

## Material Profile: Simriz® 486

Simriz 486 was specifically developed to be a cost-effective, high-performance compound for semiconductor applications. Simriz 486 offers excellent plasma resistance and low particulation in a wide range of plasma environments.

### Features and Benefits

- Excellent plasma resistance
- Minimum particulation
- Wide chemical resistance
- High physical properties
- Cost-effective

### Recommended Processes

- Deposition: CVD, APCVD, HDPCVD, PECVD, RPCVD, SACVD
- Plasma etch: oxide and metal
- Ashing
- Metalization: PVD, evaporation, sputtering
- Ion Implant



White Perfluoroelastomer  
Service Temperature Range: - 7 to 230°C

### Equipment Locations

- Chamber Lid Seals
- Bell Jar Seals
- Endpoint Windows
- Gas Inlet Seals
- Isolator Valve Seals
- KF Fittings
- Slit Valve Seals
- Valve Seals
- Window Seals

### Typical Physical Properties

Color	White
Shore A Durometer	75
Tensile Strength, psi (MPa)	2620 (18.0)
Elongation	190%
Modulus at 100% Elongation, psi (MPa)	1230 (8.5)
Compression Set: 70 hrs. at 200°C	25%
Service Temperature Range, °C (°F)	-7 to 230 (20 to 446)

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.

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## Material Properties: Simriz® 486 (FFKM)

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

NOTE - Certified to USP Class VI. Typical application environments for Simriz 486 O-Rings are aggressive dry process chemistries, including reactive plasms. Simriz 486 exhibits excellent heat resistance to 220°C. Simriz 486 also offers excellent chemical and solvent resistance.

Original Properties	Simriz 486
Color	White
Hardness, Shore A, ASTM D2240	76
Tensile Strength, MPa, ASTM D1414	18.0
Tensile Strength, psi, ASTM D1414	2610
Ultimate Elongation, %, ASTM D1414	190
100% Modulus, MPa, ASTM D1414	8.5
100% Modulus, psi, ASTM D1414	1232
Compression Set, ASTM D1414 and ASTM D395 Method B, AS568-214 size O-rings, 70 hrs. at 200°C	
% Permanent Set	25
Water Bomb Immersion, ASTM D471, 70 hrs. at 200°C	
Volume Change, %	+5.9
Low Temperature Glass Transition Temperature, ASTM D3418	
DSC Tg, C	-7C
Plasma Testing, Oxygen, 120 min. at 300W	
% Weight Loss	0.41
Particles Generated, 0.3 - 5 micron (x10 <sup>6</sup> cm sq)	2300

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