

## Material Profile: Simriz® 489

Simriz 489 was specifically developed for high temperature plasma applications and excellent chemical compatibility in wet environments. Simriz 489 offers excellent plasma resistance and the lowest particulation and extractables in a wide range of plasmas, acids and solvents environments.

### Features and Benefits

- High temperatures capabilities
- Excellent plasma resistance
- Lowest particulation
- Wide chemical resistance
- Cost-effective

### Recommended Dry Processes

- Deposition: LPCVD, CVD, APCVD, HDPCVD, PECVD, RPCVD, SACVD
- Plasma etch: oxide and metal
- Ashing
- Metalization: PVD, evaporation, sputtering
- Ion Implant
- RTP
- Oxidation
- Diffusion
- Lamp Anneal

### Recommended Wet Processes

- Water preparation, cleaning and rinsing
- Etching
- Stripping
- Copper Plating

### Equipment Locations

- Chamber Lid Seals
- Endpoint Windows
- Gas Inlet Seals
- KF Fittings
- Fittings
- Filters
- Pumps
- Chemical Containers
- Connectors
- Bell Jar Seals
- Door and Lid Seals
- Drain Seals
- Window Seals
- Slit Valve Seals
- Isolator Valve Seals
- Valve Seals
- Flow Meters



Clear Perfluoroelastomer  
Service Temperature Range: - 6 to 280°C

### Typical Physical Properties

Color	Clear
Hardness, Shore A	69
Tensile Strength, psi (MPa)	1960 (13.5)
Elongation	235%
Modulus at 100% Elongation, psi (MPa)	390 (2.7)
Compression Set: 70 hrs. at 250°C	20%
Service Temperature Range, °C (°F)	-6 to 280 (21 to 536)

NOTE - International Seal, Co. (ISC) is a wholly owned subsidiary of Freudenberg-NOK.

The information contained herein is believed to be reliable, but no representation, guarantees or warranties of any kind are made to its accuracy or suitability for any purpose. The information presented herein is based on laboratory testing and does not necessarily indicate end product performance. Full scale testing and end product performance are the responsibility of the user.

Pub#25141PIC  
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## Material Properties: Simriz® 489 (FFKM)

NOTE - All testing done on AS568-214 size O-rings

Temperature Range: 0°C to +230°C

Simriz® 489 offers outstanding chemical and solvent resistance including compatibility to semiconductor processing chemicals. It also exhibits excellent heat resistance up to 230°C.

Original Properties	Simriz 489
Color	Clear
Hardness, Shore A, ASTM D2240	69
Tensile Strength, Mpa, ASTM D1414	13.5
Tensile Strength, psi, ASTM D1414	1960
% Elongation change, ASTM D1414	235
100% Modulus, Mpa, ASTM D1414	2.7
100% Modulus, psi, ASTM D1414	390
Low Temperature Retraction, ASTM D1329	
TR-10, degrees C	0
Compression Set, ASTM D395 Method B and ASTM D1414	
% Permanent Set, 70 hrs. at 250°C	25
% Permanent Set, 70 hrs. at 250°C	28
Water Bomb fluid immersion, ASTM D471, 70 hrs. at 200°C	
% Volume change, ASTM D471	+1.0

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