FFKM SIMRIZ®
HIGH PERFORMANCE MATERIAL
IN EXTREME CONDITIONS
Simriz® 498 is the ultimate FFKM material outperforming every other FFKM material on the market. Its unique patented material structure provides an outstanding long-term performance in nearly every environment. No matter if it’s extreme temperatures up to 325°C or harsh chemicals or even overheated steam and hot water, Simriz® 498 is the best match. Withstanding such extreme conditions combined with a cost efficient structure, Simriz® 498 defines a new era in the global O-ring market.

**BENEFITS**

- Superior long-term performance in extreme temperatures
- Broad resistance in a wide range of harsh chemical environments
- Outstanding performance in steam and hot water
- Cost efficient

![Graph showing chemical resistance and high thermal resistance](image)
PERFLUOROELASTOMER
(FFKM) SEALS

DESIGNED FOR THERMAL STABILITY AND NEARLY UNIVERSAL PROTECTION AGAINST CHEMICAL ELEMENTS, FREUDENBERG'S PROPRIETARY FAMILY OF SIMRIZ® PERFLUOROELASTOMER COMPOUNDS OFFER PREMIER SEALING PERFORMANCE.

### Superior Thermal Resistance

Simriz® perfluoroelastomers provide unique sealing solutions for numerous aerospace applications. Simriz® 498 and Z7257 were developed for high-temperature aerospace applications like jet engines and APUs. Simriz® 498 offers superior compression set resistance at temperatures to 325°C, with performance far exceeding any competitive materials. Simriz® 498 exhibits heat resistance to 325°C. Simriz® 498 and Z7257 meet the AMS7257 specifications and are compatible with Mobil Jet Oil 254 and BP Turbo Oil 2197.

<table>
<thead>
<tr>
<th>Material Property</th>
<th>Simriz® Compound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>134</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>black</td>
</tr>
<tr>
<td><strong>Hardness, Shore A</strong></td>
<td>90</td>
</tr>
<tr>
<td><strong>Temp. Range in °C</strong></td>
<td>15°C to +230°C</td>
</tr>
<tr>
<td><strong>Tensile Strength (psi)</strong></td>
<td>3,118</td>
</tr>
</tbody>
</table>

**SIMRIZ® 501**
The newly developed Simriz® 501 is designed to exceed the requirements of AMS7257. It offers superior O-ring lifetime and reliability.

- AMS 7257 (QPL listed)
- Excellent resistance against inorganic and organic acids

**SIMRIZ® Z7257**
Simriz® Z7257 is well known in the aerospace engine market. It offers extensive flight testing in high temperature aerospace applications.

- AMS 7257 (QPL listed)
- Resistance to splitting at high squeeze under high temperatures
Simriz® perfluoroelastomer compounds accommodate a wide variety of industrial sealing requirements and are also available in custom-molded shapes. For chemical processing and other heavy industrial applications, Simriz® 495 and 498 demonstrate excellent chemical compatibility in demanding environments. At very low temperatures Simriz® 481 is recommended, while Simriz® 498 is a superior high-temperature compound. Simriz® 485 is a general purpose low-cost compound for many applications. Simriz® 495 exhibits improved acid resistance.

**STRONG CHEMICAL RESISTANCE**

**SIMRIZ® 481**

*Its outstanding performance in low temperature combined with broad resistance to harsh chemicals makes Simriz® 481 the ideal match for nearly every application in the chemical process industry, especially where low temperatures are expected.*

- Broad chemical resistance
- Low temperature resistance

**APPLICATIONS:**
- Chemical Process
- Oil & Gas Equipment

**SIMRIZ® 484**

*Simriz® 484 offers broad resistance to harsh chemicals as well as high temperatures, making it the material of choice for Food & Beverage or Pharmaceutical application.*

- Meets 3-A® sanitary standard
- FDA compliant
- USP class VI compliant

**APPLICATIONS:**
- Food & Beverage
- Chemical Process
- Pharmaceutical

**SIMRIZ® 485**

*Simriz® 485 performs well in a wide variety of harsh chemicals and under overheated steam and hot water conditions. Especially in strong acids and oxidizers.*

- Strong acids
- Strong oxidizers
- Steam and hot water

**APPLICATIONS:**
- Chemical Process
- Oil & Gas Equipment

**SIMRIZ® 134**

*In addition to protection against a wide variety of harsh chemicals and stability in steam and hot water, Simriz® 134 offers outstanding resistance against rapid gas decompression (RGD) in high pressure applications.*

- 90 Shore A Hardness
- RGD Applications
- NORSOK M-710 (rev. 2)

**APPLICATIONS:**
- Chemical Process
- Oil & Gas Equipment
- Power Generation

**SIMRIZ® 486**

*Simriz® 486 is a high purity, white color material that provides broad resistance to harsh chemicals and exceptional temperatures.*

- Color: White
- FDA compliant

**APPLICATIONS:**
- Food & Beverage
- Chemical Process
- Pharmaceutical
With its unique portfolio of products and services, Freudenberg Sealing Technologies is one of the world’s leading specialists in sealing technologies. The company has developed its expertise over decades, and its material and technology competencies have defined it as a proven supplier and innovative development and service partner to the auto industry and many other sectors. Sealing solutions from Freudenberg are paving the way for electric mobility and many other promising applications – including the production of renewable energy, its transmission, and its distribution and storage.

Freudenberg-NOK Sealing Technologies runs the business operations of Freudenberg Sealing Technologies in the Americas. The company is a joint venture between Freudenberg and NOK Corp. in Japan, it is headquartered in Plymouth, Mich. and operates more than 20 facilities across the Americas.

Freudenberg Sealing Technologies is the largest business unit in the Freudenberg Group, with 15,000 employees and revenue of about 2.3 billion euros. In 2018, the entire global Freudenberg Group reported revenue of about 9.4 billion euros and employed more than 49,000 individuals in around 60 countries in a range of business fields, including seals and vibration control technology, nonwovens and filtration, household products, specialties and other products.


FFKM SIMRIZ®
HIGH PERFORMING MATERIAL IN EXTREME CONDITIONS

Simriz® stands out for its broad chemical stability, similar to that of PTFE, combined with the rubbery-elastic qualities of an elastomer. They are used wherever extreme safety standards are in force and high maintenance as well as repair expenditures exceed the costs of the seals.

Values for the customer:
> Without equal - patented cross-linking system provides superior performance beyond the limits of other competitor FFKM products
> Vertically integrated - Freudenberg-NOK Sealing Technologies is the only vertically integrated O-ring manufacturer
> Cost efficient - as the only vertically integrated O-ring manufacturer down to the monomers, Freudenberg-NOK Sealing Technologies is able to provide the most cost efficient FFKM O-rings