2. Basic Properties of FKM Fluorine Rubber

1. General mechanical properties
Fluorine FKM rubber has high tensile strength and hardness, but less elastic. 26 type fluorine rubber friction coefficient (0.80) is relatively small (0.90 ~ 1.05) than nitrile rubber, in general its abrasion resistance is good, but in the smooth metal on the surface, its wear resistance is poorer. This is because at this time it has great speed and high friction heat production, which results in the decrease of strength of rubber mechanical.

2. Heat resistance and heat resistance performance
In terms of heat aging, FPM rubber can compare to silicone rubber, and is superior to other rubber. 26 type fluorine rubber can long-term work under 250℃, 300℃ in the short term; 23 fluorine rubber after 200℃×1000h aging, there is still a higher strength withstand short-term high temperature 250℃.
It should be pointed out that the performance of the fluorine rubber sheets at different temperatures change less than low strength silicone rubber and butyl rubber, its strong stretching performance and hardness were obviously decreased with the rise of temperature, the tensile strength of the changing characteristic is: under 150℃, it rapidly decreased with the rise of temperature; Between 150 ~ 150℃, the temperature rise and slowly decline.

3. The corrosion resistance performance
One of the characteristics of fluorine rubber is highly resistant to corrosion. In general, the properties of organic liquid (all kinds of oils, fuels, solvents, hydraulic fluid, etc.), the concentrated acid (nitric acid, sulfuric acid, hydrochloric acid), the stability of high concentrations of hydrogen peroxide and other strong oxidizing agents, is better than that of other kinds of rubber.

4. Performance of resistance to hot water and steam
Rubber on the stability of hot water, not only depends on the nature of the raw rubber, but also depends on the formulation of the rubber. 23 type fluorine rubber’s the stability of hot water or steam is much worse than 26 type fluorine rubber, which use 26 type fluorine rubber was more valuable. FKM fluorine rubber is not the best one at the resistant to steam (or hot) water performance, it is a general synthetic rubber, such as ethylene propylene rubber, slightly poorer than butyl rubber, and was equal to that of NBR.

5. The compression permanent deformation resistance
The production performance is an important feature that ring, mat products must control. 26 type fluorine rubber compression permanent deformation resistance is better than other fluoro rubber, which is one reason of its being widely applied. Under 150℃, compared with ordinary rubber (such as nitrile rubber, neoprene rubber, etc.), its compression permanent deformation is smaller, and in the range of 200-300℃, its compression permanent deformation is very big.
It should be pointed out that the deflection of the fluorine rubber under high temperature becomes different with the different stress. 26 type fluorine rubber
(Viton rubber sheeting), for example, its vulcanizates under 200 ℃, when in a state of compression, will totally deform after 7 days; When in reverse state after 30 h strength namely fell to half the initial value; when in a free state, the storage of 18 months later, viton rubber still keep the function of usage.

Viton fluorine rubber has the increase of compression permanent deformation at high temperature, it is due to the high temperature and the result of joint action. In general, the compression permanent deformation is related to molecular mass of the raw rubber, vulcanizing and acid absorption agent type and secondary vulcanization conditions. Therefore, to produce low compression permanent deformation of products, we must pay attention to the selected formulation and process conditions.