

Parco

9167-60 Fluorocarbon Seals



Can Your Fluorocarbon Seals Handle -40°F?

Exposure to low temperatures and harsh chemicals can cause seals to crack or swell. Whether your seals are used in applications such as automotive fuel systems or aerospace hydraulic systems, your seals need to prevent leakage.

9167-60 Meets Your Needs

1. Superior Performance at Low Temperatures

Seals made from 9167-60 can be used in applications with continuous service temperatures as low as -40°F. Parco's chemists have formulated a compound with a base polymer that features better low-temperature flexibility than compounds made from existing Viton® GLT and GFLT materials. Parco's 9167-60 compound has a TR-10 value of -43°F, making it superior to most fluorocarbon compounds (see Figure 1).

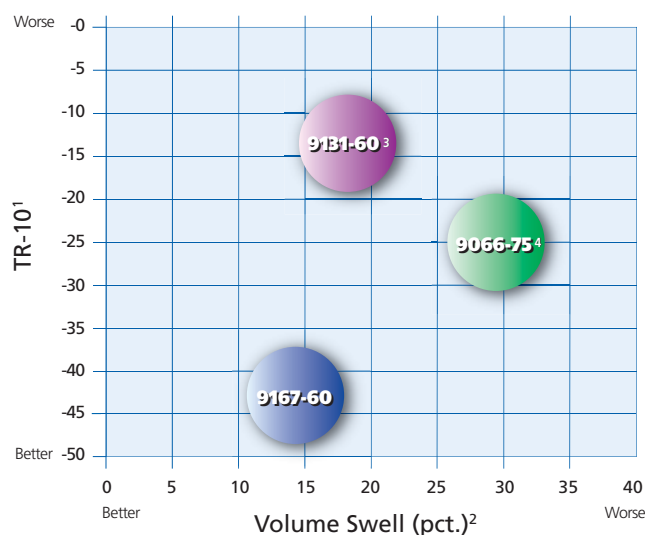
2. Excellent Resistance to Harsh Chemicals

Parco's 9167-60 compound offers superior performance in harsh chemical applications compared to compounds made from Viton® GFLT. Fluorocarbon is naturally resistant to a wide range of chemicals due to the elastomer's high ratio of fluorine to hydrogen, the natural strength of the carbon-fluorine bond, and the

absence of unsaturation in the carbon bond. The base polymer for Parco's 9167-60 compound has a fluorine content of 67 percent. That high fluorine content gives our compound increased chemical resistance. Our 9167-60 seals had volume swell of less than 10 percent after prolonged exposure to standard reference fluids.

Fig. 1:

Resistance of Parco Fluorocarbon Compounds to Low Temperature and a Blend of Methanol and Fuel C



¹Values taken from temperature retraction tests (TR-10). ²Values calculated after fluid aging materials in 15 percent Methanol, 85 percent Fuel C (M15) for 168 hours at 73°F (23°C). ³The base polymer in Parco's 9131-60 compound is Viton® GFLT. ⁴The base polymer in Parco's 9066-75 compound is Viton® GLT.

Source: Parco Test Reports.

Parco's 9167-60 seals offer better resistance to low temperatures and harsh chemicals than seals made from Viton® GFLT and GLT. 9167-60 seals are made from a base polymer with superior resistance to low temperatures and a wide range of chemicals.

Key Features

Parco's 9167-60 fluorocarbon seals are designed for low-pressure applications requiring broad chemical resistance at low temperatures. Key features include the following:

- **Superior performance at low temperatures:**
Parco 9167-60 seals can be used in applications with continuous service temperatures as low as -40°F.
- **Excellent resistance to chemicals:**
Parco 9167-60 seals had volume swell of less than 10 percent after prolonged exposure to standard reference fluids.
- **Wide range of service temperatures:**
Parco 9167-60 seals are suitable for static applications ranging from -65 to +450°F and dynamic applications ranging from -40 to +450°F.

Chemical Resistance

| USE WITH | DO NOT USE WITH |
|--|------------------------------------|
| Carbon Tetrachloride Diester Synthetic Lubricants Gasoline Hot Air Toluene | Acetone Amines Ethyl Acetate |

Typical Values for Compound 9167-60 60-durometer fluorocarbon

| Section of Spec. | Physical Property | Requirement ¹ | Typical Value | ASTM ² Test Method |
|------------------|---|--------------------------|---------------|-------------------------------|
| Z1 | Original Properties | | | |
| | Hardness, Shore A | 60 ± 5 | 58 | D2240 |
| | Tensile strength, MPa (psi), min. | 7(1015) | 11.2(1621) | D412 |
| | Ultimate elongation, pct., min. | 150 | 202 | D412 |
| A1-10 | Heat Aging 70 hours at 250°C (482°F) | | | D573 |
| | Hardness change, pts., Shore A, max. | 10 | 1 | |
| | Tensile strength change, pct., max. | -25 | -1 | |
| | Ultimate elongation change, pct., max. | -25 | 14 | |
| B38 | Compression Set, Plied 22 hours at 200°C (392°F) | | | D395 Method B |
| | pct. of original deflection, max. | 15 | 15 | |
| EF31 | Fluid Aging, ASTM Reference Fuel C 70 hours at 23°C (73°F) | | | D471 |
| | Hardness change, pts., Shore A | ±5 | -5 | |
| | Tensile strength change, pct. | -25 | -8 | |
| | Ultimate elongation change, pct. | -20 | -1 | |
| | Volume change, pct. | 0 to 10 | 6 | |
| EO88 | Fluid Aging, Hatco 7700 70 hours at 200°C (392°F) | | | D471 |
| | Hardness change, pts., Shore A | -15 to 5 | -7 | |
| | Tensile strength change, pct. | -40 | -6 | |
| | Ultimate elongation change, pct. | -20 | 8 | |
| | Volume change, pct. | 25 | 9 | |
| Z2 | Low Temperature Property TR-10, °C (°F) | Report | -42(-43) | D1329 |

¹Compound 9167-60 meets the requirements shown above for ASTM D2000 M6HK607 A1-10 B38 EF31 Z1 Z2. ²ASTM is the acronym for the American Society for Testing and Materials.

Source: Parco Test Report 8183A.

⚠ This brochure is intended as a guideline and reference. Appropriate testing and validation by users having technical expertise is necessary for proper use of Parco products.

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