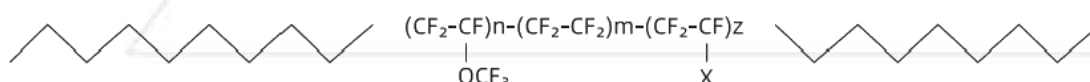


# Perfluoroelastomer (FFKM)

Perfluoroether rubber (FFKM) is synthesized by the polymerization of tetrafluoroethylene monomer (TFE,  $CF_2=CF_2$ ), perfluoromethyl vinyl ether (PMVE,  $CF_3OCF=CF_2$ ) and vulcanized point monomer (CSM, Rf-X), and a colorless translucent slab is obtained after post treatment.

The molecular structural formula is:



**Perfluoroelastomer(FFKM) has the following properties compared to other elastomers (rubber):**

- >High temperature resistance
- >Chemical solvent resistance
- >Low permeability
- >Plasma etch resistance
- >Reliability and long service life

**The specifications, types, characteristics and temperature resistance range of TFT LIMITED perfluoroelastomers:**

Grades	Purpose	Feature	Min T(°C)	Max T(°C)
Teflus <sup>®</sup> PR 80	General purpose	Outstanding chemical resistance	-10	230
Teflus <sup>®</sup> PR 85H	Solvent resistant	Outstanding chemical resistance to amines at high Temperature	-10	230
Teflus <sup>®</sup> PR 90	High Temp	Excellent thermal and steam resistant grade	-10	290
Teflus <sup>®</sup> PR 91B	High Temp	With Organic filler	-10	270
Teflus <sup>®</sup> PR 100	Very high Temp	Excellent high temperature resistance	-10	315
Teflus <sup>®</sup> PR 120B	High Temp	With Organic filler	-10	300
Teflus <sup>®</sup> PR 200	Extreme high Temp	Excellent high temperature resistance	-10	350
Teflus <sup>®</sup> PR LT	Low Temp			
Teflus <sup>®</sup> PR S9	Curative(Filler)			

**Application and characteristics of TFT LIMITED perfluoroelastomers:**

Products and applications	Semicon	Flat Display	Chemical Industry	Petroleum Oil and natural gases	Food and Pharma	Aerospace
Teflus <sup>®</sup> PR 80	√	√	√	√	√	
Teflus <sup>®</sup> PR 85H	√		√	√		√
Teflus <sup>®</sup> PR 90	√	√	√	√	√	√
Teflus <sup>®</sup> PR 91B	√	√	√	√	√	
Teflus <sup>®</sup> PR 100	√	√	√	√	√	√
Teflus <sup>®</sup> PR 120B	√	√	√	√	√	√
Teflus <sup>®</sup> PR 200	√	√	√	√	√	√
Application Features	High purity, chemical resistance, high temp resistance	Resistant to chemicals and temperatures	Resistant to chemicals and temperatures	Resistant to chemicals and temperatures	High purity, chemical resistance, high temp resistance	Resistant to chemicals and temperatures

# Perfluoroelastomer (FFKM)

## Vulcanization system of TFT LIMITED perfluoroelastomer:

Perfluoroelastomer specifications	Teflus <sup>®</sup> PR 80, Teflus <sup>®</sup> PR 85H Teflus <sup>®</sup> PR 90, Teflus <sup>®</sup> PR 91B	Teflus <sup>®</sup> PR 100 Teflus <sup>®</sup> PR 120B Teflus <sup>®</sup> PR 200
Vulcanization system	Peroxide vulcanization	Triazine vulcanization
Vulcanized structure		
Recommended formulation, vulcanization temperature and time	<p>Teflus<sup>®</sup> PR 80:</p> <p>100 parts of Teflus<sup>®</sup> PR 80 1.5 parts of Luperox 101XL-45 2-4 parts of TAIC(50%) Molded vulcanization: 160°C×15min, the mold can be directly opened after the vulcanization Post cured: 230°C*4h</p>	<p>Teflus<sup>®</sup> PR 100 :</p> <p>100 parts of Teflus<sup>®</sup> PR 100 1.2 parts of BOAP Molded vulcanization: 170°C×20min Post cured: 290°C*(8+16)h</p>
	<p>Teflus<sup>®</sup> PR 85H:</p> <p>100 parts Teflus<sup>®</sup> PR 85H 1.5 parts of Luperox 101XL-45 2-4 parts of TAIC(50%) Molded vulcanization: 160°C×15min Post cured: 230°C*4h</p>	<p>Teflus<sup>®</sup> PR 120B :</p> <p>100 parts of Teflus<sup>®</sup> PR 120B 1.2 parts of BOAP Molded vulcanization: 170°C×20min Post cured: 290°C*(8+16)h</p>
	<p>Teflus<sup>®</sup> PR 90:</p> <p>100 parts of Teflus<sup>®</sup> PR 90 1.5 parts Luperox 101XL-45 Molded vulcanization: 170°C×15min Post cured: 290°C*(8+16)h</p>	<p>Teflus<sup>®</sup> PR 200 :</p> <p>100 parts of Teflus<sup>®</sup> PR 200 1.2 parts of BOAP Molded vulcanization: 170°C×20min Post cured: 290°C*(8+16)h</p>
	<p>Teflus<sup>®</sup> PR 91B:</p> <p>100 parts of Teflus<sup>®</sup> PR 91B 1.0 parts Diisopropyldisulfide (2, 5-Dimethyl-2, 5-di( tert-butylperoxy) hexane) Molded vulcanization: 170°C×15min Post cured: 230°C*(8+16)h</p>	

Packing: plastic film packaging, 1 kg per pack. Or packaging according to customer needs.

# Perfluoroelastomer (FFKM)

## Raw Gum Teflus® PR 90

### Product Description:

Teflus® PR 90 is a high-temperature, chemically resistant peroxide vulcanized perfluoroelastomer, which has a wide range of corrosion-resistant media sealing ability and excellent compression set value, better high temperature resistance than Teflus® PR 80, long-term use temperature of 290 degrees.

### Product Features:

- > Excellent heat resistance, applicable temperature range -10°C~290°C .
- > Excellent oil resistance, corrosion solvent resistance.
- > Low compression set.

### Product Performance:

	Item		Unit	Teflus® PR 90			Test Method
Raw Gum	Mooney viscosity ML(1+10'), 121°C		MU	15-45	46-75	76-120	GB/T 1232.1
	Appearance		/	Translucent			Visual Check
	Density		g/cm³	2.04			GB/T 533
	Fluorine content		%	72.7			Oxygen flask combustion
Black compound	MDR (170°C*30 min)	MH	dN.m	15.8	16.5	17.1	GB/T 16584
		ML	dN.m	1.5	1.7	1.9	
		Ts2	min:s	0:51	0:53	0:54	
		T90	min:s	6:42	6:48	6:56	
	Hardness		Shore A	65	66	66	GB/T 531 (Shore A)
	Tensile strength		MPa	15.8	16.3	17.2	GB/T 528 (Dumbbell-shaped type 2)
	Elongation at break		%	170	173	172	GB/T 528 (Dumbbell-shaped type 2)
	Compression set 290°C×70hr, 25%		%	45	46	48	GB/T 7759.1, 25%, Model B

Note: The values in the typical properties are not intended for use in preparing specifications.

Test formula: 100 phr Teflus® PR 90, 1.5phr Luperox 101XL-45, 15phr N-990 Carbon Black.

### Product Application:

- > It can be widely used in aerospace, chemical industry, oil and gas extraction, food and pharmaceutical production, semiconductor manufacturing and other industrial fields..
- > It can be used in the manufacture of components resistant to various corrosive media (such as hot organic and inorganic acids, caustics, ketones, aldehydes, esters, ethers, alcohols, fuel oils, solvents, acid gases, hydrocarbons, steam, hot water, etc.
- > Various types of elastomeric sealing elements can be manufactured, such as O-rings, gaskets, valve bodies, diaphragms, etc.



**TFT LIMITED**

## **Fluoro Organic Materials**

**We might adjust the grades and properties of our products without any further notices.  
If the up-to-date information is needed,  
please contact us.**

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Manufacturer:

**[Guang Zhou Office]**

Unit 1006, 10th Floor, Tower B, NO.26 ChenYue Road, HaiZhu District GuangZhou,  
CHINA

Tel: +86.20.8918.9425

**[Hong Kong Office]**

Unit 1101, 11th floor, Tower 1, Enterprise Squar Bldg, No. 9 Sheung Yuet Road,  
Kowloon Bay, Hong Kong.

Tel: +852.2893.5300

<http://www.teflus.com>

E-mail: [tftlimited\\_xu@163.com](mailto:tftlimited_xu@163.com)

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