

FF252-75: FFKM FOR THERMAL AND WET SEMICONDUCTOR PROCESSING

Manufactured Without the Use of Fluorosurfactants

Ultra-clean, high-temp seals built for thermal cycling and aggressive wet processes; proudly made in the USA

Parker FF252-75 is a 75-durometer, perfluoroelastomer engineered for the demanding thermal and wet environments of semiconductor manufacturing. Now manufactured without the use of fluorosurfactants to minimize contamination risk, FF252-75 combines long-term thermal stability with exceptional chemical resistance and seal performance.



Key Features

- Manufactured without the use of fluorosurfactants in compliance with current regulatory environment
- Perfluoroelastomer chemistry for broad chemical compatibility with process fluids and solvents
- 75 Shore A durometer for robust sealing and mechanical stability
- Oxidation/diffusion black for enhanced high-temperature performance and durability
- Outstanding compression-set resistance and seal force retention under thermal cycling
- Continuous high-temperature stability for extended service life in ovens, chambers and hot process environments

Why it Matters

- Maintains seal integrity through repeated thermal cycles and wet-process exposures
- Reduces maintenance frequency and unplanned downtime by retaining sealing force and dimensional stability
- Ideal for critical seals where both thermal endurance and chemical resistance are required

Typical Applications

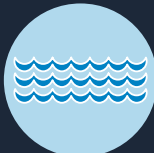
- Thermal process chamber seals and gaskets
- Wet bench O-rings, valves and fittings
- Pump and valve seals exposed to aggressive chemistries
- Any semiconductor tooling requiring clean,



Material Test Report

Test Method FF252-75		
Original Physical Properties		
Hardness, Shore A, pis.	ASTM02240	78
Tensile Strength, psi, min.	ASTM01414	1827
Ultimate Elongation, %, min.	ASTM01414	142
Specific Gravity	ASTMD297	2.3
Compression Set: 70 hrs. @ 446°F (230°C)		
Percent of Original Deflection, max	ASTM D395 Method 8	12
Compression Set: 336 hrs. @ 446°F (230°C)		
Percent of Original Deflection, max	ASTM D395 Method B	18
Compression Set: 22 hrs. @ 572°F (300°C)		
Percent of Original Deflection, max	ASTM D395 Method B	18
Compression Set: 70 hrs. @ 572°F (300°C)		
Percent of Original Deflection, max	ASTM D395 Method B	34
Compression Set: 168 hrs. @ 572°F (300°C)		
Percent of Original Deflection, max	ASTM D395 Method B	56
Compression Set: 336 hrs. @ 572°F (300°C)		
Percent of Original Deflection, max	ASTM D395 Method B	78
Compression Set: 22 hrs. @ 626°F (330°C)		
Percent of Original Deflection, max	ASTM D395 Method B	28
Compression Set: 70 hrs. @ 626°F (330°C)		
Percent of Original Deflection, max	ASTM D395 Method B	51
Dry Heat Resistance: 70 hrs. @ 554°F (290°C)		
Hardness Change, Shore A, pts.	ASTM D573	0
Tensile Strength Change, % max		-12
Ultimate Elongation Change, % max		30
Weight Loss, % max		1
Fluid Immersion: 70 hrs. @ 73°F (23°C): Fuel B		
Hardness Change, Shore A pts.	ASTM D471	0
Tensile Strength Change, % max		3
Ultimate Elongation Change, % max		9
Volume Change, % max		0
Low Temperature Resistance: (T0306075)		
TR-10, °C, max	ASTM D1329	-2

 Thermal			
Oxidation/ Diffusion	150°C-300°C 302°F-572°F	N2/O2/H2O	Static Seals: Lids Endpoint Windows Chambers Gas Inlets KF Centering Rings Flanges Quartz Chambers Bell Jars Dynamic Seals: Slit Valve Doors Mass Flow Controls Throttle Valves Isolator Valves Exhaust Valves Fittings
LPCVD	150°C-300°C 302°F-572°F	NH3	
RTR	150°C-300°C 302°F-572°F	IR Resistance/ Low Outgassing/ Thermal Stability	

 Wet			
Surface Prep, Cleaning, Rinse	25°C-125°C 77°F-257°F	UPDI, SC-1, HF, HCL	Static Seals: Lids Chemical Containers Chemical Baths Dynamic Seals: Pumps Valves Connectors Flow Meters Filters Contact Rings Thrust Plates
Wet Etching	25°C-180°C 77°F-356°F	HF, UPDI, H2SO4	
Photolithography, Developing & Rinse	25°C-125°C 77°F-257°F	nMP, H2SO4, NaOH	
Wet Strip	25°C-125°C 77°F-257°F	nMP, H2SO4, NaOH	
Copper Plating	25°C-100°C 77°F-212°F	CuSO4, H2SO4, UPDI	

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