




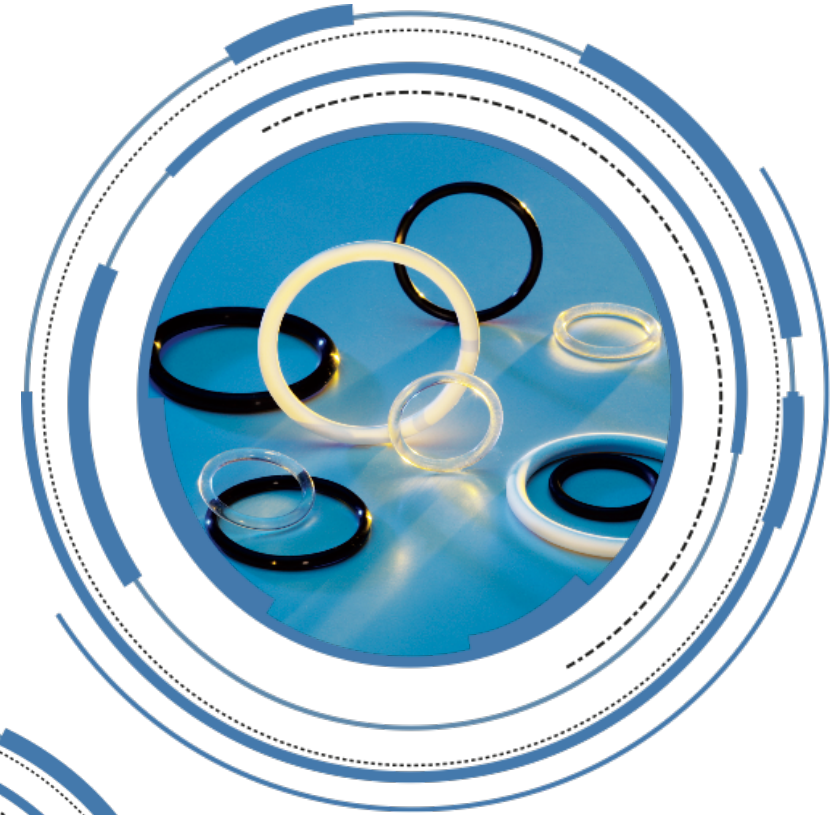
# SEALING SOLUTIONS

**GBS**  
singapore

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# PRODUCT OFFERING FOR SEMICONDUCTOR INDUSTRY

- Superior® FFKM and Special FKM O-rings
- FKM, FVMQ, VMQ, NBR, EPDM, PTFE and Disogrin®
- (Polyurethane)  Bonded Gates
- Magnetic Fluid Vacuum Seals
- Welded Edge Bellows
- Metal Seals
- Rotary Shaft Seals
- Mechanical Seals
- Radial Shaft Seals, Piston Seals, Rod Seals
- Cryogenic Pump Seals



# MATERIAL FOR SEMICONDUCTOR SEALS

- Perfluoroelastomer FFKM
  - **301F Violet**
  - 486 White
  - 508 White
  - 495 Black
  - 498 Black
- Silicone VMQ
  - Various
- Fluorosilicone FVMQ
  - Various
- Hydrogenated Nitrile HNBR
  - Various
- Super Fluorinated FKM (proprietary/patented cure)
  - **F815 Black Translucent**
  - **KH001 Green (New)**
  - FP64 Black
  - **SF242 Brown**
  - **SF241 Brown**
- Extreme FKM
  - **CV75WH White**
  - **CV75 Black**
- Fluoroelastomer FKM
  - **V75 Black**
  - **V75WH White**
  - **V75BR Brown**

# EKKSC SUPERIOR MATERIAL

Superior® 301F is specifically designed as an exceptionally clean unfilled FFKM for high temperature plasma applications and has excellent chemical compatibility in wet environments. '

- Excellent plasma resistance
- Low particulation and extractables in a wide range of plasma, acid, and solvent environments.
- Unmatched compression set and high temperature performance for an unfilled FFKM.



Physical Properties		Superior® 301F
Material Type		FFKM - Unfilled
Color		Violet
Hardness,	Duro-A	67
Tensile Strength, Mpa	MPa	16.9
100% Modulus, Mpa	MPa	3.4
Ultimate Elongation	%	214
Compression Set	70 hrs @ 200° C	16.3
Compression Set, 70 hrs @ 250° C	70 hrs @ 250° C	13.1
Compression Set, 70 hrs @ 275° C	70 hrs @ 275° C	17.8
Compression Set, 70 hrs @ 300° C	70 hrs @ 300° C	10.3
Total OutGassing,	250° C, ppm	3.7
Plasma Weight Loss %	1800W ICP, 20 hrs, 0.15 Torr, O2	0.39
Stainless Steel Adhesion Testing: 24 hours @ 25% compression and 24 hours rested before load tearing	24 hrs @ 100°C	154N
	24 hrs @ 150°C	307N
	24 hrs @ 200°C	341N

TM by ICP-MS for Selected Elements in Polymer Material (3/27/2018)			
Element	RL	Units	
Aluminum (Al)	1	ppb (ng/g)	460
Barium (Ba)	1	ppb (ng/g)	9
Beryllium (Be)	10	ppb (ng/g)	*
Bismuth (Bi)	10	ppb (ng/g)	*
Cadmium (Cd)	1	ppb (ng/g)	*
Calcium (Ca)	10	ppb (ng/g)	780
Cesium (Cs)	1	ppb (ng/g)	*
Chromium (Cr)	5	ppb (ng/g)	67
Cobalt (Co)	1	ppb (ng/g)	2
Copper (Cu)	5	ppb (ng/g)	74
Gallium (Ga)	1	ppb (ng/g)	*
Indium (In)	1	ppb (ng/g)	4
Iron (Fe)	10	ppb (ng/g)	370
Lead (Pb)	1	ppb (ng/g)	3
Lithium (Li)	1	ppb (ng/g)	*
Magnesium (Mg)	1	ppb (ng/g)	8100
Manganese (Mn)	1	ppb (ng/g)	6
Molybdenum (Mo)	5	ppb (ng/g)	*
Nickel (Ni)	1	ppb (ng/g)	32
Potassium (K)	10	ppb (ng/g)	7900
Rubidium (Rb)	1	ppb (ng/g)	*
Silver (Ag)	10	ppb (ng/g)	*
Sodium (Na)	5	ppb (ng/g)	1000
Strontium (Sr)	1	ppb (ng/g)	5
Thorium (Th)	10	ppb (ng/g)	*
Tin (Sn)	10	ppb (ng/g)	90
Titanium (Ti)	10	ppb (ng/g)	150
Vanadium (V)	1	ppb (ng/g)	*
Zinc (Zn)	10	ppb (ng/g)	80
Zirconium (Zr)	10	ppb (ng/g)	*



## QUESTIONS? LET US KNOW!

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