

CHEMRAZ[®] XPE

Provides Superior O₂ Plasma Resistance to Protect Critical Components

ADVANCED ELASTOMER RESISTS BREAKDOWN

Protection against oxygen-infused plasma is key in many etch chamber environments. These harsh environments often break-down non-resistant materials, causing harmful particulation and, ultimately, defective chips.

Greene, Tweed's Chemraz[®] XPE is highly resistant to O₂ plasma and can be used in a wide range of applications, such as slit valve doors, reaction chamber lid seals, and gate valve seals. This advanced elastomeric material offers the semiconductor and solar industry an alternative to legacy products that quickly erode in the oxygen environment. With excellent resistance to both O₂ and CF₄ plasmas, this material affords an increased chip yield and maximized production. In addition, XPE seals provide customers with an increased MTBR (mean time between repair) to reduce downtime and maintenance costs.

FEATURES & BENEFITS

- High temperature capability enables future technology and next generation applications
- Superior O₂ plasma resistance resulting in improved product integrity
- High CF₄ plasma resistance
- Reduced product weight loss
- Decreased maintenance and replacement requirements
- Excellent compression set performance

APPLICATIONS

- Chamber and slit valve seals
- Endpoint windows
- Gas inlet/outlet seals
- Gate and isolator valve seals
- Reactant delivery system seals
- Reaction chamber lid seals



Chemraz XPE seals

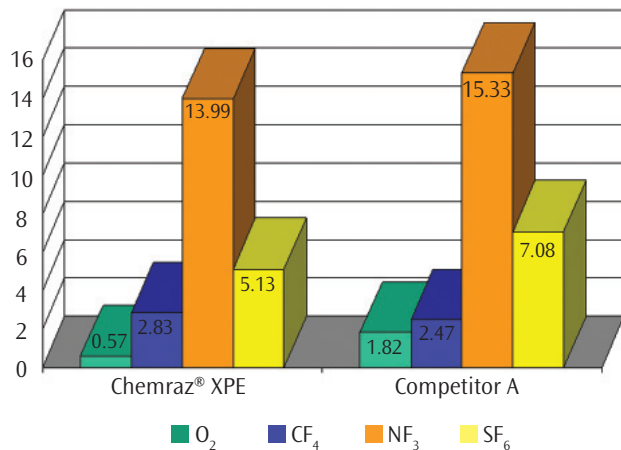
TYPICAL PROPERTIES*

Physical	ASTM Method	Typical Value
Color		Gray
Polymer Type		Perfluoroelastomer
Specific Gravity	D792	2.13
Hardness, Shore A**	D2240	73
Hardness, Shore M	D2240	76
Mechanical		
Tensile Strength, psi (kPa)	D1414	1,924 (13,270)
Elongation, %	D1414	223
Tensile Modulus @ 100% Elongation, psi (kPa)	D1414	526 (3,627)
Compression Set @ 25% Deflection, %	D395	
– 70 hours @ 204°C (399°F)		15
– 70 hours @ 240°C (464°F)		22
Thermal		
Maximum Service Temperature		280°C (536°F)

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

**Note: Test performed on button samples.

PLASMA WEIGHT LOSS COMPARISON

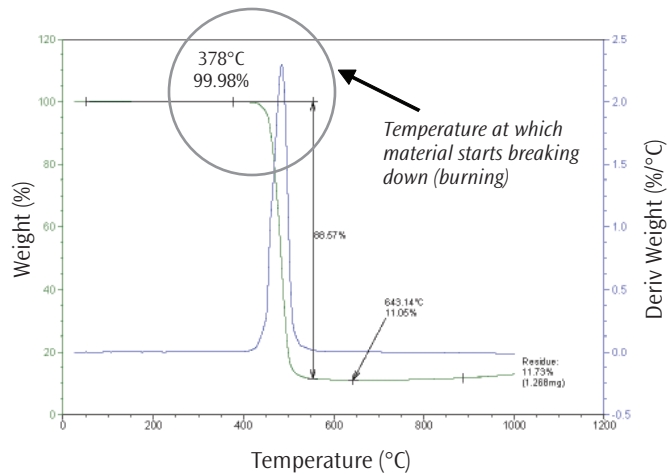


Chemraz® XPE, collaborative innovation from GREENE, TWEED & CO., INC., and DAIKIN INDUSTRIES, LTD.

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.

THERMO GRAVIMETRIC ANALYSIS



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

 **Banner Industries**