

Parofluor MICRO V8712-75

No. 5118B1-USA

**Perfluoroelastomer with nano-filler technology offers maximum plasma resistance and ultra high purity for bonded applications.**

Parofluor MICRO V8712-75 is **the** next generation nano-filled perfluoroelastomer, increasing seal performance throughout the 200/300 mm platform and beyond.

Energized by innovative pseudo-living polymerization systems, V8712-75 maximizes value and wafer yield within the fab thru exceptional mechanical properties with minimal particulation.

**Applications**

The purity, thermal stability and broad chemical resistance of V8712-75 make it ideal for use in plasma and gas deposition processes common to semiconductor fabrication. While it can be manufactured into seals of virtually any shape and size, V8712-75 is recommended for:

- UHP Slit Valve Doors™ - Consisting of a custom-engineered ultra-high purity sealing element chemically bonded to an aluminum or stainless steel door
- UHP Gate Valve Doors™ - Similar in construction to the Slit Valve Door, this product is designed to serve as original equipment and/or as a replacement for gate doors that have reached their service limit
- Chamber seals and other composite sealing configurations

V8712-75 exhibits outstanding sealing properties in both static and dynamic applications.

**Features and Benefits**

- Nano-filler technology
- Ultra-low metal ion content
- Maximum plasma resistance
- Minimal particulation
- Ultra-high purity, very low outgassing
- Minimal weight loss
- Excellent thermal stability
- Outstanding compression set resistance



Parofluor V8712-75 is formulated for use in bonded seal configurations such as the ultra-high purity UHP Gate Valve and Slit Valve Door.

**Figure 1. Typical Physical Properties of V8712-75**

Property	Typical Results
Color	Translucent Amber
Hardness, Shore A	75
Tensile strength, MPa (psi)	8.9 (1297)
Elongation, %	243
Modulus at 100% elongation, MPa (psi)	3.4 (494)
Compression set <sup>1</sup> , 70 hours at 200°C at 25% deflection	12.5
Temperature range	-15°C to 250°C

<sup>1</sup>ASTM D395 Method B, 2-214 size o-rings.

# Parofluor MICRO V8712-75, Continued ...

Figure 2.

Recommended process applications for V8712-75:

	Process Type	Requirements
Plasma & Gas Deposition	Etching	Fluorine/Chlorine/O <sub>2</sub>
	Ashing	O <sub>2</sub> /O <sub>3</sub> /H <sub>2</sub> O
	HDPCVD/ PECVD/ CVD	TEOS/O <sub>3</sub> , SiH <sub>4</sub> /O <sub>2</sub> , NF <sub>3</sub> /C <sub>2</sub> F <sub>6</sub> /CF <sub>4</sub>
	PVD	Ar, High Vacuum
	Metal CVD	TEOS/O <sub>3</sub> , SiH <sub>4</sub> /O <sub>2</sub> , NF <sub>3</sub> /C <sub>2</sub> F <sub>6</sub> /CF <sub>4</sub> , WF <sub>6</sub> /ClF <sub>3</sub>
	Copper	TEOS/O <sub>3</sub> , SiH <sub>4</sub> /O <sub>2</sub> , NF <sub>3</sub> /C <sub>2</sub> F <sub>6</sub> /CF <sub>4</sub> , WF <sub>6</sub> /ClF <sub>3</sub>
	ALD	O <sub>2</sub> /O <sub>3</sub> /H <sub>2</sub> O, NF <sub>3</sub> /CF <sub>4</sub> , ClF <sub>3</sub>
Thermal	Oxidation/ Diffusion	N <sub>2</sub> /O <sub>2</sub> /H <sub>2</sub> O
	LPCVD	NH <sub>3</sub>
	RTP	IR Resistance, Low Outgassing, Thermal Stability

## Semiconductor Sealing Solutions

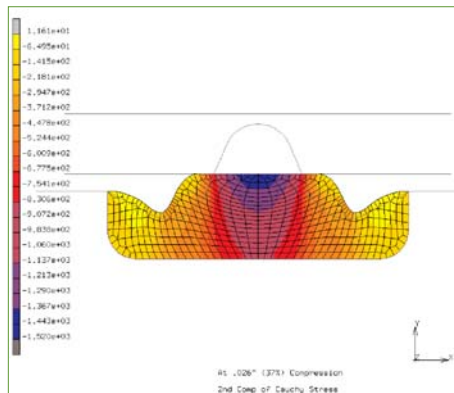
Parker Hannifin supports the semiconductor manufacturing industry with a wide range of engineered sealing products and systems, including end effectors, contact rings, flange seals and resilient metal seals. Our bonding technology can also be applied to high-performance thermoplastics for thrust plates and other applications.



Parker's selection of composite and metal sealing components and systems for the semiconductor processing industry.

## More Than Manufacturing

Parker Hannifin is a leading supplier of bonded sealing products to the semiconductor manufacturing industry. In addition to an innovative line of sealing products, we have also developed a range of customer support tools, including a dedicated product/applications engineering staff, finite element analysis (FEA) assisted seal design, and inPHorm™, a seal design and material selection software package.



At Parker, FEA-assisted engineering and other state-of-the-art tools are employed to save customers time and money.



Copyright © 2005, Parker Hannifin Corporation, Cleveland, OH. All Rights Reserved.

Parker Hannifin Corporation  
**Composite Sealing Systems Division**  
 7664 Panasonic Way  
 San Diego, CA 92154  
 Phone: (619) 661-7000 FAX: (619) 671-3202

[www.parofluor.com](http://www.parofluor.com)

