

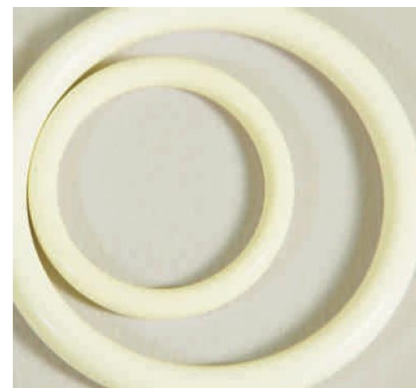
Technical Datasheet

High Temperature Perfluoroelastomer for Plasma Applications

PERFREZ[®] 6022 is specially developed to handle aggressive oxygen and fluorine based plasma while generating minimum particles.

Features and Benefits

- Superior physical properties
- High temperature capabilities
- Excellent oxygen and fluorine compatibility
- Low particulation
- Low out-gassing



Semiconductor Applications

- Deposition: CVD, APCVD,
- HDPCVD, RPCVD, SACVD
- Plasma Etch: oxide and metal
- Ashing
- Ion Implant
- RTP
- Lamp Anneal
- Diffusion

Applications:

- Bell Jar Seals
- Chamber Lid Seals
- Door Seals
- End Point Windows
- Gas Inlet Seals
- Isolator Valve Seals
- KF-Fittings
- Slit Valves
- Window Seals



Typical Physical Properties

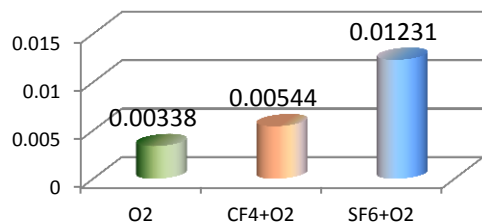
Color	Off-white	
PROPERTIES	ASTM	VALUE
Hardness, (Shore A)	D2240	80 -/+5
Tensile Strength psi, (MPa), min	D1414	3147 (21.83)
Elongation, %, min **	D1414	161
Modulus at 100% psi, (MPa), min	D1414	2111 (14.66)
Minimum Operating Temperature	-20°C (-4°F)	
Maximum Operating Temperature	280°C (536°F)	

****EVEN THOUGH ELONGATION PROPERTY IS INDICATED, MOST PERFLUROELASTOMER MATERIALS SHOULD NOT BE STRETCHED FOR OPTIMAL PERFORMANCE.**

Note: color variations may be observed in parts. Variations are considered to be cosmetic and inherent as a result of curing process, not indicative for foreign matter and is not expected to have an adverse effect on the performance of the part in service.

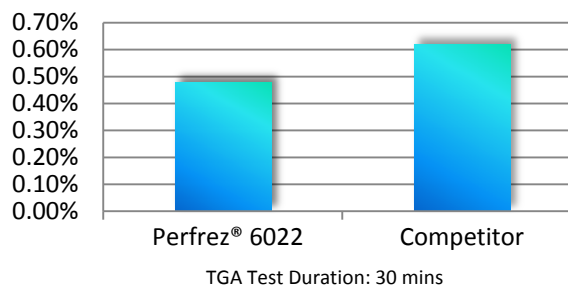
Material Performance

Weight Loss in Direct Plasma Exposure



Test conditions: Direct plasma at 300 watts
 Pressure@335mtorr, Gas Flow@ 40sccm O₂
 Pressure@378mtorr, Gas Flow@ 5sccm O₂ and @35sccm CF₄
 Pressure@370mtorr, Gas Flow@ 5sccm O₂ and @35sccm SF₆
 (Time@ 60 minutes, Power@30 watts)

Weight Loss at 350°C



PERFREZ® 6022 Elemental Analysis:

Leachable 30 Elements by ICP-MS in Piranha

Element	Units: ppb (ng/g)	Element	Units: ppb (ng/g)
Aluminum (Al)	3.3	Magnesium (Mg)	2.3
Antimony (Sb)	*	Manganese (Mn)	*
Arsenic (As)	*	Molybdenum (Mo)	*
Barium (Ba)	1.9	Nickel (Ni)	*
Beryllium (Be)	*	Niobium (Nb)	*
Bismuth (Bi)	*	Potassium (K)	*
Boron (B)	*	Rubidium (Rb)	*
Cadmium (Cd)	*	Sliver (Ag)	*
Calcium (Ca)	14	Sodium (Na)	25
Chromium (Cr)	*	Strontium (Sr)	*
Cobalt (Co)	*	Tantalum (Ta)	*
Copper (Cu)	0.2	Thallium (Tl)	*
Gallium (Ga)	*	Tin (Sn)	*
Germanium (Ge)	*	Titanium (Ti)	*
Gold (Au)	*	Vanadium (V)	*
Iron (Fe)	1.4	Zinc (Zn)	11
Lead (Pb)	0.2	Zirconium (Zr)	*
Lithium (Li)	*		



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