no peeling, no cracking, and no blistering

### Application

#### 1. Large Industrial Infrastructure Coatings

Used as the binder resin for heat-resistant coatings applied to industrial equipment that cannot be processed in baking ovens due to size or installation constraints — chemical reactors, boilers, storage tanks, smokestacks, and industrial furnaces. Ambient cure eliminates the need for post-installation oven processing; surface dry in ≤2 hours at ambient temperature allows handling and return to service within a single shift. Formulate with leafing aluminum powder (4:1 resin-to-pigment ratio by weight) for coatings requiring resistance to 500°C peak temperatures.



## 2. Heat-Resistant Decorative and Protective Coatings

Used as the resin binder for silicone protective coatings on complex metal workpieces where color, gloss, and hardness are required alongside thermal resistance. Methyl phenyl siloxane backbone provides the hardness and surface quality associated with high-phenyl resins while retaining film flexibility sufficient to resist thermal shock cracking during rapid temperature cycling.

## 3. Maintenance and Repair Coatings

Used for in-situ maintenance coatings on installed industrial exhaust manifolds, incinerators, and heat-exchange equipment where surface preparation and coating are performed without removing the equipment from service. Ambient cure with surface dry in  $\leq 2$  hours is compatible with short maintenance windows.

### Use Reference

1. Diluent Purity: Any diluents or solvents introduced must be anhydrous and free of acids, alkalis, amines, or other reactive compounds. Contamination will initiate premature crosslinking and degrade the adhesion, drying profile, and mechanical properties of the cured film.
2. Safe Handling and Ventilation: This product is supplied in a solution containing toluene and other flammable, volatile solvents. Explosion-proof ventilation must be maintained during processing and application. Keep away from open flames, ignition sources, and static electricity sources. Operators must follow chemical handling protocols and use appropriate personal protective equipment (PPE).
3. Recommended Solvents: Compatible and dilutable with ketones, esters, toluene, and xylene.

### Package & Storage:

In 200kg drum.

Keep in cool, dry place. Avoid acid and alkali contact. Avoid direct sunlight. Transported as dangerous goods. The shelf life is half a year (can still be used if the product is qualified after the expiration date).