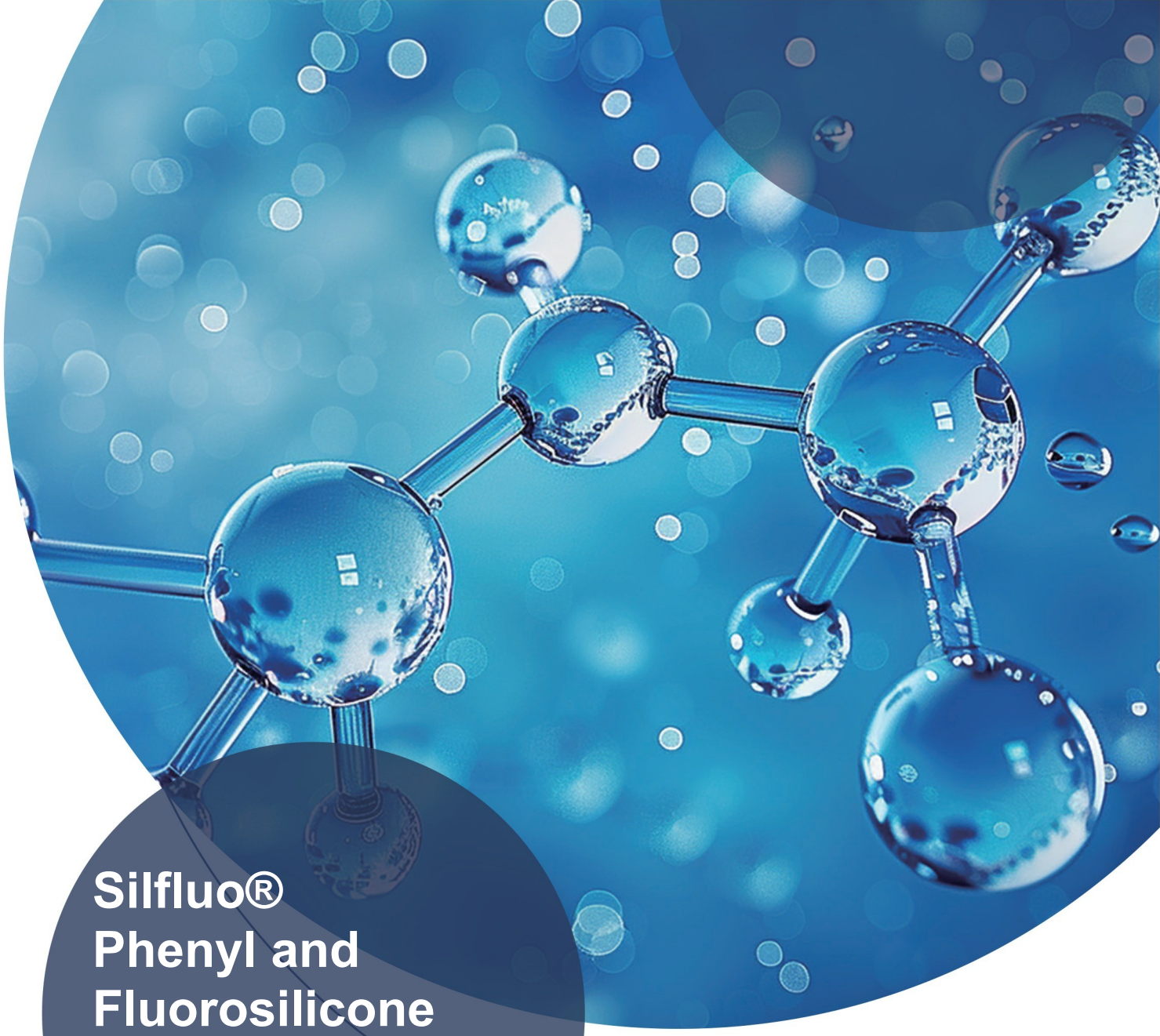


# Silfluo® Phenyl and Fluorosilicone Rubber

**Product Range**

Nanjing Silfluo New Material Co., Ltd.

Silfluo

*www.silfluosilicone.com*

# MANAGEMENT SYSTEM

The Silfluo Quality Management Framework is not a stand-alone platform. It is embedded in the broader Silfluo Operating Discipline Framework, which brings together the policies, standards and workflows for environment, health, safety, manufacturing, human resources and quality. The quality management system is certified to ISO 9001.

With this integrated framework, Silfluo works to one cohesive system based on industry best practice.





# SILFLUO QUALITY MANAGEMENT SYSTEM

The Silfluo Quality Management System, established and supported by company leadership, ensures that customers receive dependable products and services and that their needs and expectations are met. It requires strict compliance with technical specifications, regulatory standards and quality benchmarks.

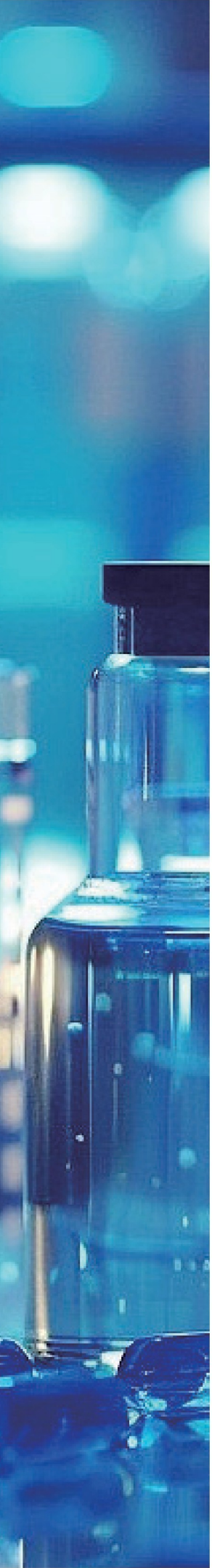
Product quality is upheld through standardization and precise process control. Service quality covers all customer interactions and is overseen by the responsible functional area. The quality attributes of both products and services are defined and agreed upon by Silfluo and its customers.



# QUALITY PERFORMANCE STATEMENT

Excellence in quality is a shared responsibility and a core value for every Silfluo team member. It is achieved through collaboration, dedication and a commitment to continuous improvement.

We are committed to delivering products and services that meet or exceed customer expectations. Quality management ensures that we consistently deliver the products and services our customers trust.



# QUALITY MEASUREMENT SYSTEMS

Silfluo uses QDG (Quality Data Gather) systems to track and evaluate progress in quality improvement. The QDG systems handle high-volume testing, so that every production batch is tested with validated methods.

| CONVENTIONAL TEST ITEMS | |
|---|---|
| **Test item** | **Equipment** |
| Viscosity | Rotational viscometer |
| Mooney viscosity | Mooney viscometer |
| Curing behavior | Moving die rheometer |
| Hardness | Hardness tester |
| Tensile, elongation, tear | Universal testing machine |
| Resilience | Resilience tester |
| Volume resistivity | Volume resistivity tester |
| Others | |

# RUBBER TESTING FACILITIES



自动粘度测试仪
Automated Viscometer



伺服控制电脑系统拉力试压机
Servo-Controlled Universal Testing Machine



弹性试验机
Resilience Tester



硬度计
Hardness Tester



绝缘油介电损耗及体积电阻率测试仪
Insulating Oil Dielectric Loss and Volume Resistivity Tester




傅立叶变换红外光谱仪
Fourier Transform Infrared Spectrometer (FTIR)



导电橡胶体积电阻率测试仪
Conductive Rubber Volume Resistivity Tester

# RUBBER TESTING FACILITIES



应力松弛蠕变试验机
Stress Relaxation and Creep Tester



高低温橡胶伸张疲劳试验机
High and Low Temperature Rubber Tensile Fatigue Tester



脆性试验机
Brittleness Temperature Tester



哈克流变仪
HAAKE Rheometer




门尼粘度机
Mooney Viscometer



恒温旋转粘度计
Temperature-Controlled Rotational Viscometer



液相色谱仪示差折光检测器
Liquid Chromatograph with Refractive Index Detector




无转子硫化仪
Moving Die Rheometer



气相色谱仪
Gas Chromatograph



标准光源箱
Standard Light Booth

# RUBBER PRODUCTION

## 生产流程
## Production Process



**1** 混炼捏合
Mixing and Kneading



**2** 挤出过滤
Extrusion and Filtration

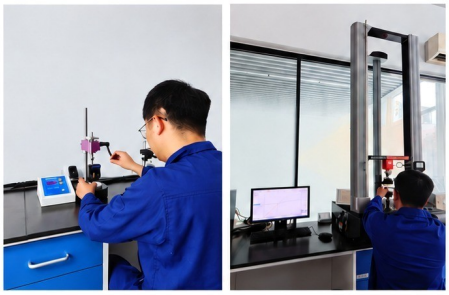








**3** 加硫加色
Curing Agent and Colorant Addition



**4** 出厂检测
Final Quality Inspection




**5** 产品包装
Product Packaging

# PHENYL SILICONE RUBBER

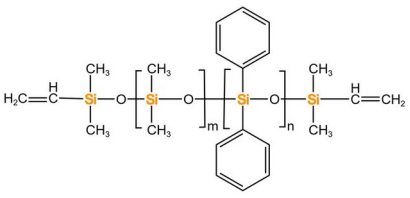
Phenyl silicone rubber carries phenyl groups along the siloxane chain. The phenyl groups prevent the polymer from crystallizing at low temperature, so the rubber stays flexible far below the limit of standard methyl vinyl silicone rubber (VMQ), and they add resistance to radiation and ablation.

## Key properties

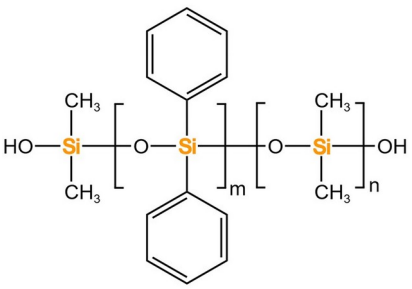
• Low-temperature flexibility: phenyl silicone elastomers remain elastic down to about -120 °C.
• Radiation and ablation resistance for components exposed to high-energy radiation and continuous thermal aging.
• Vibration damping: phenyl-modified viscoelastic materials absorb vibration and shock.
• Electrical insulation, as with other silicone rubbers.

## Applications

• Seals, O-rings, gaskets and hoses for aerospace, polar and other extreme low-temperature environments
• Components for nuclear and radiation environments
• RTV potting compounds, sealants and adhesives for cryogenic and aerospace use
• Damping materials, silicone pressure-sensitive adhesives and shock-absorbing mastic



LR-PVMQ structure



LR-RTVP structure



LR-ELS400 viscoelastic putty

# FLUOROSILICONE RUBBER

Fluorosilicone rubber (FVMQ) carries trifluoropropyl groups on the siloxane chain. These groups make the rubber resistant to fuels, oils and non-polar solvents that swell standard silicone rubber, while it keeps the wide service temperature range of silicone rubber.

## Key properties

• Resistance to fuels, oils and solvents: low volume change in Fuel C, IRM 903 oil and other media (see the product tables).
• Service temperature from -60 °C to 200 °C, up to 225 °C for heat-stabilized compounds.
• Weather and ozone resistance, as with other silicone rubbers.
• Product forms: fluorosilicone gum, heat-cured compounds (HCR), two-component liquid rubber and one-component RTV sealant.

## Applications

• O-rings, gaskets, diaphragms and fuel-line seals for automotive and aerospace fuel systems
• Turbocharger hose liners, fuel lines and extruded sealing profiles
• Rubber-to-metal bonded seals and fabric-reinforced diaphragms
• Battery-pack gaskets and high-voltage connector seals; form-in-place sealing of engines, gearboxes and flanges



LR-F5100 fluorosilicone gum



Aerospace



Automotive engines

# FLUOROSILICONE SELECTION GUIDE

## Grades by hardness (Shore A)

| Series | < 35 | 35–44 | 45–54 | 55–64 | 65–74 | ≥ 75 |
|---|---|---|---|---|---|---|
| High tear strength<br>LR-F5200 | | LR-5240 (40) | LR-5250 (50) | LR-5260 (60) | | |
| Low compression set<br>LR-F5300 | | LR-5340 (38) | | LR-5360 (60) | LR-5370 (70) | LR-5380 (79) |
| High resilience<br>LR-F5400 | LR-5430 (28) | LR-5440 (40) | LR-5450 (48) | LR-5460 (60) | LR-5470 (70) | LR-5480 (80) |
| Adhesive purpose<br>LR-F5500 | | LR-5540 (41) | LR-5550 (50) | LR-5560 (60)<br>LR-5561 (61) | | |
| Adhesive purpose<br>LR-F5502 | | | LR-F5552 (52) | LR-F5562 (61) | | |
| Flame-retardant<br>LR-F5600 | | | | LR-5660 (60) | LR-5670 (70) | |
| Extruded<br>LR-F5700 | | | | LR-5760 (60) | LR-5770 (70) | |
| RTV liquid rubber<br>LR-FL2100 | | LR-FL2100 (35) | | | | |
| Addition-cure liquid rubber<br>LR-FL3400 | | LR-FL3400 (40) | | LR-FL3410 (62) | | |
| RTV sealant<br>LR-FR3000 | | LR-FR3001 (40)<br>LR-FR3004 (37) | | | | |

Typical hardness in brackets. LR-FL3400 / FL3410: after post-cure at 200 °C × 4 h.

## Main features

| Series | Form and cure | Main feature and typical use |
|---|---|---|
| Fluorosilicone gum<br>LR-F5100 | Uncompounded gum (FVMQ) | Base polymer for fluorosilicone compounds; blended with VMQ to raise oil and solvent resistance |
| High tear strength<br>LR-F5200 | Compound (HCR), peroxide cure | Molded parts that need tear resistance in oils, solvents and fuels |
| Low compression set<br>LR-F5300 | Compound (HCR), peroxide cure | Compression set 9–13 %; O-rings, gaskets and seals in fuel systems |
| High resilience<br>LR-F5400 | Compound (HCR), peroxide cure | Resilience 35–46 %; dynamic seals, diaphragms and precision O-rings |
| Adhesive purpose<br>LR-F5500 | Compound (HCR), peroxide cure | Co-bonds with VMQ silicone rubber during cure; turbocharger hose liners, co-molded seals |
| Adhesive purpose<br>LR-F5502 | Compound (HCR), peroxide cure | Bonds to metal and aramid with a primer; rubber-to-metal seals, fabric-reinforced diaphragms |
| Flame-retardant<br>LR-F5600 | Compound (HCR), peroxide cure | Flame-retardant level FV 0 (GB/T 10707-2008); battery-pack gaskets, aircraft interior seals |
| Extruded<br>LR-F5700 | Compound (HCR), peroxide cure, hot-air vulcanization | Fuel lines, hose liners, venting tubes and sealing profiles |
| RTV liquid rubber<br>LR-FL2100 | Two-part, 1:1, cures at room temperature | Form-in-place gaskets, potting and connector sealing with fuel and oil exposure |
| Addition-cure liquid rubber<br>LR-FL3400 | Two-part, 1:1, platinum cure | Injection molding |
| RTV sealant<br>LR-FR3000 | One-part; acetoxy (FR3001) or ketoxime (FR3004) cure | Flat-surface and form-in-place sealing of engines, gearboxes, brake systems and flanges |

# PRODUCT LIST

| Product Series | Grades |
|---|---|
| **Phenyl Silicone Rubber** | |
| Methyl Phenyl Vinyl Silicone Gum | LR-PVMQ |
| Phenyl RTV Base Polymer | LR-RTVP |
| Phenyl-Modified Viscoelastic Silicone Putty | LR-ELS400 |
| **Fluorosilicone Gum and Compounds (HCR)** | |
| Fluorosilicone Gum | LR-5100A, 5100B |
| High Tear Strength Series Fluorosilicone Rubber | LR-5240, 5250, 5260 |
| Low Compression Set Fluorosilicone Compound | LR-5340, 5360, 5370, 5380 |
| High Resilience Series Fluorosilicone Rubber | LR-5430, 5440, 5450, 5460, 5470, 5480 |
| Adhesive Purpose Series Fluorosilicone Rubber (co-bonding with silicone rubber) | LR-5540, 5550, 5560, 5561 |
| Adhesive Purpose Series Fluorosilicone Rubber (bonding to metal and aramid with primer) | LR-F5552, F5562 |
| Flame-Retardant Series Fluorosilicone Rubber | LR-5660, 5670 |
| Extruded Fluorosilicone Rubber | LR-5760, 5770 |
| **Liquid Fluorosilicone Rubber and Sealant** | |
| Room Temperature Vulcanizing (RTV) Liquid Fluorosilicone Rubber | LR-FL2100 |
| Addition-Cure Liquid Fluorosilicone Rubber | LR-FL3400, FL3410 |
| Room Temperature Vulcanizing (RTV) Fluorosilicone Sealant | LR-FR3001, FR3004 |

# METHYL PHENYL VINYL SILICONE GUM LR-PVMQ

## Description:

Silfluo LR-PVMQ is a high-molecular-weight methyl phenyl vinyl silicone base polymer. The incorporation of phenyl groups along the siloxane backbone disrupts polymer crystallization, preventing low-temperature embrittlement. Upon compounding and vulcanization, the resulting elastomer maintains structural flexibility at extreme low temperatures while providing continuous radiation resistance and ablation resistance.

Chemical Name: Methyl Phenyl Vinyl Silicone Gum (PVMQ)

Synonyms: High-Consistency PVMQ Base Polymer, Polydimethyldiphenylvinylsiloxane

## Molecular Structure:

High Viscosity: $[(CH_3)_2SiO]_x[(C_6H_5)_2SiO]_Y[CH_3C_2H_3SiO]_Z[(CH_3)_3Si]_2$

Liquid: $[C_2H_3(CH_3)_2Si]_2O[(CH_3)_2SiO]_m[(C_6H_5)_2SiO]_n$

## Typical Technical Properties:

| | |
|---|---|
| Silfluo Code: | LR-PVMQ |
| Appearance: | Transparent or opalescent, without mechanical impurities |
| Molecular Weight ($10^4$): | 30-100 |
| Phenyl Content (mol%): | 5.0-25.0 |
| Vinyl Content (mol%): | 0.10-0.35 |

## Applications:

1. Extreme Environment Sealing: Compounded into molded and extruded elastomers (O-rings, gaskets, pipes, and solid rods) operating in aerospace, polar, and deep-space environments requiring extreme cold flexibility and ablation resistance.
2. Nuclear & Radiation Applications: Utilized in components subjected to continuous thermal aging and high-energy radiation exposure where standard VMQ silicones degrade.
3. Specialty Polymer Modification: Serves as a foundational base polymer for manufacturing advanced vibration damping materials and silicone pressure-sensitive adhesives (PSAs).

## Package & Storage:

In 20 kg pail, 200 kg drum

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 packaging during transport and handling. The shelf life is 60 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.

# PHENYL RTV BASE POLYMER LR-RTVP

## Description:

Silfluo LR-RTVP is a silanol-terminated methyl phenyl silicone base polymer designed for condensation-cure room-temperature vulcanizing (RTV) systems. The incorporation of phenyl segments along the siloxane backbone prevents low-temperature crystallization. Upon crosslinking, the resulting elastomer maintains structural elasticity at temperatures down to -120 °C, while providing radiation resistance, ablation resistance, and self-extinguishing properties.

Chemical Name: Silanol-Terminated Methyl Phenyl Silicone Polymer

Synonyms: α, ω-Dihydroxy Polydimethyldiphenylsiloxane, Phenyl RTV Base Polymer

## Molecular Structure:

$(CH_3)_2SiOH[(C_6H_5)_2SiO]_m[(CH_3)_2SiO]_nOH$

## Typical Technical Properties:

| | |
|---|---|
| Silfluo Code: | LR-RTVP |
| Appearance: | Colorless transparent or light yellow liquid |
| Viscosity (25 °C, mPa·s): | 2000-10000 |
| Phenyl Content (mol %): | 2.5-20.0 |
| Volatile Content (150 °C / 3 h): | ≤3.0 |
| Solubility: | Soluble in toluene, xylene, chlorinated hydrocarbons and other organic solvents |

## Applications:

1. Extreme Low-Temperature Potting: Formulated into two-component or one-component RTV potting compounds for encapsulating electronic and electrical components exposed to extreme cryogenic environments (-120 °C).
2. Harsh Environment Adhesives: Utilized as a reactive base polymer for sealants and adhesives requiring radiation and ablation resistance in aerospace applications.
3. Specialty Moldmaking: Compounded into high-performance impregnation and impression materials for precision replication under extreme thermal stress.

## Package & Storage:

In 20 kg pail, 200 kg drum

Keep in a cool, dry, and well-ventilated environment, strictly avoiding direct sunlight and ignition sources. The shelf life is 60 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.

# PHENYL-MODIFIED VISCOELASTIC SILICONE PUTTY LR-ELS400

## Description:

Silfluo LR-ELS400 is a phenyl-modified viscoelastic silicone putty designed for vibration damping and shock absorption. The introduction of phenyl groups disrupts polymer crystallization, allowing the material to maintain flexibility and viscoelasticity at temperatures down to -120 °C. The cured matrix exhibits ozone resistance, radiation resistance, ablation resistance, and self-extinguishing properties.
Chemical Name: Elastic Mastic / Elastic Putty, Damping Material, Damping Grease, Mastic, Elastomeric Damping Material, Viscoelastic Damping Elastomer, Damping Materials & Elastomers, High Phenyl Elastic Putty;

## Typical Technical Properties:

Appearance: Grey viscous liquid
Phenyl content (mol%): 2.0-30.0
Viscosity (25 °C, mPa·s): 2000-10,000,000

## Applications:

1. Vibration Damping & Shock Absorption: Utilized as an elastomeric damping material in structural components for aerospace, high-speed rail, commercial aircraft, and marine vessels.
2. Heavy Infrastructure: Applied as a shock-absorbing mastic in bridges, metallurgy equipment, mining machinery, and offshore sea platforms.
3. Defense & Extreme Environments: Deployed in armored vehicles (tanks) and nuclear submarines where extreme low-temperature flexibility, radiation resistance, and ablation resistance are required.

## Package & Storage:

In 20 kg pail, 200 kg drum
Keep in a cool, dry, and well-ventilated environment, strictly avoiding direct sunlight and ignition sources. The shelf life is 60 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.

# FLUOROSILICONE GUM LR-F5100

## Description:

Silfluo LR-F5100 series consists of uncompounded fluorosilicone gums (FVMQ). It provides a base polymer matrix characterized by resistance to non-polar solvents, automotive fuels, and aviation oils, maintaining physical flexibility between -60 °C and 200 °C. It serves as the primary raw material for high-consistency fluorosilicone rubber (HCR) compounding.
Chemical Name: Fluorosilicone Gum (FVMQ)
Synonyms: Fluorovinylmethylsiloxane Base Polymer

# FLUOROSILICONE GUM LR-F5100 (CONTINUED)

## Typical Technical Properties:

| Test Item | Standard | | |
|---|---|---|---|
| | Test Method | LR-5100A | LR-5100B |
| Appearance | Visual | Colorless transparent | Colorless transparent |
| Odour | No special odour | No special odour | No special odour |
| Molecular Weight ($10^4$) | GB/T 28610 | 50~70, 80~100, 110~130 | 50~70, 80~100 |
| Vinyl Content (mol/%) | GB/T 28610 | 0.05~1 | 0.05~1 |
| Density (25 °C, g/cm³) | GB/T 2013-2010 | 1.25~1.30 | 1.05~1.23 |
| Volatile Content (150 °C, 3 h), % | GB/T 28610 | ≤1.0 | ≤1.0 |

## Applications:

1. Elastomer Compounding: Utilized as the primary base polymer for formulating heat-curable fluorosilicone (FVMQ) compounds.
2. Automotive & Aerospace: Formulated into end-use components requiring continuous exposure to fuels and aggressive fluids, including O-rings, diaphragms, fuel line seals, and turbocharger hose liners.
3. Polymer Modification: Blended with standard methyl-vinyl silicone (VMQ) bases to increase the solvent and oil resistance profiles of conventional silicone formulations.

## Package & Storage:

Packed in aluminum foil bag inside a carton, 20 kg per Carton.
Keep in a cool, dry, and well-ventilated environment, strictly avoiding direct sunlight and ignition sources. As a high-molecular-weight gum, this material exhibits cold-flow characteristics; avoid physical damage to the inner packaging during transport to prevent leakage. The shelf life is 24 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.

# HIGH TEAR STRENGTH SERIES FLUOROSILICONE RUBBER LR-F5200

## Description:

Silfluo LR-F5200 series is a high tear strength fluorosilicone elastomer compound. It is formulated from a fluorosilicone base polymer blended with reinforcing fillers and additives. Upon vulcanization, it provides mechanical toughness, tear resistance, and physical stability upon exposure to non-polar solvents, automotive fuels, and extreme temperatures.

# HIGH TEAR STRENGTH SERIES FLUOROSILICONE RUBBER LR-F5200 (CONTINUED)

Chemical Name: High Tear Strength Fluorosilicone Rubber Compound (FVMQ HCR)

Synonyms: Fluorosilicone Compound, FVMQ Elastomer

## Typical Technical Properties:

| Test Item | Standard | | | |
|---|---|---|---|---|
| | Test Method | LR-5240 | LR-5250 | LR-5260 |
| Appearance | Visual | Milk white, translucent | | |
| Specific Gravity (g/cm³) | ASTM D792 | 1.42 | 1.44 | 1.45 |
| Hardness / Shore A | ASTM D2240 | 40 | 50 | 60 |
| Tensile Strength (MPa) | ASTM D412 | 10.1 | 10.2 | 10.3 |
| Elongation At Break (%) | ASTM D412 | 490 | 457 | 440 |
| Tear Strength (kN/m) | ASTM D624-B | 35 | 42 | 43 |
| Compression Set (177 °C × 22 h) | ASTM D395 | 11 | 11 | 12 |
| Heat Resistance 225 °C × 72 h | Hardness change / Shore A | +3 | +3 | +2 |
| | Tensile strength change % | -19 | -16 | -17 |
| | Elongation at break change % | -14 | -17 | -18 |
| Fuel C Volume Change/% 23 °C/72 h | ASTM D471 | 23 | 21 | 20 |
| Curing Condition | 0.7 DBPH, Press cure: 170 °C × 15 min, Post cure: 200 °C × 4 h | | | |

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:

Elastomeric Components: Molded into industrial and mechanical parts requiring physical tear resistance combined with continuous exposure to oils, solvents, and fuels.

## Processing Advice:

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. 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 (temperature and time) must be calibrated based on part dimensions and molding methods.

## HIGH TEAR STRENGTH SERIES FLUOROSILICONE RUBBER LR-F5200 (CONTINUED)

3. Thermal Stabilization: Additional heat stabilizers must be incorporated into the formulation if the final component needs to meet extended high-temperature aging requirements.

### Package & Storage:

In 20 kg reinforced cardboard box (contains two 10 kg 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.

## LOW COMPRESSION SET FLUOROSILICONE COMPOUND LR-F5300

### Description:

Silfluo LR-F5300 series is a fluorosilicone elastomer compound formulated specifically for low compression set. Blended with reinforcing fillers and performance additives, it is designed to maintain structural integrity and sealing resilience in fuel media operating continuously between -60 °C and 225 °C.
Chemical Name: Low Compression Set Fluorosilicone Rubber Compound (FVMQ HCR)
Synonyms: Fluorosilicone Compound, Low Set FVMQ Elastomer

# LOW COMPRESSION SET FLUOROSILICONE COMPOUND LR-F5300 (CONTINUED)

## Typical Technical Properties:

| Test Item | Standard | | | | |
|---|---|---|---|---|---|
| | Test Method | LR-5340 | LR-5360 | LR-5370 | LR-5380 |
| Appearance | Visual | Pale yellow, Smooth surface, No Impurities | | | |
| Specific Gravity (g/cm³) | ASTM D792 | 1.40 | 1.46 | 1.47 | 1.50 |
| Hardness / Shore A | ASTM D2240 | 38 | 60 | 70 | 79 |
| Tensile Strength (MPa) | ASTM D412 | 8.5 | 9.5 | 8.5 | 7.3 |
| Elongation At Break (%) | ASTM D412 | 400 | 300 | 270 | 170 |
| Tear Strength (kN/m) | ASTM D624-B | 16 | 20 | 16 | 15 |
| Compression Set (177 °C × 22 h) | ASTM D395 | 10 | 9 | 13 | 13 |
| Heat Resistance 225 °C × 72 h | Hardness change / Shore A | +5 | +5 | +4 | +4 |
| | Tensile strength change % | -16 | -17 | -16 | -18 |
| | Elongation at break change % | -8 | -10 | -15 | -23 |
| Fuel C Volume Change/% 23 °C/72 h | ASTM D471 | 23 | 23 | 21 | 21 |
| Curing Condition | 0.8 DBPH, Press cure: 170 °C × 15 min, Post cure: 200 °C × 4 h | | | | |

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. Static & Dynamic Sealing: Molded into O-rings, gaskets, and seals requiring strict shape recovery and low compression set under prolonged thermal and mechanical compression.
2. Fuel Systems: Utilized in aerospace and automotive fluid delivery systems exposed to non-polar solvents and fuels.

## Processing Guidelines:

1. Vulcanizing Agent: The recommended addition ratio is 0.6 to 0.8 phr of DBPH [2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane].
2. Milling: Mill for 4 to 6 passes on a two-roll mill to ensure homogeneity prior to sheeting and molding.

# LOW COMPRESSION SET FLUOROSILICONE COMPOUND LR-F5300 (CONTINUED)

3. Curing Profile: Standard technical data is derived using 0.8 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 part dimensions.
4. Thermal Stabilization: Additional heat stabilizers must be incorporated into the formulation if the final component needs to meet extended high-temperature aging specifications.

## Package & Storage:

In 20 kg reinforced cardboard box (contains two 10 kg 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.

# HIGH RESILIENCE SERIES FLUOROSILICONE RUBBER LR-F5400

## Description:

Silfluo LR-F5400 series is a high resilience fluorosilicone elastomer compound. Formulated from a fluorosilicone base polymer blended with reinforcing fillers and specialized additives, it provides enhanced rebound resilience and rapid elastic recovery. Upon vulcanization, it maintains structural integrity, low compression set, and sealing performance upon continuous exposure to non-polar solvents and automotive fuels across a broad temperature range.
Chemical Name: High Resilience Fluorosilicone Rubber Compound (FVMQ HCR)
Synonyms: Fluorosilicone Compound, High Rebound FVMQ Elastomer

# HIGH RESILIENCE SERIES FLUOROSILICONE RUBBER LR-F5400 (CONTINUED)

## Typical Technical Properties:

| Test Item | Standard | | | | | | |
|---|---|---|---|---|---|---|---|
| | Test Method | LR-5430 | LR-5440 | LR-5450 | LR-5460 | LR-5470 | LR-5480 |
| Appearance | Visual | Milk white, translucent | | | Pale yellow | | |
| Specific Gravity (g/cm³) | ASTM D792 | 1.38 | 1.41 | 1.42 | 1.43 | 1.45 | 1.47 |
| Hardness / Shore A | ASTM D2240 | 28 | 40 | 48 | 60 | 70 | 80 |
| Tensile Strength (MPa) | ASTM D412 | 10.2 | 9.5 | 9.5 | 10.2 | 9.9 | 8.1 |
| Elongation At Break (%) | ASTM D412 | 485 | 494 | 363 | 296 | 241 | 159 |
| Tear Strength (kN/m) | ASTM D624-B | 18 | 26 | 19 | 22 | 21 | 16 |
| Resilience (%) | ASTM D1054 | 41 | 35 | 46 | 40 | 37 | 39 |
| Heat Resistance 225 °C × 72 h | Hardness change / Shore A | 2 | 2 | 3 | 2 | 2 | 3 |
| | Tensile strength change % | -18 | -17 | -21 | -25 | -20 | -19 |
| | Elongation at break change % | -19 | -16 | -18 | -21 | -16 | -15 |
| Fuel C Volume Change/% 23 °C/72 h | ASTM D471 | 22 | 19 | 18 | 19 | 19 | 19 |
| Curing Condition | 0.7 DBPH, Press cure: 170 °C × 15 min, Post cure: 200 °C × 4 h | | | | | | |

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. Dynamic Sealing: Molded into high-frequency dynamic seals, diaphragms, and precision O-rings requiring rapid elastic recovery and continuous fluid resistance.
2. Fuel & Fluid Systems: Utilized in aerospace and automotive fuel delivery systems exposed to aggressive non-polar solvents and extreme thermal cycling.

## 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 prior to sheeting and molding.

# HIGH RESILIENCE SERIES FLUOROSILICONE RUBBER LR-F5400 (CONTINUED)

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 part dimensions and molding equipment.
4. Thermal Stabilization: Additional heat resistance additives must be incorporated into the compounding formulation if the final component requires extended high-temperature aging stability.

## Package & Storage:

Packed in plastic bags placed into reinforced cardboard boxes. Each box contains 2 bags with 10 kg per bag.
Keep in cool, dry and ventilated place. Keep away from sunlight and fire sources. This product has cold-flow characteristics, should avoid bag breakage in the process of transportation and usage, 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.

# ADHESIVE PURPOSE SERIES FLUOROSILICONE RUBBER LR-F5500

## Description:

Silfluo LR-F5500 series is an adhesion-grade fluorosilicone elastomer compound. It is specifically formulated to co-bond directly with standard methyl vinyl silicone rubber (VMQ) matrices during vulcanization. It exhibits stable calenderability and maintains structural integrity upon exposure to non-polar solvents and automotive fuels, ensuring reliable interfacial adhesion in multi-layered components.
Chemical Name: Adhesion-Grade Fluorosilicone Rubber Compound (FVMQ HCR)
Synonyms: Co-bonding Fluorosilicone Compound, FVMQ Elastomer

# ADHESIVE PURPOSE SERIES FLUOROSILICONE RUBBER LR-F5500 (CONTINUED)

## Typical Technical Properties:

| Test Item | Standard | | | | |
|---|---|---|---|---|---|
| | Test Method | LR-5540 | LR-5550 | LR-5560 | LR-5561 |
| Appearance | Visual | Pale yellow | | | |
| Specific Gravity (g/cm³) | ASTM D792 | 1.4 | 1.41 | 1.42 | 1.44 |
| Hardness / Shore A | ASTM D2240 | 41 | 50 | 60 | 61 |
| Tensile Strength (MPa) | ASTM D412 | 9.5 | 9.8 | 10.2 | 9.8 |
| Elongation At Break (%) | ASTM D412 | 370 | 282 | 263 | 310 |
| Tear Strength (kN/m) | ASTM D624-B | 17 | 17 | 18 | 17 |
| *Heat Resistance 225 °C × 72 h | Hardness change / Shore A | 4 | 2 | +2 | 2 |
| | Tensile strength change % | -24 | -25 | -23 | -26 |
| | Elongation at break change % | -19 | -10 | -14 | -12 |
| Fuel C Volume Change/% 23 °C/72 h | ASTM D471 | 23 | 23 | 21 | 21 |
| Peel Strength/N/mm, with Methyl vinyl silicone rubber | | 2 | 2 | 2.2 | 2 |
| Curing Condition | 0.8 DCBP, Press cure: 120 °C × 15 min, Post cure: 200 °C × 4 h | | | | |

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. Composite Tubing: Utilized as the inner liner in automotive turbocharger hoses and multi-layered fluid delivery tubes requiring simultaneous fuel resistance and structural integration with external VMQ layers.
2. Co-Molded Seals: Applied in multi-component sealing architectures where localized oil resistance is required alongside standard silicone flexibility.

## Processing Guidelines:

1. Vulcanizing Agent: The recommended addition ratio is 0.8 to 1.0 phr of DCBP [bis(2,4-dichlorobenzoyl) peroxide].

# ADHESIVE PURPOSE SERIES FLUOROSILICONE RUBBER LR-F5500 (CONTINUED)

2. Milling & Calendering: Mill thoroughly to ensure uniform dispersion before calendering or extrusion.
3. Curing Profile: Standard technical data is derived using 0.8 phr DCBP. Press cure at 120 °C for 15 minutes, followed by a post-cure at 200 °C for 4 hours. Actual production parameters must be calibrated based on part dimensions and bonding interface requirements.
4. Thermal Stabilization: Additional heat resistance additives must be incorporated if the final component requires extended thermal aging stability.

## Package & Storage:

In 20 kg reinforced cardboard box (contains two 10 kg 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.

# ADHESIVE PURPOSE SERIES FLUOROSILICONE RUBBER LR-F5502

## Description:

Silfluo LR-F5502 series is an adhesion-grade fluorosilicone elastomer compound optimized for both injection and compression molding. It is specifically formulated to achieve robust interfacial adhesion to metal, aramid fibers, and other rigid substrates when applied in conjunction with specific primers. Upon vulcanization, it provides low compression set, resilience, and structural integrity under continuous exposure to non-polar solvents and automotive fuels.
Chemical Name: Adhesion-Grade Fluorosilicone Rubber Compound (FVMQ HCR)
Synonyms: Primer-Adhered Fluorosilicone Compound, FVMQ Elastomer

# ADHESIVE PURPOSE SERIES FLUOROSILICONE RUBBER LR-F5502 (CONTINUED)

## Typical Technical Properties:

| Test Item | Standard | | |
|---|---|---|---|
| | Test Method | LR-F5552 | LR-F5562 |
| Appearance | Visual | Pale yellow | |
| Specific Gravity (g/cm³) | ASTM D792 | 1.42 | 1.43 |
| Hardness / Shore A | ASTM D2240 | 52 | 61 |
| Tensile Strength (MPa) | ASTM D412 | 10.2 | 9.4 |
| Elongation At Break (%) | ASTM D412 | 330 | 280 |
| Tear Strength (kN/m) | ASTM D624-B | 20 | 19 |
| Compression Set (177 °C × 22 h) | ASTM D395 | 7 | 8 |
| Resilience % | ASTM D1054 | 35 | 34 |
| *Heat Resistance 200 °C × 72 h | Hardness change / Shore A | 2 | 2 |
| | Tensile strength change % | -24 | -23 |
| | Elongation at break change % | -21 | -20 |
| Fuel C Volume Change/% 23 °C/72 h | ASTM D471 | 22 | 21 |
| Curing Condition | 0.5 DBPH, Press cure: 170 °C × 15 min, Post cure: 200 °C × 4 h | | |

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. Metal-Bonded Seals: Molded into rubber-to-metal bonded components, such as shaft seals, bonded washers, and reinforced gaskets operating in fuel and solvent environments.
2. Fabric-Reinforced Diaphragms: Utilized in the manufacturing of aramid-reinforced diaphragms for automotive and aerospace fluid delivery systems requiring dynamic flexing and chemical resistance.

## Processing Guidelines:

1. Vulcanizing Agent: The recommended addition ratio is 0.4 to 0.7 phr of DBPH [2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane].
2. Substrate Preparation: Metal or aramid substrates must be thoroughly cleaned, degreased, and treated with a compatible silane or specialized fluorosilicone primer prior to overmolding.

# ADHESIVE PURPOSE SERIES FLUOROSILICONE RUBBER LR-F5502 (CONTINUED)

3. Curing Profile: Standard technical data is derived using 0.5 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 part dimensions and mold configurations.
4. Thermal Stabilization: Additional heat resistance additives must be incorporated if the final component requires extended thermal aging stability beyond standard specifications.

## Package & Storage:

In 20 kg reinforced cardboard box (contains two 10 kg 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.

# FLAME-RETARDANT SERIES FLUOROSILICONE RUBBER LR-F5600

## 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

# FLAME-RETARDANT SERIES FLUOROSILICONE RUBBER LR-F5600 (CONTINUED)

## 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 / Shore A | 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 × 72 h | Hardness change / Shore A | 5 | 5 |
| | Tensile strength (MPa) | 3.85 | 3.5 |
| | Elongation at break change % | 161 | 154 |
| IRM903 Volume Change % 150 °C × 72 h | ASTM D471 | 5.5 | 5.2 |
| Fuel C Volume Change/% 23 °C/72 h | ASTM D471 | 20 | 20 |
| Flame-Retardant Level | GB/T 10707-2008 | FV 0 | FV 0 |
| Curing Condition | 0.7 DBPH, Press cure: 170 °C × 15 min, Post cure: 200 °C × 4 h | | |

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.
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.

# FLAME-RETARDANT SERIES FLUOROSILICONE RUBBER LR-F5600 (CONTINUED)

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 20 kg reinforced cardboard box (contains two 10 kg 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.

# EXTRUDED FLUOROSILICONE RUBBER LR-F5700

## Description:

Silfluo LR-F5700 series is an extrusion-grade fluorosilicone elastomer compound. Formulated specifically for continuous extrusion processes, it provides dimensional stability and structural integrity. Upon vulcanization, it maintains mechanical elasticity while being continuously exposed to non-polar solvents, automotive fuels, and highly corrosive acidic or alkaline media.
Chemical Name: Extrusion-Grade Fluorosilicone Rubber Compound (FVMQ HCR)
Synonyms: Extrusion FVMQ Elastomer, Fluorosilicone Compound

# EXTRUDED FLUOROSILICONE RUBBER LR-F5700 (CONTINUED)

## Typical Technical Properties:

| Test Item | Standard | | |
|---|---|---|---|
| | Test Method | LR-5760 | LR-5770 |
| Appearance | Visual | Translucent, smooth surface, no impurities | |
| Specific Gravity (g/cm³) | ASTM D792 | 1.44 | 1.48 |
| Hardness / Shore A | ASTM D2240 | 60 | 70 |
| Tensile Strength (MPa) | ASTM D412 | 10.5 | 10.1 |
| Elongation At Break (%) | ASTM D412 | 207 | 201 |
| Tear Strength (kN/m) | ASTM D624-B | 18 | 17 |
| Heat Resistance 225 °C × 72 h | Hardness change / Shore A | 4 | 5 |
| | Tensile strength change % | -27 | -24 |
| | Elongation at break change % | -26 | -23 |
| Fuel C Volume Change/% 23 °C × 72 h | ASTM D471 | 21 | 20 |
| IRM903 Volume Change/% 150 °C × 72 h | ASTM D471 | 4.5 | 4 |
| Nitric acid/sulfuric acid/hydrochloric acid mixed solution pH < 1 100 °C × 120 h | | | |
| Acid Resistance Volume Change/% | ASTM D471 | 0.3 | 0.3 |
| 3% sodium hydroxide aqueous solution 60 °C × 72 h | | | |
| Alkali Resistance Volume Change/% | ASTM D471 | 0.4 | 0.3 |
| Curing Condition | 0.8 DCBP, Press cure: 120 °C × 15 min, Post cure: 200 °C × 4 h | | |

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. Extruded Tubing & Hoses: Utilized in the continuous manufacturing of fuel delivery lines, turbocharger hose liners, and chemical vapor venting tubes.
2. Continuous Profiles: Extruded into continuous sealing profiles, cords, and gaskets for industrial equipment operating in harsh chemical or solvent-heavy environments.

# EXTRUDED FLUOROSILICONE RUBBER LR-F5700 (CONTINUED)

## Processing Guidelines:

1. Vulcanizing Agent: The recommended addition ratio is 0.8 to 1.0 phr of DCBP [bis(2,4-dichlorobenzoyl) peroxide]. DCBP is specifically suited for hot air vulcanization (HAV) and lower-temperature curing profiles typical of extrusion.
2. Curing Profile: Standard technical data is derived using 0.8 phr DCBP. Press cure at 120 °C for 15 minutes (for standardized testing), followed by a post-cure at 200 °C for 4 hours. Actual continuous extrusion parameters (oven temperatures and line speeds) must be calibrated based on profile cross-section and equipment configuration.

## Package & Storage:

In 20 kg reinforced cardboard box (contains two 10 kg 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.

# ROOM TEMPERATURE VULCANIZING (RTV) LIQUID FLUOROSILICONE RUBBER LR-FL2100

## Description:

LR-FL2100 is a liquid fluorosilicone rubber (FVMQ) characterized by its outstanding resistance to extreme temperatures, fuels, and oils, as well as excellent electrical insulation properties. It is designed to cure effectively at room temperature.

# ROOM TEMPERATURE VULCANIZING (RTV) LIQUID FLUOROSILICONE RUBBER LR-FL2100 (CONTINUED)

## Typical Technical Properties:

| Project | Test Method | FL2100 |
|---|---|---|
| A Component Color | Visual Inspection | Pale yellow |
| B Component Color | | |
| Component A Viscosity/Pa·s (Shear rate 10 $s^{-1}$) | Rotational Viscometer Method | 350 |
| Component B Viscosity/Pa·s (shear rate 10 $s^{-1}$) | | 300 |
| 25 °C × 48 h | | |
| Density /g/cm³ | ASTM D792 | 1.42 |
| Hardness /Shore A | ASTM D2240 | 35 |
| Tensile Strength /MPa | ASTM D412 | 8.1 |
| Elongation at Break /% | ASTM D412 | 320 |
| Tear Strength /kN/m | ASTM D624-B | 14.5 |
| Resilience /% | ASTM D1054 | 36 |
| Compression Set /% (177 °C × 22 h) | ASTM D395 | 21 |
| Fuel C/% (25 °C × 72 h) | ASTM D471 | 24.0 |

## How to use

LR-FL2100 liquid fluorosilicone rubber is supplied as a two-component system. Mix components A and B thoroughly in a 1:1 weight ratio, followed by vacuum deairing. The mixture will achieve full cure after 48 hours at room temperature (25 °C±5 °C).

## Applications:

LR-FL2100 is recommended for:

- Two-part RTV sealing and gasketing (FIPG) for assemblies requiring fuel/oil resistance
- Potting / encapsulation of electrical and electronic components for elastic protection and electrical insulation in fuel/oil exposure environments
- Sealing of connectors, cable entries, and sensor housings under temperature cycling and fluid exposure
- Elastic gap filling and vibration damping in harsh environments across a wide temperature range

## Package & Storage:

Plastic drum packaging, A/B components each 20 kg separate packaging.

## ROOM TEMPERATURE VULCANIZING (RTV) LIQUID FLUOROSILICONE RUBBER LR-FL2100 (CONTINUED)

Keep in cool, dry place. Avoid contact with compounds containing nitrogen, sulfur, phosphorus, and heavy metals to prevent product deterioration, shelf life is 12 months from the date of production. It is shipped as non-hazardous substance. Avoid contact with compounds containing nitrogen (N), sulfur (S), phosphorus (P), and heavy metals, as these substances may inhibit the vulcanization process or lead to incomplete curing.

## ADDITION-CURE LIQUID FLUOROSILICONE RUBBER LR-FL3400

### Description:

Silfluo LR-FL3400 series is a two-component liquid fluorosilicone rubber (L-FVMQ) utilizing a platinum vulcanization system. Formulated with vinyl-functional polyfluorosiloxane (base polymer) and a silicon-hydride crosslinker, it is optimized for injection molding processes. Upon curing, the elastomer demonstrates resistance to industrial solvents, automotive fuels, oils, and thermal extremes.

# ADDITION-CURE LIQUID FLUOROSILICONE RUBBER LR-FL3400 (CONTINUED)

## Typical Technical Properties:

| Project | Test Method | FL3400 | FL3410 |
|---|---|---|---|
| A component color | Visual Inspection | Pale yellow | |
| B component color | | | |
| Component A Viscosity/Pa·s (Shear rate 10 $s^{-1}$) | Enterprise standard | 700 | 820 |
| Component B Viscosity/Pa·s (shear rate 10 $s^{-1}$) | | 650 | 770 |
| After Primary Vulcanization At 120 °C × 10 min | | | |
| Density /g/cm³ | ASTM D792 | 1.43 | 1.42 |
| Hardness /Shore A | ASTM D2240 | 39 | 59 |
| Tensile strength /MPa | ASTM D412 | 10.5 | 8 |
| Elongation at break /% | ASTM D412 | 410 | 230 |
| Tear strength /kN/m | ASTM D624-B | 15 | 13 |
| Resilience /% | ASTM D1054 | / | / |
| Compression set /% (177 °C × 22 h) | ASTM D395 | 10 | 20 |
| After Secondary Vulcanization 200 °C × 4 h | | | |
| Density /g/cm³ | ASTM D792 | 1.43 | 1.42 |
| Hardness /Shore A | ASTM D2240 | 40 | 62 |
| Tensile strength/MPa | ASTM D412 | 10 | 7 |
| Elongation at break/% | ASTM D412 | 350 | 180 |
| Tear strength/kN/m | ASTM D624-B | 14 | 13 |
| Resilience /% | ASTM D1054 | 41 | 43 |
| Compression set /% (177 °C × 22 h) | ASTM D395 | 5 | 7 |
| Oil Resistance | | | |
| IRM903 /% (150 °C × 168 h) | ASTM D471 | 3 | 2 |
| Fuel C /% (60 °C × 168 h) | ASTM D471 | 23 | 21 |
| FAM B /% (60 °C × 168 h) | ASTM D471 | 29 | 28 |

# ADDITION-CURE LIQUID FLUOROSILICONE RUBBER LR-FL3400 (CONTINUED)

## How to use

Mixing Ratio: Supplied as a two-component system. Part A and Part B must be metered and mixed at a strict 1:1 weight ratio.
Equipment: Compatible with three-roll mills, planetary mixers, and automated liquid injection molding (LIM) machines.
Deairing: If mixed manually or in open vessels, vacuum degassing is strictly required prior to molding or coating to eliminate entrapped air.
Curing Profile: The actual vulcanization temperature and cycle time must be calibrated based on part geometry, mold thickness, and specific processing equipment parameters.

## Package & Storage:

20 kg plastic drums (Part A and Part B packaged separately).
Keep in cool, dry place. Avoid contact with compounds containing nitrogen, sulfur, phosphorus, and heavy metals to prevent product deterioration, shelf life is 12 months from the date of production. Classified as non-hazardous substance.

# ROOM TEMPERATURE VULCANIZING (RTV) FLUOROSILICONE SEALANT LR-FR3000

## Description:

LR-FR3000 Series is a one-component, room-temperature vulcanizing (RTV) fluorosilicone sealant. It features excellent resistance to oils and fuels, wide service temperature performance, and provides waterproofing and airtight sealing. The sealant also offers good adhesion to a broad range of substrates, making it suitable for general industrial sealing applications.

# ROOM TEMPERATURE VULCANIZING (RTV) FLUOROSILICONE SEALANT LR-FR3000 (CONTINUED)

## Typical Technical Properties:

| Project | Test Method | FR3001 | FR3004 |
|---|---|---|---|
| Type | | Acetoxy Cure | Ketoxime Cure |
| Color | Visual Inspection | White | Milky white |
| Viscosity/Pa·s (Shear rate 10 $s^{-1}$) | Rotational Viscometer Method | 188 | 226 |
| Extrudability / g/min | GB/T 13477.3 | 126 | 90 |
| Surface Drying Time / min | GB/T 13477.5 | 5 | 8 |
| 23 °C × 50% × 7 d | | | |
| Density /g/$cm^3$ | ASTM D792 | 1.44 | 1.44 |
| Hardness /Shore A | ASTM D2240 | 40 | 37 |
| Tensile Strength /MPa | ASTM D412 | 4.0 | 3.6 |
| Elongation at Break /% | ASTM D412 | 292 | 425 |
| Tear Strength /kN/m | ASTM D624-B | 10.6 | 11.2 |
| Peel Strength (Aluminum) / kN/m | GB/T 15254 | 0.83 | 1.25 |
| IRM903/% (150 °C × 168 h) | ASTM D471 | 1.5 | 1.8 |
| Fuel F Diesel/% (40 °C × 168 h) | ASTM D471 | 2.0 | 3.3 |
| Fuel C/% (60 °C × 168 h) | ASTM D471 | 18.6 | 20.5 |
| FAM B/% (60 °C × 168 h) | ASTM D471 | 26.5 | 27.0 |
| Jet Fuel No.3/% (23 °C × 168 h) | ASTM D471 | 3.9 | 4.2 |

## Applications:

LR-FR3000 Series is recommended for flat-surface sealing / form-in-place sealing in:

- Engines
- Transmissions and gearboxes
- Drivetrain / powertrain components
- Brake systems
- Pipe flanges and flange joints

## Package & Storage:

Net content: 300 mL plastic cartridge.

Store in a cool, dry environment. Shelf life is 6 months in the original unopened packaging. Avoid contact with eyes before curing. In case of accidental contact, rinse immediately with water and seek medical attention.



# CONTACT US


Nanjing Silfluo New Material Co., Ltd.

B1 Building, Huizhi Science Park, No. 8 Hengtai Road,
Nanjing Economic and Technological Development Zone, Nanjing, China (210033)

+86 183 5181 7618 (Phone / WhatsApp / WeChat)

inquiry@silfluo.com

www.silfluosilicone.com



The data in this brochure are typical values, not specifications. Please conduct a trial before using a product to confirm that it is suitable for the intended use. The uses described do not guarantee freedom from conflict with any patent. Trademarks are the property of their respective owners.