



CHEMRAZ[®] XPE-HP

Provides Superior O₂, Ozone, and UV Resistance for Increased MTBC

ADVANCED COMPOUND RESISTS DECOMPOSITION

As etch and deposition wafer processing operations utilize more diverse chemistries to maintain control of critical features typical of 3D architectures and devices, the sealing environment demands increase as well. These harsh environments often break down materials, causing harmful particulation and reduced wafer process equipment productivity.

Greene Tweed's Chemraz[®] XPE-HP leverages an advanced perfluoro-elastomer formulation which is highly resistant to O₂ plasma, ozone, and UV environments, and stands up to fluorine-based plasmas like CF₄ and NF₃.

Chemraz XPE-HP offers the semiconductor industry an alternative to products that quickly erode and particulate in advanced wafer processing operations. With superior resistance to both radical oxygen and fluorine environments, this material affords increased chip yield and MTBC (Mean Time Between Cleans).

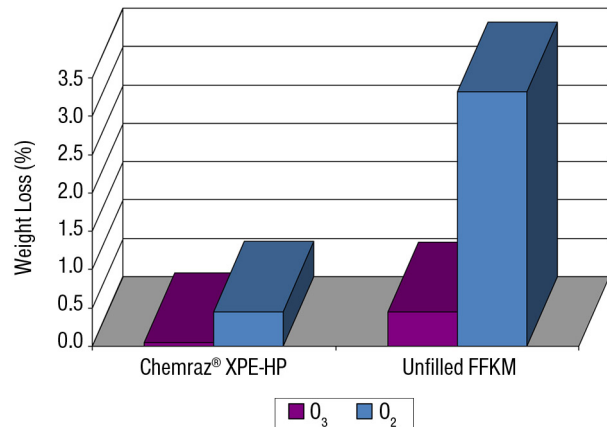
FEATURES & BENEFITS

- High UV and ozone resistance enables next generation process technology insertions
- Superior O₂ plasma resistance results in improved product integrity
- High temperature capability
- Reduced erosion and particulation
- Decreased maintenance and replacement requirements
- Excellent compression set



Chemraz XPE-HP seals

WEIGHT LOSS COMPARISON



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



TYPICAL PROPERTIES*		
Physical	ASTM Method	Typical Value
Color		Gray
Polymer Type		Perfluoroelastomer
Specific Gravity	D792	2.18
Hardness, Shore A**	D2240	80
Hardness, Shore M	D2240	86
Mechanical		
Tensile Strength, psi (MPa)	D1414	2,000 (13.8)
Elongation, %	D1414	180
Tensile Modulus @ 100% Elongation, psi (MPa)	D1414	760 (5.2)
Compression Set @ 20% Deflection, %	D395	
– 70 hours @ 200°C (392°F)		24
– 70 hours @ 240°C (464°F)		34
Thermal		
Maximum Service Temperature		300°C (572°F)

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

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

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Contact Us

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