

Rubber-to-Metal Bonded Seals (UHP Slit Valve & Gate Valve Doors)

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.

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

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.

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.

	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