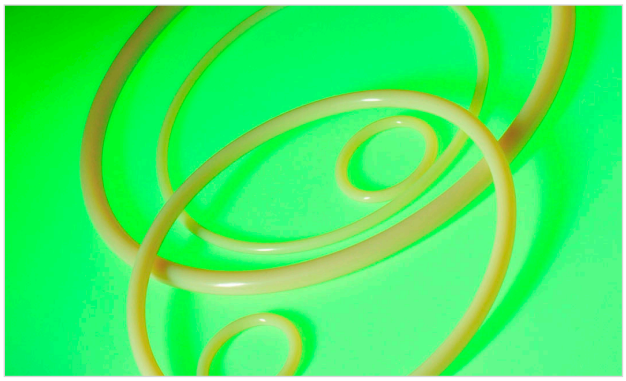
CHEMRAZ® 639

Minimal Particulation and Maximum Plasma Resistance

SEALING SOLUTIONS

Chemraz® 639 perfluoroelastomer is specifically developed by Greene, Tweed to meet the rigorous demands of aggressive plasma systems. This product's 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 utilizing fluoropolymer nano-composite technology particles. Recommended for both static and dynamic dry wafer processing applications such as etch, remote plasma cleans, and deposition (CVD, HDPCVD, etc.), Chemraz 639 remains stable at service temperatures up to 260ºC (500°F).



FEATURES & 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)

TYPICAL PROPERTIES*

Physical	Typical Value
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 @ 204ºC @ 25% Deflection, %	34
Thermal	
Service Temperature Range	-20ºC to 260ºC (-4°F to 500°F)

* Note: Unless otherwise indicated, all tests are performed on AS 568A (-214) O-rings.

Statements and recommendations in this publication are based on our experience and knowledge of typical applications of this product and shall not constitute a guarantee of performance nor modify or alter our standard warranty applicable to such products.

Prior to actual use it is recommended compatibility tests be run to determine suitability in a specific application. This is critical where failure could result in injury or damage. A regular program of inspection and replacement should be implemented. Greene, Tweed technical personnel are available to help with a recommendation.

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chemraz® 639 / product data

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