CHEMRAZ® XRZ

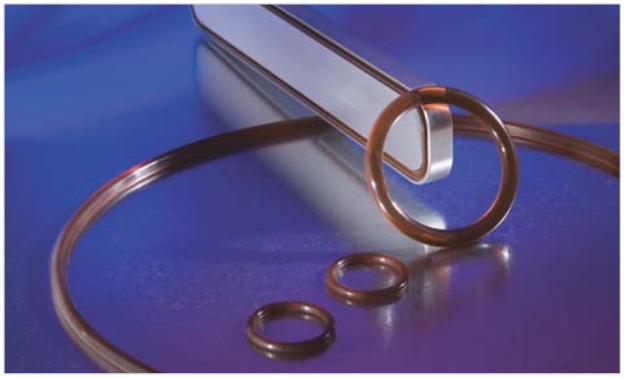
Plasma Resistance for Corrosive Environments

INCREASED SEAL INTEGRITY

Chemraz® XRZ, a perfluoroelastomer, is specifically developed to exceed the most rigorous demands of aggressive insitu NF_3 plasma cleaning. Chemraz XRZ withstands the application challenges typically found in HDPCVD (High Density Plasma Chemical Vapor Deposition), PECVD (Plasma Enhanced CVD) and newer PEALD (Plasma Enhanced Atomic Layer Deposition) process chambers. Because of its unique molecular composite structure, Chemraz XRZ provides the highest plasma resistance available to fluorine plasma processes, resulting in minimal contamination. This leads to increased seal integrity and longer seal lifetimes, reducing downtime and driving higher wafer processing yields. Chemraz XRZ can be used for both static and semi-dynamic dry wafer processing applications such as etch, deposition (CVD, HDPCVD, PEALD, etc.) and remote plasma cleans. Chemraz XRZ remains stable at operating temperatures up to 300ºC (572ºF) while maintaining exceptional compression set.

FEATURES & BENEFITS

- Outstanding plasma resistance in highly corrosive fluorine environments with minimal seal degradation
- Excellent surface resistance for minimal particulation and sealing integrity
- High purity for minimal contamination risk
- Minimal compression set at elevated temperatures ensures seal integrity
- Extended equipment uptime with added reliability in dry applications



APPLICATIONS

- Chamber seals
- Endpoint windows
- Gas inlet/outlet seals
- Gate valve seals
- Isolator valve seals
- Reactant delivery system seals
- Reaction chamber lid seals
- Slit valve seals

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.

Contact Us

Greene, Tweed
Semiconductor
Kulpsville, PA, USA

Tel: +1.215.256.9521
Fax: +1.215.256.0189

Our Distributor

Banner Industries
High Purity Flow
Component Distribution
USA & Asia Pacific

Tel: +1.800.705.0016
Web: www.bannerindustries.com

RECOMMENDED PROCESS APPLICATIONS

- Deposition (CVD, PECVD, HDPCVD, PEALD)
- Plasma etch (fluorine species)
- Remote fluorine plasma cleans

TYPICAL PROPERTIES*		
Physical	**ASTM Method**	**Typical Value**
Color		Translucent brown
Polymer Type		Perfluoroelastomer
Specific Gravity	D792	2.05
Hardness, Shore A**	D2240	67
Hardness, Shore M	D1414 D2240	72
Mechanical		
Tensile Strength, psi (kPa)	D1414 D412	1250 (8618)
Elongation, %	D1414 D412	255
Tensile Modulus @ 100% Elongation, psi (kPa)	D1414 D412	250 (1723)
Compression Set @ 25% Deflection, % 70 hours @ 300ºC 168 hours @ 300ºC	D1414 D395	 17 31
Thermal		
Maximum Service Temperature***		300ºC (572ºF)

* Note: Unless otherwise indicated, all tests are performed on AS 568A (-214) O-rings.
** Note: Test performed on button samples.
*** Note: Consult GT for proper design guidelines in applications that exceed 250°C (482°F)

Collaborative innovation from GREENE, TWEED & CO., INC. and DAIKIN INDUSTRIES, LTD.