

# VALQUA Semiconductor Industry Products

## FLUORITZ™-SB

High Performance Elastomer FFKM O-Ring

### ❖ Product & Benefits

**FLUORITZ™-SB** is a high purity black perfluoro elastomer which has an excellent resistance against strong plasma and chemicals such as amine, ketone, and alkaline. Fluoritz-SB has excellent purity and extremely low amount of element elution/bleeding.



### ❖ Featured Benefits

- High purity
- Excellent chemical & plasma resistance
- Extremely low elution of metal elements such as fluoride ions, iodine ions, and Total Organic Carbon

### ❖ Applications

- Locations requiring Plasma, laser, ion beam resistance
- Excellent for acid, alkaline, keton, and ester applications
- Excellent for wet applications

### ❖ Contact Us

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### ❖ Typical Properties

Color	Black
Hardness (Shore A)	77
Tensile Strength (MPa)	17.9
Elongation (%)	160
Modulus 100% Elongation (MPa)	8.1
Maximum Temperature (°C)	200
Compression Set (%)	44

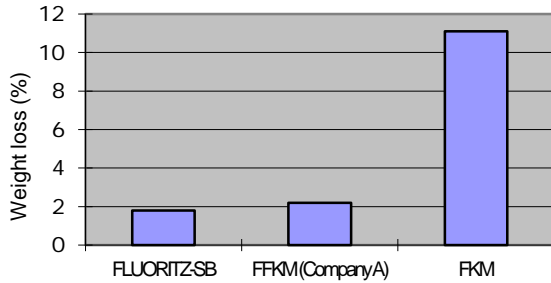
*Compression Set: 25% compression at 200°C for 70 hours  
Size of sample: AS568-214  
Values above are actual measurements, not standards*

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# Additional information FLUORITZ™-SB

## ❖ Material Properties

### Plasma Resistance (Weight Loss)



Plasma Power: RF500W Gas Ratio: O<sub>2</sub>:CF<sub>4</sub>=9:1 Irradiation Time: 3 hrs

### Heat Resistance (Property Changes)

FLUORITZ-SB	
<b>200°C x 70hrs</b>	
Hardness (Shore A)	-3
Tensile Strength (%)	-4
Elongation (%)	±0
<b>200°C x 336hrs</b>	
Hardness (Shore A)	-3
Tensile Strength (%)	-26
Elongation (%)	±0

### Chemical Resistance (Volume Change)

Chemical Category	Chemical	Test Condition	Rating
Acid	HCl (10%)	40°C x 168 hrs.	A
	H <sub>2</sub> SO <sub>4</sub> (97%)	40°C x 168 hrs.	A
	HF (60%)	23°C x 168 hrs.	A
Alkali	NaOH (20%)	100°C x 168 hrs.	A
	NaOH (50%)	23°C x 168 hrs.	A
	NH <sub>4</sub> OH (30%)	23°C x 168 hrs.	A

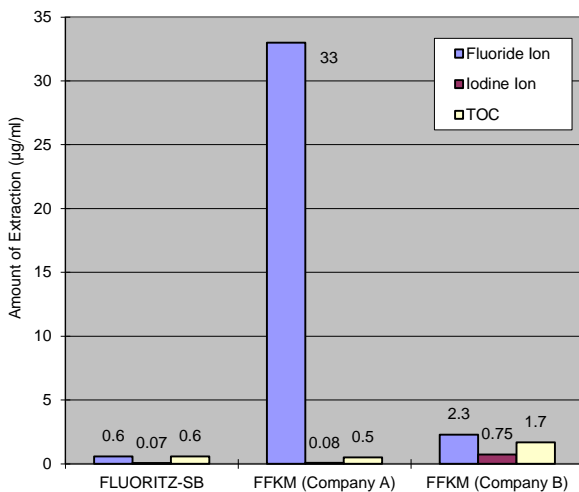
Chemical Category	Chemical	Test Condition	Rating
Alcohol	Methanol	40°C x 168 hrs.	A
	IPA	23°C x 168 hrs.	A
Ketone	Acetone	23°C x 168 hrs.	A
Ester	Butyl acetate	23°C x 168 hrs.	A
Hydrocarbon	Benzene	40°C x 168 hrs.	A
Amine	Dimethylamine	40°C x 168 hrs.	A

A: Volume change rate < 5%    B: Volume change rate 5-20%    C: Volume change rate 20-50%    D: Volume change rate > 50%

The list above is a partial list of chemicals. For questions on resistance for other chemicals please contact Valqua.

## ❖ Material Purity

### Amount of Extracted Fluoride Ion, Iodine Ion, and Total Organic Carbon



Ultra Pure Water (80°C x 30 days)

### Amount of Extracted Metal

Ultra pure water (80°Cx30days) (ng/ml)

Metallic Elements	FLUORITZ-SB	FFKM (Company A)	FFKM (Company B)
Na	4.3	2.1	0.5
K	2.3	1.8	<0.5
Ca	0.5	0.9	<0.5
Mg	1.3	0.6	<0.5
Al	0.8	9.8	18
Fe	2.4	3.4	0.6
Cu	<0.5	<0.5	<0.5
Pb	<0.5	<0.5	<0.5
<b>Total</b>	<b>&lt;12.6</b>	<b>&lt;19.6</b>	<b>&lt;21.6</b>

Hydrofluoric acid (25°Cx30days) (ng/ml)

Metallic Elements	FLUORITZ-SB	FFKM (Company A)	FFKM (Company B)
Na	1.8	1.6	1.3
K	1.4	2.8	0.4
Ca	0.8	0.6	0.5
Mg	0.9	0.3	0.7
Al	1.0	13	21
Fe	5.6	5.8	3.5
Cu	<0.5	<0.5	<0.5
Pb	<0.5	<0.5	<0.5
<b>Total</b>	<b>&lt;12.5</b>	<b>&lt;25.1</b>	<b>&lt;28.4</b>



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