

Chemraz® 640

Minimal Particulation and Maximum Plasma Resistance

Chemraz® 640 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® 640 is recommended for both static and dynamic, wet and dry wafer processing applications such as etch, remote plasma cleans, and deposition (CVD, HD-PCVD). Chemraz® 640 remains stable at service temperatures up to 554°F (290°C).



Typical Properties	
Physical Properties (ASTM Standard)	Typical
Color	Brown
Polymer Type	Perfluoroelastomer
Specific Gravity (D297)	2.08
Hardness, Shore A* (D2240)	80
Mechanical (ASTM Standard)	
Tensile Strength, psi (kPa) (D1414)	1735 (11962)
Elongation, % (D1414)	165
Tensile Modulus, psi (kPa)	
Modulus @ 50% Elongation (D1414)	650 (4482)
Modulus @ 100% Elongation (D1414)	1115 (7688)
Compression Set: 70 Hours @ 204°C @ 25% Deflection, % (D395)	25
Thermal	
Service Temperature Range	-4°F to 554°F (-20°C to 290°C)

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.

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.

Features and Benefits

- Exceptional plasma resistance in oxygen and fluorine environments
- Minimal particulation and surface degradation
- High purity, very low metallic ion content
- Extended performance and added reliability in wet and dry applications

Applications

- Endpoint windows
- Valve seals
- Isolator valve seals
- Lid seals
- Gas inlet/outlet seals
- Slit valve seals
- Chamber seals
- Gasket seals
- Dispensing seals
- Regulator seals
- Filler seals

Recommended Process Applications

- Deposition (CVD, PECVD, RPCVD, HDPCVD, APCVD, SACVD, DCVD)
- Dry plasma etch
- RTP/diffusion
- Remote plasma cleans
- Oxidation (LPCVD)
- Wet etch (acid, base)
- Wet stripping (solvents)
- Wet cleaning (UPDI)
- Wet metal plating
- Electro chemical deposition
- Dry ashing

Contact Us

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