

Chemical Processing FFKM's

Parker's ULTRA FFKM Materials for the Chemical Processing Industry



Harsh Chemical Resistance:

The ability to seal against harsh chemicals is critical in the Chemical Process Industry. Parker O-Ring Division is once again ready to respond to the market needs.

Parker ULTRA perfluoroelastomer (FFKM) product line offers the best sealing solution for the harsh mixture of chemistries present in most CPI applications. Compounds such as FF102-75, FF500-75, and FF580-75 offer the versatility and performance



Contact Information:

Parker Hannifin Corporation
O-Ring & Engineered Seals Division
2360 Palumbo Dr.
Lexington, KY 40509

phone 859 269 2351
oesmailbox@parker.com

www.parkerorings.com

Features and Properties:

- Temperature range available between -40°F to 608°F (depending on compound)
- Outstanding compression set resistance
- Products include O-rings, molded shapes, and rubber bonded to metal seals
- Best in class steam and base resistance for FFKM materials



ENGINEERING YOUR SUCCESS.

CPI Material Attributes					
Parker ULTRA™ materials					
Chemistry	FF102-75	FF500-75	FF580-75	FF200-75	FF400-85
Strong acids	1	1	1	1	1
Strong bases	3	2	1	4	3
Steam/hot water	4	3	1	4	3
Solvents	1	1	1	1	1
High temperature (over 550°F)	3	2	3	1	2
Low temperature (below 0°F)	4	4	4	4	1

1 = satisfactory
 2 = fair (normally okay for static seal)
 3 = doubtful (sometimes okay for static seal)
 4 = unsatisfactory

Materials for Chemical Resistance				
	Test Method	FF102-75	FF500-75	FF580-75
Fluid immersion ethylene diamine, (70 hrs. @ 194°F)				
Hardness change, shore A pts.	ASTM D471	-1	-1	-5
Volume change, %		+21	+11	+6
Fluid immersion 50% glacial acetic, (70 hrs. @ 140°F)				
Hardness change, shore A pts.	ASTM D471	TBD	+6	+1
Volume change, %		TBD	+2	+7
Fluid immersion steam, (168 hrs. @ 250°F)				
Hardness change, shore A pts.	ASTM D471	TBD	+1	+1
Volume change, %		TBD	+7	+1

Materials for Thermal Resistance		
	Test Method	FF200-75
Compression set, (1000 hrs. @ 500°F)		
Percent of original deflection, max	ASTM D395	49
Compression set, (70 hrs. @ 600°F)		
Percent of original deflection, max	ASTM D395	45

Materials for Low Temperature Resistance		
	Test Method	FF400-85
Low temperature retraction		
TR-10, °F	ASTM D1329	-22
Compression set, (70 hrs. @ 482°F)		
Percent of original deflection, max	ASTM D395	29
Fluid immersion ethylene diamine, (70 hrs. @ 194°F)		
Hardness change, shore A pts.	ASTM D471	-10
Volume change, %		+23

that most CPI applications demand. In other applications where temperature is the primary concern Parker ULTRA FF200-75 or FF400-85 provide the high and low end temperature fluctuation protection that is considered world class.

Understanding the needs of the Chemical Processing Industry has played a key role in Parker O-Ring Division's material development. No matter the application, use Parker ULTRA perfluoroelastomer products to ensure that you're sealing with the best.

