



Petroz™ Perfluoroelastomer (FFKM)

Material & Design Solutions' (MDS) Petroz™ perfluoroelastomer (FFKM) is a superior choice for sealing in the most challenging environments. Effective at temperatures up to 250°C (482°F), Petroz compounds have a broad chemical resistance in aggressive chemical environments such as H₂S, amine-based (high pH) corrosion inhibitors, organic solvents, and strong acids. These compounds also offer a significantly lower compression set compared to competitive products providing longevity and a more effective sealing solution.

Petroz FFKM compounds are designed to operate and excel in high temperature, high pressure, and hostile chemical environments. In addition, Petroz 595 has superior rapid gas decompression (RGD) resistance and has demonstrated excellent RGD resistance in laboratory (ISO 23936-2 and NORSOK M-170) testing.

Petroz compounds are totally fluorinated and offer the ultimate chemical resistance required in downhole applications as well as in mechanical seals, pumps, and valves in a variety of industries.

Finished Parts

MDS offers Petroz FFKM in the form of molded finished products for critical service applications.

Typical Applications:

- ▶ O-Rings
- ▶ V-Rings
- ▶ Gaskets
- ▶ T-Rings
- ▶ X-Rings
- ▶ Custom molded products

Petroz FFKM Grades

- ▶ **Petroz 375** - A 75A durometer general purpose FFKM with exceptional compression set properties and excellent chemical resistance.
- ▶ **Petroz 390** - A 90A durometer FFKM with unsurpassed compression set properties while maintaining excellent chemical resistance.
- ▶ **Petroz 595** - A 95A durometer FFKM specifically compounded for rapid gas decompression (RGD) resistance that consistently outperforms competitors' RGD compounds.

Petroz FFKM Chemical Compatibility & Characteristics

- ▶ Abrasion resistance: Excellent
- ▶ Acid resistance: Excellent
- ▶ Chemical resistance: Excellent
- ▶ Heat resistance: Excellent
- ▶ Electrical properties: Excellent
- ▶ Oil resistance: Excellent
- ▶ Ozone resistance: Excellent
- ▶ Weather resistance: Excellent
- ▶ Water steam resistance: Excellent
- ▶ Flame resistance: Good
- ▶ Impermeability: Good
- ▶ Cold Resistance: Fair



FOR ENHANCED PERFORMANCE AT ELEVATED TEMPERATURES

Petroz™ Perfluoroelastomer (FFKM)



Petroz FFKM Typical Properties*

| Property | Units | Test Method | Petroz 375 | Petroz 390 | Petroz 595 |
|--|-----------|-------------|------------|------------|------------|
| Hardness, Shore A | - | ASTM D2240 | 75 | 90 | 95 |
| Tensile Strength @ Break | psi (MPa) | ASTM D412 | 3400 (23) | 4000 (27) | 3000 (20) |
| Tensile Elongation @ Break | % | ASTM D412 | 160 | 100 | 75 |
| Tensile Modulus @ 50% Elongation | psi (MPa) | ASTM D412 | 600 (4) | 1300 (9) | 2500 (17) |
| Specific Gravity | - | ASTM D792 | 1.99 | 1.99 | 1.95 |
| Compression Set 70 hrs @ 392°F (200°C) | % | ASTM D395 | 14 | 10 | 20 |

*These typical values are not intended for specification purposes. If minimum certifiable properties are required please see your local Material & Design Solutions representative.

About Material & Design Solutions

Material & Design Solutions is a committed partner in providing critical service industries with high performance components for a variety of sealing applications in high temperature, high pressure, and corrosive environments. MDS adds value, optimizes performance, and solves their customers' sealing problems by providing advanced sealing solutions for their most critical applications.



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