

Parofluor ULTRA™ FF356-75

CSS 5117-USA

Perfluoroelastomer for bonded applications offers maximum plasma resistance, minimal particulation

Parofluor ULTRA FF356-75 is an ultra-clean, high-performance perfluorinated elastomer material, specifically formulated for use in applications requiring rubber-to-metal bonded seals.

Applications

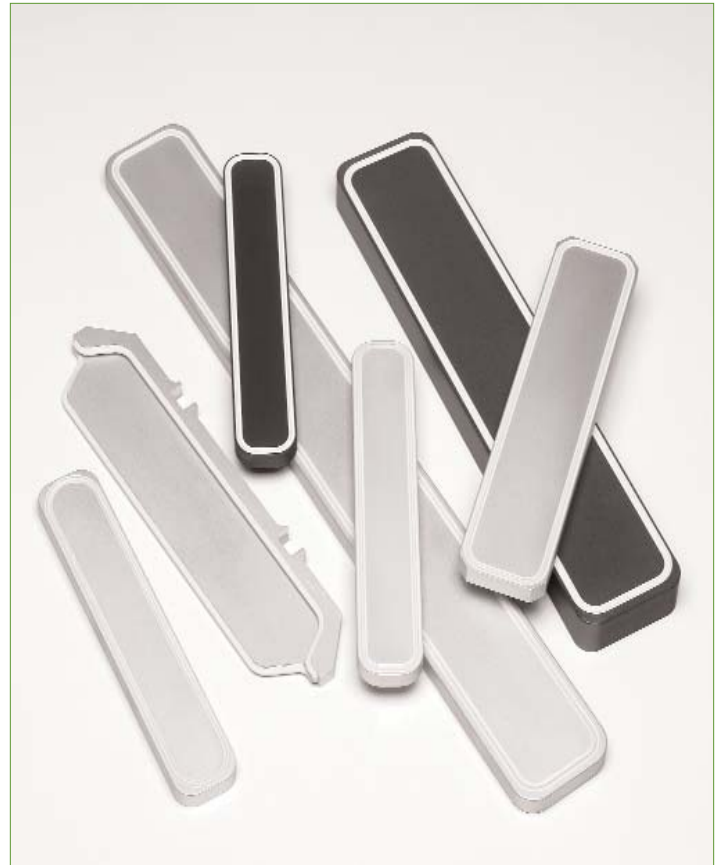
The purity, thermal stability and broad chemical resistance of FF356-75 make it ideal for use in plasma and gas deposition processes common to semiconductor fabrication. While it can be manufactured into seals of virtually any shape and size, FF356-75 is recommended for:

- 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

FF356-75 exhibits outstanding sealing properties in both static and dynamic applications.

Features and Benefits

- 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 FF356-75 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 FF356-75

Property	Typical Results
Color	White
Hardness, Shore A	77
Tensile strength, MPa (psi)	10.3 (1487)
Elongation, %	260
Modulus at 100% elongation, MPa (psi)	4.1 (591)
Compression set ¹ , 70 hours at 200°C at 25% deflection	20
Temperature range	-15°C to 316°C

¹ASTM D395 Method B, 2-214 size o-rings.

Parofluor ULTRA™ FF356-75, Continued ...

Figure 2.

Recommended process applications for FF356-75:

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

Semiconductor Sealing Solutions

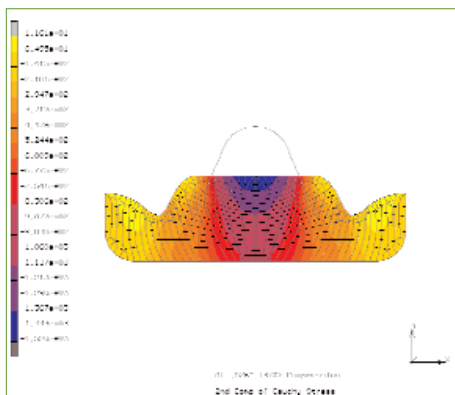
Parker Hannifin supports the semiconductor manufacturing industry with a wide range of engineered sealing products and systems, including end effectors, contact rings, flange seals and resilient metal seals. Our bonding technology can also be applied to high-performance thermoplastics for thrust plates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