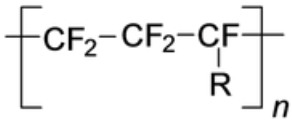
SystemSeals

MATERIAL SPECIFICATION SHEET

MF96

High Temperature Perfluoroelastomer (FFKM 80A)



SPECIFICATIONS

Property	Spec	Value
Hardness	ASTM D 2240	80A ± 5
Specific Gravity	ASTM D 1817	2.48g/cm³ ± 0.03
Heat Resistance 300C; 70hrs	ASTM D 573	
Change in Hardness		+4.5pts
Change in Tensile Strength		-35%
Change in Ultimate Elongation		-24%
Fluid M15; 40C; 504hrs	ASTM D 471	
Change in Hardness		-5pts
Change in Volume		+6%
Fluid Water/EtG; 150C; 168hrs	ASTM D 471	
Change in Hardness		-3.5pts
Change in Volume		+2.7%
Fluid MEK; 40C; 168hrs	ASTM D 471	
Change in Hardness		-3.5pts
Change in Volume		+4%
Fluid MIBK; 115C; 168hrs	ASTM D 471	
Change in Volume		+7%
Temperature		-15°C min +330°C max
Color		Green

DESCRIPTION

MF96 is a FFKM material with hardness 80 Shore A, specially made compound for high temperature applications. FFKM is referred to as perfluoroelastomers, in which ALL hydrogen atoms are replaced by fluorine atoms in the polymer. FFKM has better fluid resistance and base resistance at much higher temperatures than FKM. Raw materials for producing FFKM are very expensive. For this reason, FFKM is considered to be a high cost specialty elastomer. In order to take advantage of high temperature resistance from FFKM, all other ingredients, especially fillers and cure systems in the formulations have to withstand the temperature at least as much FFKM. The mechanical property loss and thermal expansion of FFKM needs to be carefully considered if seals are used over a wide temperature cycle. FFKM is usually used in stringent applications that other elastomers are unable to match. Typical application environments are hydrocarbon liquids and gases, water and steam, solvents, amines, brake fluids, many acids and alkalis, air or ozone. FFKM is not suited for molten and gaseous metals such as sodium or potassium, nor fluorinated solvents or refrigerants, nor chlorine compounds. FFKM is not suited for steam over 150°C.