Technical Data Sheet

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Silfluo LF-HF11

Hydroxyl-terminated Fluorinesilicone Fluid

Description:

Silfluo LF-HF11 is a series of hydroxyl-terminated fluorosiloxane-dimethylsiloxane copolymers, combining trifluoropropyl-bearing fluorosiloxane units with standard dimethylsiloxane units, end-capped with reactive silanol (Si－OH) groups.

The fluorosiloxane units provide resistance to hydrocarbon oils, fuels, and solvents characteristic of fluoropolymer chemistry; the siloxane backbone retains the broad service temperature range, low-temperature flexibility, and electrical insulation properties of standard silicones.

Reactive hydroxyl end groups enable condensation cure with crosslinkers (e.g., alkoxysilanes, acetoxysilanes) in RTV systems, and silanol-filler interaction for structure control in HTV compounding.

Three grades — LF-HF11-A, LF-HF11-B, and LF-HF11-C — differ in viscosity range, density, and refractive index, reflecting varying fluorosiloxane-to-dimethylsiloxane ratios and molecular weight distributions; grade selection determines fluorine content, chemical resistance level, and processability.

Typical Technical Properties:

Silfluo Code:	LF-HF11-A	LF-HF11-B	LF-HF11-C
Appearance	Colorless to yellowish transparent liquid		
Viscosity (25°C, mPa.s)	130~180	1000~100000	100~100000
Volatile (%/ 200°C, 4h)	<5		
PH Value	7.0~9.0	6.0~7.5	6.0~7.5
Flash Point (°C)	>240		
Refractive Index(25°C, nD25)	1.379±0.01	1.384±0.01	1.386±0.01
Density (25°C, g/cm^3)	1.25±0.03	1.17±0.03	1.09±0.03

* Products that can customize other viscosity according to customer requirements.

Applications:

1. Structure Control Agent for HTV Fluorosilicone Rubber

Used as anti-crepe hardening agent in high-temperature vulcanizing (HTV) fluorosilicone rubber compounding. Silanol end groups interact with fumed silica surface hydroxyls during mixing, reducing filler network formation, lowering compound viscosity, and preventing crepe hardening during uncured rubber storage. Addition level and grade selection (viscosity, fluorine content) should be optimized for target compound viscosity and cured mechanical properties via compound trials.

2. Base Polymer and Reactive Diluent for RTV Fluorosilicone Systems

Used as base polymer or reactive diluent in condensation-cure RTV fluorosilicone sealants, adhesives, and coatings for applications requiring resistance to hydrocarbon oils, fuels, and solvents combined with broad

service temperature range. Hydroxyl end groups condense with alkoxysilane or acetoxysilane crosslinkers under tin or titanium catalyst to form the cured fluorosilicone network. Verify crosslinker stoichiometry, catalyst type, and cure conditions for specific formulation and substrate requirements.

Package &Storage:

In 5kg, 25kg and 250kg drum

Keep in cool, dry and ventilated place. This product should be neutral to avoid contact with acidic and alkaline substances. Keep in unopened containers, shelf life is 12 months from the date of production. It is shipped 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.