Technical Data Sheet

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Silfluo LR-F5600

Flame-Retardant Fluorosilicone Rubber Compound

Description:

Silfluo LR-F5600 series is a flame-retardant fluorosilicone elastomer compound. Formulated with a fluorosilicone base polymer and halogen-free flame-retardant additives, it achieves a flammability rating equivalent to UL 94 V-0. Upon vulcanization, it provides self-extinguishing properties while maintaining physical elasticity and structural integrity during continuous exposure to non-polar solvents and automotive fuels.

Chemical Name: Flame-Retardant Fluorosilicone Rubber Compound (FVMQ HCR)

Synonyms: Flame-Retardant FVMQ Elastomer, V-0 Fluorosilicone Compound

Typical Technical Properties:

Test Item	Standard		
	Test Method	LR-5660	LR-5670
Appearance	Visual	White	
Specific Gravity (g/cm3)	ASTM D792	1.46	1.48
Hardness / shoreA	ASTM D2240	60	70
Tensile Strength (MPa)	ASTM D412	6.8	6.5
Elongation At Break (%)	ASTM D412	310	290
Tear Strength (kN/m)	ASTM D624-B	17	17
Heat Resistance 200°C X 72h	Hardness change / shore A	5	5
	Tensile strength (MPa)	3.85	3.5
	Elongation at break change %	161	154
IRM903 Volume Change % 150°C X 72h	ASTM D471	5.5	5.2
Fuel C Volume change/% 23°C/72h	ASTM D471	20	20
Flame-retardant Level	GBT10707-2008	FV 0	FV 0
Curing Condition	0.7 DBPH, Press cure: 170°C x 15min, Post cure: 200°C x 4h		

The above values are not intended for use in preparing specifications.

Heat resistance additives need to be added to meet the requirements of heat resistance.

Applications:

1. E-Mobility & Energy Storage: Molded into battery pack gaskets and high-voltage connector seals for Electric Vehicles (EVs) to prevent thermal runaway propagation while resisting cooling fluids.
2. Aerospace & Aviation: Utilized in aircraft interior seals, cockpit electronics protection, and firewall grommets requiring strict Fire, Smoke, and Toxicity (FST) compliance.

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3. Defense & Military: Applied in ammunition storage container seals requiring simultaneous fuel resistance and self-extinguishing protection.

Processing Guidelines

1. Vulcanizing Agent: The recommended addition ratio is 0.6 to 1.0 phr of DBPH [2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane].
2. Milling: Mill thoroughly on a two-roll mill to ensure homogeneous dispersion of flame-retardant fillers prior to molding.
3. Curing Profile: Standard technical data is derived using 0.7 phr DBPH. Press cure at 170°C for 15 minutes, followed by a post-cure at 200°C for 4 hours. Actual production parameters must be calibrated based on mold cavity design and part thickness.

Package &Storage:

In 20kg reinforced cardboard box (contains two 10kg plastic bags).
Keep in a cool, dry, and well-ventilated environment, strictly avoiding direct sunlight and ignition sources. The material exhibits cold-flow characteristics; avoid physical damage to the inner bags during transport and handling. The shelf life is 12 months from the date of manufacture when stored in original unopened containers (material can still be utilized if it passes quality inspection after the expiration date). Classified and transported as a non-hazardous substance.

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