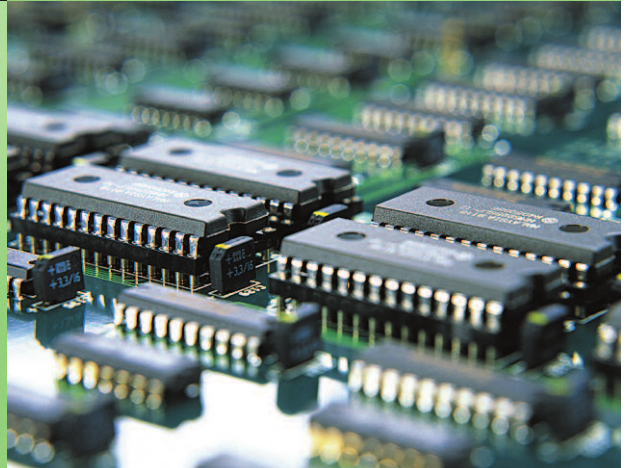
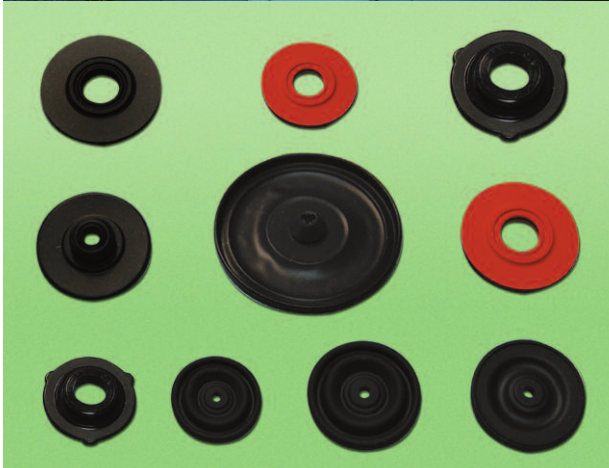
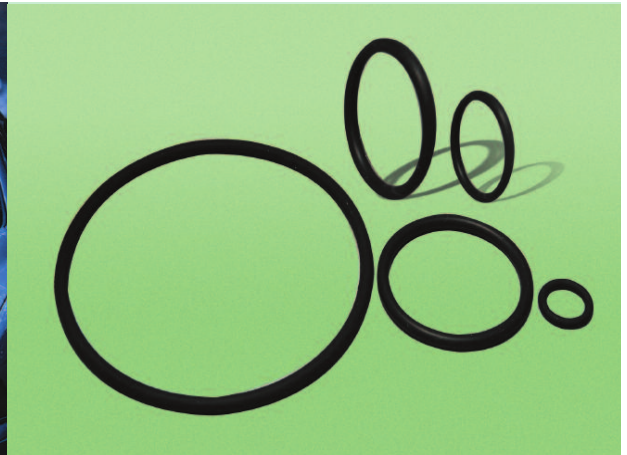




FUJIKURA COMPOSITES

# Super Performance Fluorinated rubber Super Fujikuraflex (SF)



FUJIKURA COMPOSITES Inc.

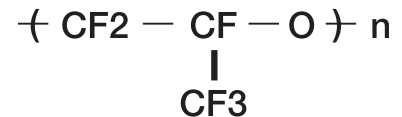


## What is Super Fujikuraflex (SF) ?

- Super Fujikuraflex is a totally new type of fluorinated elastomer that offers numerous advantages over existing materials.
- Super Fujikuraflex can be used across an exceedingly wide range of temperatures. SF's unique set of properties offer high performance under extreme conditions and can satisfy the requirements of the most demanding applications.

## Molecular Structure

- The Super Fujikuraflex series is distinguished from conventional fluorinated elastomers by the introduction of ether linkages along the polymer's main chain. This results in superior flexibility at low temperatures.



## Properties

- Withstands continuous use across a wide temperature range (-50°C~200°C).
- Excellent resistance to swelling from hydrocarbon fluids such as fuels and lubricating oils.
- Excellent resistance to swelling from most solvents including alcohols, ethers, ketones, and aromatics.
- Excellent resistance to attack by acids and bases.
- Excellent resistance to degradation by amines.
- No extractable or volatilizable components. Will not contaminate surrounding materials.
- Excellent resistance to water and steam.
- Low compression set with superior sealing capabilities.
- Excellent stability of physical properties at elevated temperatures.
- Contains no toxic substances. Causes no negative effects on organisms.



## Product Line

Product	Description
Super Fujikuraflex 7000 (SF7000)	70 Shore A, Standard Type
Super Fujikuraflex 5000 (SF5000)	50 Shore A, Standard Type

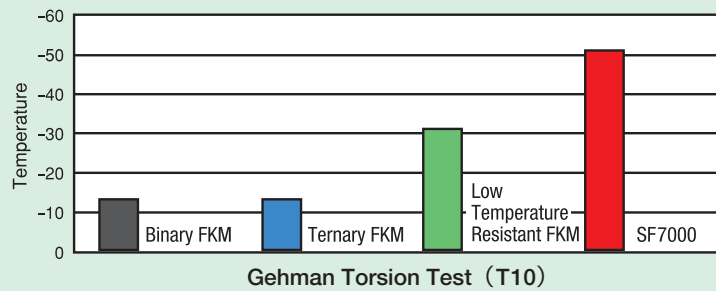
Note 1) Both products come in standard black. Please ask about other color options.

## Applications

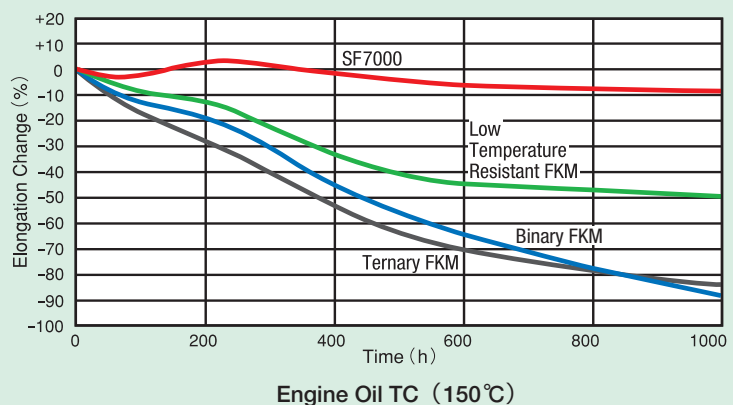
- For applications requiring better low temperature performance, better chemical resistance, and less tack than existing general purpose fluorinated rubbers.
- For applications requiring even better low temperature performance and chemical resistance than offered by conventional low temperature type FKM.
- For applications requiring lower cost and better low temperature performance than PVME/TFE FKM.
- For applications requiring lower gas permeability, better chemical resistance, and the elimination of the volatiles of fluorosilicone rubbers.

## SF's Physical Properties

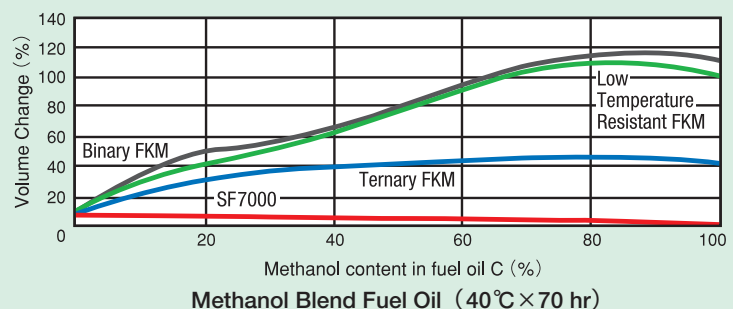
- Superior low temperature flexibility



- Excellent engine oil resistance



- Exceptional alcohol resistance



**Comparison of Chemical Resistance of Fluorinated Rubber Materials**

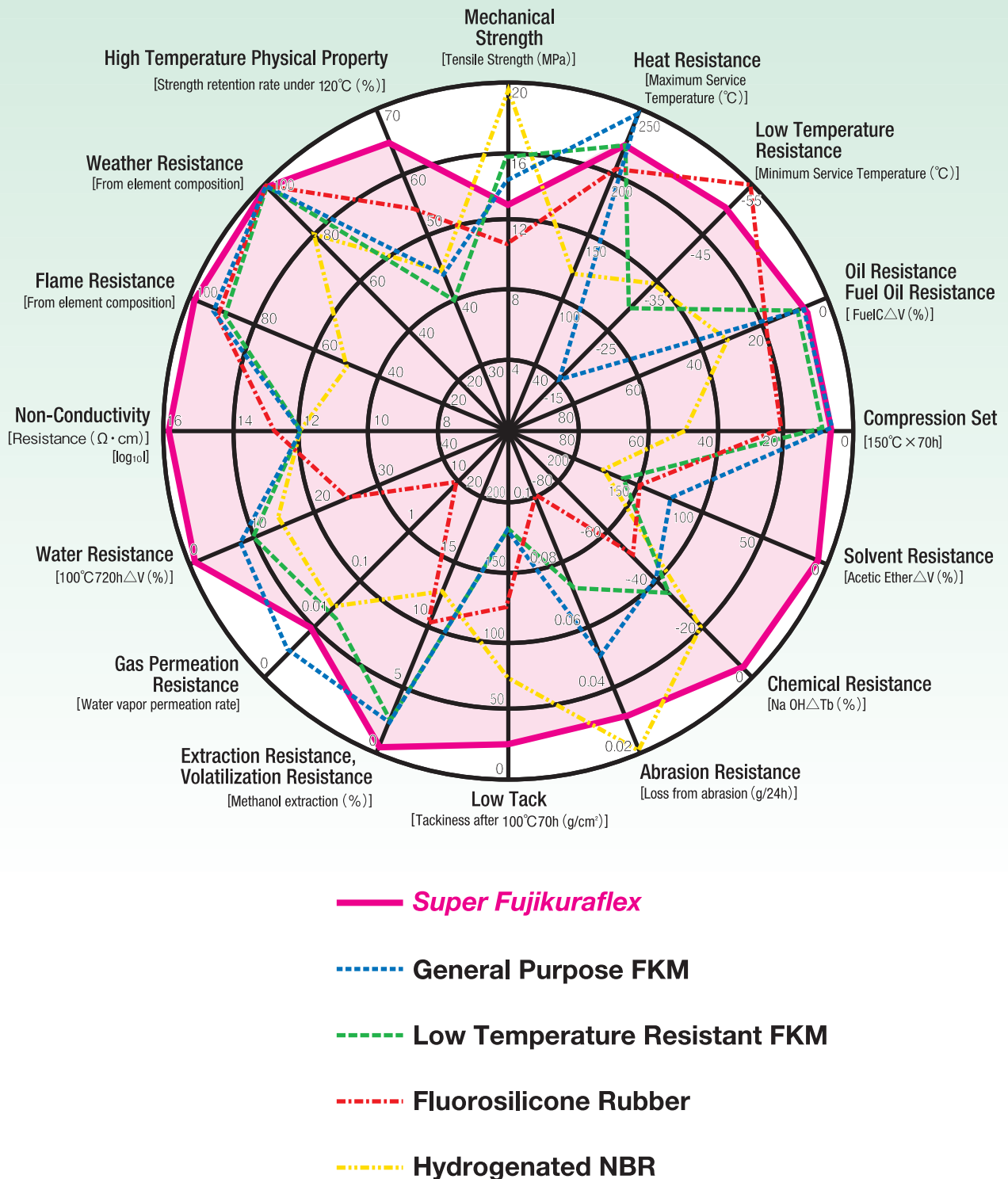
Solvent and Immersion Conditions		SF7000	Chemical Resistant FKM (PVME/TFE)	Specialty Ternary FKM (HFP/VDF/TFE)
<b>Acids and Bases</b>				
Hydrochloric Acid (35%)	40°C x 10 days	A(+1.3)	A	A
Sulfuric Acid (35%)	40°C x 10 days	A(-0.3)	A	A
Nitric Acid (35%)	40°C x 10 days	A(+2.6)	A	A
Acetic Anhydride	40°C x 8 days	A(+0.1)	A	C
Sodium Hydroxide (30% water solution)	40°C x 10 days	A(+1.3)	A	A
Ammonia Water Solution (28%)	40°C x 10 days	A(±0.0)	A	B
<b>Ketone, Ester, Ether, Furane</b>				
Acetone	40°C x 21 days	B(+6.5)	B	D
Methyl Isobutyl Ketone	40°C x 21 days	A(+4.6)	B	D
Acetic Ether	40°C x 21 days	B(+6.1)	B	D
Triethyl Phosphate	40°C x 21 days	A(+1.8)	A	D
Diethyl Ether	40°C x 21 days	B(+10.6)	B	C
1, 4 - Dioxane	40°C x 21 days	A(+2.1)	A	C
Tetrahydrofuran	40°C x 21 days	B(+7.1)	B	D
Acetophenone	40°C x 21 days	A(+0.2)	A	C
<b>Nitrogen Type Solvents</b>				
Acrylic Nitrile	40°C x 21 days	A(+1.7)	A	C
Ethylenediamine	40°C x 21 days	B(+18.8)	B	D
N, N' - Dimethylformamide	40°C x 21 days	A(±0.0)	A	D
<b>Hydrocarbon and Halogenated Hydrocarbon</b>				
n - Hexane	40°C x 21 days	B(+6.4)	B	B
Cyclohexane	40°C x 21 days	B(+7.3)	B	A
Benzene	40°C x 21 days	A(+4.5)	B	B
Toluene	40°C x 21 days	A(+4.9)	A	B
Xylene	40°C x 21 days	A(+4.0)	A	B
Nitrobenzene	40°C x 21 days	A(+3.1)	A	B
Chloroform	40°C x 21 days	B(+9.4)	B	B
Methylene Chloride	40°C x 21 days	A(+4.6)	B	B
DAIFLOIL #1 (fluorinated solvent)	40°C x 21 days	C(+25.5)	C	C
<b>Alcohol</b>				
Methanol	40°C x 21 days	A(-0.4)	A	B
Ethanol	40°C x 21 days	A(-1.1)	A	B
Ethylene Glycol	40°C x 21 days	A(-0.4)	A	A
<b>Mineral Lubricating Oil</b>				
ASTM No1 Oil	40°C x 16 days	A(+1.3)	A	A
IRM903 Oil	40°C x 16 days	A(+2.9)	A	A

Note 1) Evaluation criteria (volume change) A: Under +5%, B: +5~20%, C: +20~50%, D: Over +50%

Note 2) Values in parentheses are actual values.

Note 3) Above evaluation is based on the immersion test. Please ensure to perform your own validation prior to use.

# Performance Compared to Various Rubber Materials



**Super Fujikuraflex** has very few weaknesses, which makes it ideal for applications in aggressive environments that require multiple resistance properties.



- Contents of this brochure are subject to change without notice for updating purposes.



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