

# FF580-75 and FF582-90

ULTRA™ O-Rings



## Outstanding Broad Chemical Resistance:

For industries and applications where chemical resistance is the primary concern, Parker compounds FF580-75 and FF582-90 excel. These black, 75 and 90 durometer perfluorinated elastomers were developed for use in the harshest operating conditions, where good thermal stability (up to 275°C) and extreme chemical resistance is a requirement.

Both materials have excellent compatibility for use in bases, amines, steam, ethylene oxide, acids and many other aggressive chemicals. For this reason, they are well suited for the CPI, EOG, paint spray and general industrial markets.



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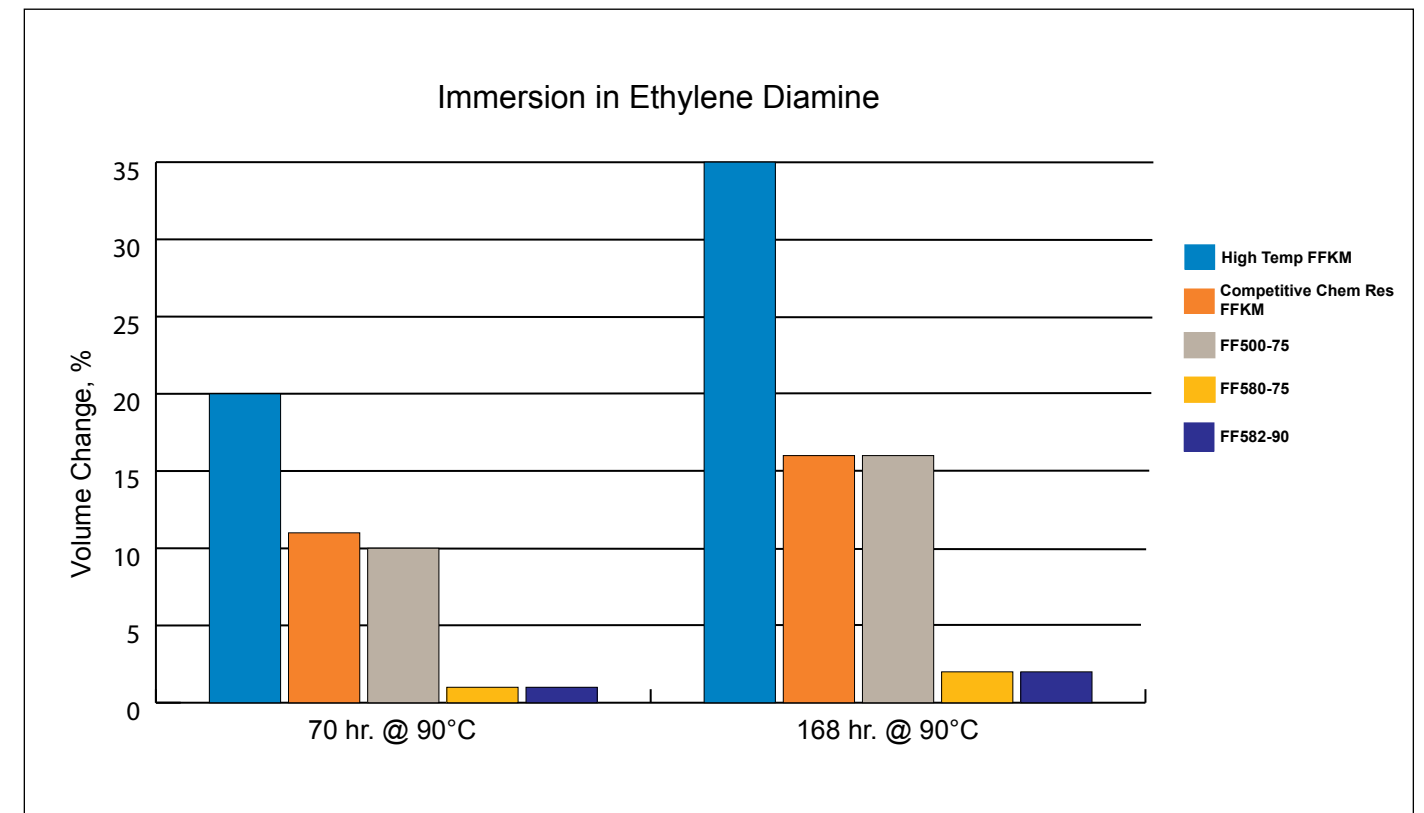
## Product Features:

- 75 and 90 shore A durometer
- Black in color
- Maximum operating temperature 275°C (527°F)
- Excellent compatibility with aggressive media
- Base resistance is best in class
- Steam resistance is best in class
- Outstanding compression set resistance
- Outstanding mechanical properties
- Products include O-rings, molded shapes, gask-o-seals and rubber bonded seals
- FF580-75 complies with USP Class VI

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Test Report Comparison						
	Test Method	General Purpose FFKM	Chemically Resistant FFKM	High Temp. FFKM	FF580 Results	FF582 Results
<b>Compression Set, (70 hrs. @ 446°F)</b>						
Percent of Original Deflection, max	ASTM D395 Method B	38	29	23	42	19
<b>Chemical Compatibility</b>						
<b>Fluid Immersion Butylaldehyde, (70 hrs. @ 23°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+4	+6	+5	-3	-1
Volume Change, %		0	0	0	+1	+4
<b>Fluid Immersion Ammonium Hydroxide, (70 hrs. @ 23°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+6	+8	+9	-2	+1
Volume Change, %		0	0	0	0	0
<b>Fluid Immersion Furaldehyde, (70 hrs. @ 23°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+6	+5	+7	-1	+2
Volume Change, %		0	0	0	0	0
<b>Fluid Immersion Ethylene Diamine, (70 hrs. @ 90°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	-6	-1	+5	-2	0
Volume Change, %		+24	+11	+20	+1	+1
<b>Fluid Immersion Ethylene Diamine, (168 hrs. @ 90°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	-5	0	-1	-2	+1
Volume Change, %		+44	+16	+35	+2	+2
<b>Fluid Immersion MIL-83282, (70 hrs. @ 275°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+2	+5	+7	-2	0
Volume Change, %		+1	+1	0	+1	+1
<b>Fluid Immersion MIL-83282, 168 hrs. @ 275°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+4	+5	+5	-2	0
Volume Change, %		0	+1	+1	+2	+2
<b>Fluid Immersion MIL-5606, (70hrs. @ 275°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+1	+3	+6	-4	-2
Volume Change, %		+3	+3	+3	+5	+4
<b>Fluid Immersion MIL-5606, (168 hrs. @ 275°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+4	+1	+6	-4	-1
Volume Change, %		+2	+1	+4	+6	+5
<b>Fluid Immersion Glacial Acetic, (70 hrs. @ 60°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+2	-1	+1	-5	-3
Volume Change, %		+4	+3	+1	+16	+5
<b>Fluid Immersion 50% Glacial Acetic, (70 hrs. @ 60°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+5	+6	+8	-2	+1
Volume Change, % (Average)		+3	+2	0	+11	+2
<b>Fluid Immersion Sulfuric Acid (70 hrs. @ 23°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+6	+6	+8	-2	+1
Volume Change, %		0	0	0	0	+7
<b>Fluid Immersion Nitric Acid (70 hrs. @ 23°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+5	+7	+10	0	+2
Volume Change, %		0	0	0	+1	+1

	Test Method	General Purpose FFKM	Chemically Resistant FFKM	High Temp. FFKM	FF580 Results	FF582 Results
<b>Fluid Immersion MEK (70 hrs. @ 23°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+1	0	+2	-2	-2
Volume Change, %		+1	+1	+1	+1	+4
<b>Fluid Immersion MEK (168 hrs. @ 23°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+1	+2	+1	-2	-4
Volume Change, %		+1	+1	+1	+1	+4
<b>Fluid Immersion Toluene (70 hrs. @ 23°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+4	+1	+2	-3	-1
Volume Change, %		0	+1	0	+1	+3
<b>Fluid Immersion Toluene (70 hrs. @ 168°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+1	+3	+2	-2	-2
Volume Change, %		+1	+1	+1	+1	+4
<b>Fluid Immersion NaOH 3M (70 hrs. @ 60°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+6	+7	+8	-2	+1
Volume Change, %		0	0	0	+1	+1
<b>Fluid Immersion NaOH 3M (168 hrs. @ 60°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+6	+8	+10	-2	+1
Volume Change, %		+2	0	0	+1	+1
<b>Fluid Immersion Steam (70 hrs. @ 121°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+4	+6	+5	-1	+1
Volume Change, %		0	0	0	+2	+2
<b>Fluid Immersion Steam (168 hrs. @ 121°C)</b>						
Hardness Change, Shore A pts.	ASTM D471	+4	+1	0	-4	0
Volume Change, %		+5	+7	+8	+3	+3



# Photographs Taken at 21x Magnification Before and After Ethylene Diamine 168 hrs. @ 90°C



FF580-75 before



FF580-75 after



Competitor A before



Competitor A after



High temp. FFKM before



High temp. FFKM after

## Applications:

- Valves
- Fittings
- Mechanical seals
- Process instrumentation
- Paint spray equipment