CHEMRAZ® 640

Minimal Particulation and Maximum Plasma Resistance

HIGH TEMPERATURE MATERIAL

Chemraz® 640 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 640 is recommended for both static and dynamic, wet and dry wafer processing applications such as etch, remote plasma cleans, and deposition (CVD, HDPCVD, etc.) Chemraz 640 remains stable at service temperatures up to 554ºF (290ºC).

FEATURES & 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

TYPICAL PROPERTIES*

Physical	ASTM Method	Typical Value
Color		Brown
Polymer Type		Perfluoroelastomer
Specific Gravity	D297	2.08
Hardness, Shore A	D2240	80
Mechanical		
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 @ 204ºC @ 25% Deflection, %	D395	25
Thermal		
Service Temperature Range		-4ºF to 554ºF (-20ºC to 290ºC)

* Note: Unless otherwise indicated, all tests are performed on (-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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RECOMMENDED PROCESS APPLICATIONS

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