

Parco

8082-75 Perfluoro Seals

Need an Alternative to Kalrez®?

For more than 30 years, companies have had a limited number of manufacturers to choose from for perfluorocarbon seals. That's why Parco developed its 8082-75 compound. Seals made from that compound serve as an alternative to seals made from Kalrez® and similar perfluorocarbon materials. Parco's 8082-75 perfluorocarbon seals are ideal for use in continuous temperatures as high as 600°F and in aggressive chemicals. Seals made from Parco's 8082-75 compound withstand the harshest environments and cost less than perfluorocarbon seals made from other manufacturers.

8082-75 Meets Your Needs

Seals made from Parco's 8082-75 compound are ideal for use at high temperatures and in nearly all chemicals.

1. Unparalleled Resistance to High Temperatures

Seals made from Parco's 8082-75 compound maintain their physical properties in continuous temperatures up to 600°F (see Figure 1). High temperatures cause most seals to either deteriorate rapidly or undergo irreversible chemical changes. Those changes reduce a seal's resistance to compression set. A seal with a high compression set does not exert force on the mating surfaces, resulting in leaks. Seals made from Parco's 8082-75 compound have excellent resistance to compression

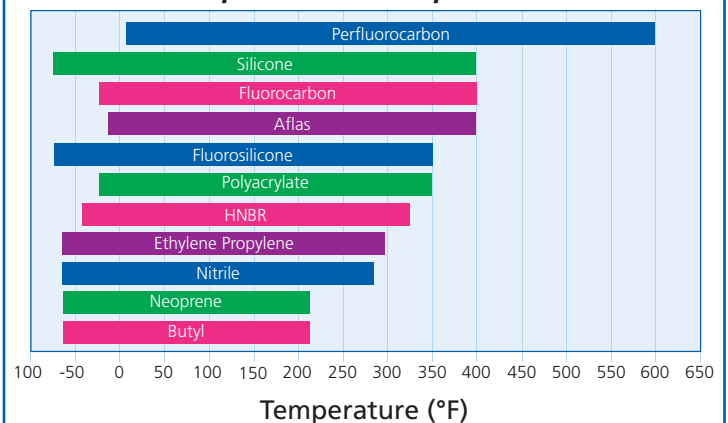
set. After testing 8082-75 for 22 hours in 527°F, it had compression set of only 18 percent.

2. Inherent Resistance to Aggressive Chemicals

Harsh chemicals cause seals to swell and soften. When that occurs, seals are likely to extrude from their gland or become less resistant to abrasion and tearing in dynamic applications. The base polymer in Parco's 8082-75 seals have a fluorine content of 72 percent. That fluorine level gives our 8082-75 seals excellent chemical resistance similar to polytetrafluoroethylene (PTFE). Seals made from Parco's 8082-75 compound resist more chemicals than any of our seals made from other elastomers, making them ideal for use in a variety of applications.

Fig. 1:

Service Temperatures of Popular Elastomers¹



¹Compounding affects performance at both high and low temperatures. Not all compounds of a given elastomer have the same temperature range. The bars above show the temperature range of the compounds in each elastomer.

Key Features

Parco's 8082-75 perfluorocarbon seals are ideal for use in high temperatures and aggressive chemicals. Key features include the following:

- **Unparalleled resistance to high-temperatures:**
Parco 8082-75 seals maintain their physical properties in continuous temperatures up to 600°F.
- **Inherent resistance to aggressive chemicals:**
Parco 8082-75 seals have better resistance to chemicals than seals made from any other elastomer.
- **Meets popular military and aerospace specification:**
Parco 8082-75 seals meet the testing requirements of AMS 7257. This compound is not QPL-listed.
- **Wide range of service temperatures:**
Parco 8082-75 seals are suitable for applications ranging from 10 to 600°F.

Chemical Resistance

USE WITH	DO NOT USE WITH
Carbon Tetrachloride Diester Synthetic Lubricants Gasoline Hot Air Toluene	Fluorocarbon Solvents

Typical Values for Compound 8082-75 75-durometer perfluorocarbon for high temperatures

Section of Spec.	Physical Property	Requirement ¹	Typical Value	ASTM ² Test Method
	Original Properties			
Z1	Hardness, Shore A	75±5	75	D2240
	Tensile strength, psi, min.	11(1595)	1911	D1414
Z2	Ultimate elongation, pct., min.	125	147	D1414
Z3	Modulus at 100 pct. elongation, psi	Report	1193	D412
	Specific gravity	Report	2.02	D297
	Heat Aging			
Z4	70 hours at 316°C (600°F)			D573
	Hardness change, pts., Shore A	Report	0	D1414
	Tensile strength change, pct.	Report	-7	
	Ultimate elongation change, pct.	Report	44	
	Fluid Aging, Methyl Ethyl Ketone			D471
Z5	70 hours at 23°C (73°F)			D1414
	Hardness change, pts., Shore A	Report	0	
	Tensile strength change, pct.	Report	13	
	Ultimate elongation change, pct.	Report	20	
	Volume change, pct.	Report	0	
	Compression Set			D395
Z6	22 hours at 250°C (482°F)			Method B
	Pct. of original deflection	Report	15	D1414
	Compression Set			D395
Z7	22 hours at 275°C (527°F)			Method B
	Pct. of original deflection	Report	18	D1414

¹Compound 8082-75 meets the requirements shown above for ASTM D2000 MKK811 Z1 Z2 Z3 Z4 Z5 Z6 Z7. Compound 8082-75 also meets the requirements for Aerospace Material Specification AMS 7257, *Rings, Sealing, Perfluorocarbon (FfkM) Rubber High Temperature Fluid Resistant 70-80*. ²ASTM is the acronym for the American Society for Testing and Materials.

Source: Parco Test Report 8466A.

⚠ 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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