

Chemraz® 639

Minimal Particulation and Maximum Plasma Resistance

Chemraz® 639 perfluoroelastomer is specifically developed by Greene Tweed to meet the rigorous demands of aggressive plasma systems. Its unique formulation provides enhanced plasma resistance in oxygen and fluorine plasma processes, resulting in minimal contamination, less downtime, and higher wafer processing yields. Chemraz® 639 is developed from an advanced polymer using fluoro-polymer nano-composite technology particles. Recommended for both static and dynamic dry wafer processing applications such as etch, remote plasma cleans, and deposition (CVD, HDPCVD), Chemraz® 639 remains stable at service temperatures up to 500°F (260°C).

Typical Properties	
Physical Properties	Typical
Color	Translucent Ivory
Polymer Type	Perfluoroelastomer
Specific Gravity	2.07
Hardness, Shore A*	80
Mechanical	
Tensile Strength, psi (kPa)	2800 (19305)
Elongation, %	160
Tensile Modulus, psi (kPa)	
Modulus @ 50% Elongation	625 (4309)
Modulus @ 100% Elongation	1450 (9997)
Compression Set: 70 Hours @ 204°C @ 25% Deflection, %	34
Thermal	
Service Temperature Range	-20°C to 260°C (-4°F to 500°F)

Not to be used for specification purposes.

Unless otherwise indicated, all tests are performed on AS 568A (-214) o-rings.

* Test performed on button samples.



Features and Benefits

- Exceptional plasma resistance in oxygen and fluorine environments
- Minimal particulation and surface degradation
- High purity, very low metallic ion content

Applications

- Endpoint windows
- Bell jar seals
- Valve seals
- KF fitting seals
- Window seals
- Isolator valve seals
- Lid seals
- Gas inlet seals
- Slit valve seals
- Chamber seals

Recommended Process Applications

- Deposition (CVD, PECVD, RPCVD, HDPCVD, APCVD, SACVD, DCVD)
- Dry plasma etch
- Remote plasma cleans
- Dry ashing
- Oxidation (LPCVD)/diffusion
- Metalization (CVD, PVD, sputtering, evaporation)

Note: Color variations and dark spots that might be observed in Chemraz® parts are considered cosmetic and an inherent result of the polymer curing process. They are not foreign matter and not anticipated to adversely affect the performance of the part in service. Please contact a Greene Tweed applications engineer for additional information.

Contact Us

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