TOPDA
泰普达新材料

Fluorosilicone Oils

Fluorosilicone Elastomers

Fluorosilicone Rubber Compound

Fluorosilicone Grease

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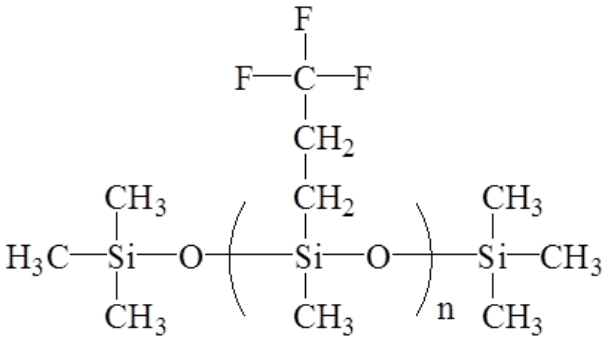
FLUOROSILICONE OILS

Fluorosilicone Oils

Since the introduction of trifluoropropyl on silicon atoms, fluorosilicone oils combine the advantages of fluorocarbons and silicones, they have excellent oil & solvent and chemical resistance, wide working temperatures(-40~204℃), excellent lubricity under extreme pressure, excellent water and oil repellency, demoulding, defoaming and excellent anti-fouling property. They are suitable for lubrication of high-speed bearings in the presence of chemical media, various mechanical parts and components, as well as valves, bearings, gears, sealing gaskets, mechanical pumps, etc. In addition, the antifoam prepared by fluorosilicone oils are suitable for all kinds of foaming systems, especially for solvent-based detergents. Fluorosilicone oils are also widely used as water & oil repellent and antifouling finishing agent for fibers and fabrics, coating and plastics modifier.



CAS No: 63148-56-1

Poly (3,3,3-Trifluoropropylmethylsiloxane)

Product Code	Viscosity at -18℃	Viscosity at 25℃	Viscosity at 100℃	Viscosity at 204℃	Flash Point, ℃	Freezing Point, ℃	Volatility (250℃/4hr), %
TPD-FS8012-300	5,200mm²/s	300mm²/s	27mm²/s	5.3mm2/s	≥260	≤-47	<5
TPD-FS8012-500	12,000mm²/s	500mm²/s	36mm²/s	6.4mm²/s	≥270	≤-40	<5
TPD-FS8012-1000	20,000mm²/s	1000mm²/s	69mm²/s	10.3mm²/s	≥300	≤-31	<5

Speciety Fluorosilicone Oils

Product Code	Product Name	Viscosity at 25℃	Flash Point, ℃	Volatility (250℃/4hr), %
TPD-FS8013	Polymer modified fluorosilicone oil	400~1,000mm²/s	≥260	＜5
TPD-FS8014-100	Hydroxyl terminated fluorosilicone oil	100mm²/s	≥260	＜5
TPD-FS8015	Alkyl polymer modified fluorosilicone oil	400~1,000mm²/s	≥260	＜5
TPD-FS8017-50	Alkyl modified fluorosilicone oil	300~1,000mm²/s	≥270	＜5
TPD-FS8017-70	Alkyl modified fluorosilicone oil	1,000~1,000mm²/s	≥300	＜5
TPD-FS8019-300	Vinyl terminated fluorosilicone oil	300mm²/s	≥260	＜5
TPD-FS8019-500	Vinyl terminated fluorosilicone oil	500mm²/s	≥270	＜5
TPD-FS8019-1,000	Vinyl terminated fluorosilicone oil	1000mm²/s	≥300	＜5

Fluorosilicone oils with vinyl group can be used to produce addition type liquid fluorosilicone rubber, fluorosilicone rubber coatings, etc. Fluorosilicone oils with hydroxyl group can be used as structural control agent of fluorosilicone rubber. Polymer modified fluorosilicone oils can be used as leveling agent for coatings. Alkyl modified fluorosilicone oils can be used as defoaming agent for coatings & inks, slipping agent for cosmetics, etc.

FLUOROSILICONE ELASTOMERS

Fluorosilicone Elastomer is a kind of synthetic materials based on polymethyltrifluoropropylsiloxane. The condensation type is usually hydroxyl-terminated, while the addition type is mixed with a certain amount of unsaturated olefins. The molecular weight of room-temperature vulcanized fluorosilicone elastomer is relatively small, ranging from $1x10^4$ to $8x10^4$, while the high-temperature vulcanized type can reach $4x10^5$ to $8x10^5$.

Fluorosilicone rubber can be obtained by vulcanizing fluorosilicone elastomer with vulcanizing agent and various reinforcing fillers. Fluorosilicone elastomer combines the oil & solvent resistance and chemical resistance of fluorocarbon rubber with the excellent properties of low temperature softness and high tensile retention rate at high temperature of silicone rubber.

Product Code	Type	Compostion	Main Technical Index
TPD-FS-ER1000	Homopolymerized Gum For RTV	low molecular weight polymer of methyl-(3,3,3-trifluoropropyl)siloxane	Viscosity, 25℃: 1-200Pa.s Volatility (180℃/3hr): ＜1.5%
TPD-FS-ER1100	Copolymerized Gum For RTV	low molecular weight polymer of methyl-(3,3,3-trifluoropropyl)siloxane	Viscosity, 25℃: 1-200Pa.s Volatility (180℃/3hr): ＜6.0%
TPD-FS-EH2000	Homopolymerized Gum For HTV	Copolymer made by D3f and methyl-vinyl-cyclosiloxane	Molecular Weight(10,000): 50-130 Vinyl Content, mol%: 0.2-0.8 Volatility (180℃/3hr):＜2%
TPD-FS-EH2100	Copolymerized Gum For HTV	Copolymer of methyl-(3,3,3-trifluoropropyl)siloxane, small amount of vinyl monomer and other organic silicone.	Molecular Weight(10,000): 50-70 Vinyl Content, mol%: 0.08-0.3 Volatility (180℃/3hr):＜2%

FLUOROSILICONE RUBBER COMPOUND

Fluorosilicone rubber compound is a translucent uncatalyzed fluorosilicone rubber base mixed evenly with some kinds of fillers and additives. After vulcanization, fluorosilicone rubber can be obtained. Fluorosilicone rubber is a new type of elastomer which has combined the advantages of silicone rubber and fluororubber.

Features

- Good mechanical properties
- Wide working temperature range(-60°C-200°C)
- Good resistance to solvent & fuel oil, chemicals
- High tensile force retention at high temperature which is like silicone rubber
- High selective permeability
- Meet requirements of environment protection
- Easily pigmented

Type	Product Code	Hardness (Shore A)	Tensile Strength(MPa) Die C	Elongation at Break(%) Die C	Tear Strength(KN/m) Die B	Compression Set (177℃X22hr) (25%) B type	Volume Change (reference fuel B) (23℃x70hr), %
General Purpose	TPD-FS-R8230	30	8.5	350	21	15	22
	TPD-FS-R8240	40	10.0	375	25	12	20
	TPD-FS-R8250	50	10.5	350	25	13	19
	TPD-FS-R8260	60	9.5	300	22	14	18
	TPD-FS-R8270	70	9.0	250	20	15	18
	TPD-FS-R8280	80	8.0	165	18	16	18

High Tear Strength	TPD-FS-R8330	30	9.5	350	40	14	22
	TPD-FS-R8340	40	11.0	400	45	12	21
	TPD-FS-R8360	60	10.5	350	42	14	20
	TPD-FS-R8380	80	9.0	250	30	16	20
Low Compression Set	TPD-FS-R8430	30	9.0	300	20	8	22
	TPD-FS-R8440	40	10.0	350	25	7	20
	TPD-FS-R8460	60	10.0	300	25	8	19
	TPD-FS-R8480	80	8.5	175	18	9	19
Extrusion Type	TPD-FS-R8650	50	9.0	300	20	18	22
	TPD-FS-R8660	60	9.0	350	25	20	20
	TPD-FS-R8680	80	7.0	300	25	25	19
For Turbocharger Tubes	TPD-FS-R8760	60	9.0	320	20	12	23
	TPD-FS-R8770	70	8.0	220	15	13	22

Type	Product Code	Hardness (Shore A)	Tensile Strength(MPa) Die C	Elongation at Break(%) Die C	Tear Strength(KN/m) Die B	Compression Set (177℃X22hr) (25%) B type	Vertical Rebound Resilience(%)	Volume Change (reference fuel B) (23℃x70hr), %
High Rebound Resilience	TPD-FS-R8530	30	8.0	550	15	9	33	25
	TPD-FS-R8540	40	8.2	400	14	10	40	24
	TPD-FS-R8560	60	8.5	350	16	10	38	22
	TPD-FS-R8570	70	8.2	300	15	11	37	21

FLUOROSILICONE GREASE

Topda Fluorosilicone Greases are lubricating greases formulated by fluorosilicone oil thickened with PTFE and evenly mixed with some kinds of fillers and additives. They are suitable for lubrication of bearings with slow to fast movements and light to heavy load over a wide temperature range.

Features

- Excellent lubrication performance for high loaded and high speed bearings
- Excellent resistance to oil & fuels and chemicals
- Can be used at high speed and high temperature
- Wide working temperature
- Good thixotropy, not easy to flow
- Excellent electrical insulation performance
- Excellent resistance to oxidation
- Good shear stability
- Good compatibility with most kinds of gaskets and seals
- Non-toxic, environment friendly

Product Code	Working Temperature, ℃	Oil separation (100°C×30h, wt%)	Evaporation loss （99℃×22h, wt%）	Wear Resistance (Grinding mark size, mm)
TPD-FS-600A	-40~+280	≤2.0	≤0.3	≤0.6
TPD-FS-600B	-30~+280	≤1.2	≤1.0	≤0.8