

Parco

9009-90 Fluorocarbon Seals

Need 90-Durometer FKM Seals with Excellent Resistance to Compression Set?

9009-90 Meets Your Needs

1. Excellent Resistance to Compression Set

When installed, seals must resist taking a set from compression. When a seal takes a set, it no longer exerts force on the mating surfaces, resulting in leakage. A compound with low compression set, like our 90-durometer fluorocarbon compound 9009-90, better maintains its elastomeric properties and original thickness, preserving seal integrity. Seals made from Parco's 9009-90 compound provide excellent resistance to compression set at higher temperatures (see Figure 1). After testing 9009-90 for 22 hours at 392°F, it had a compression set of only 8 percent.

2. Outstanding Resistance to Fuel

Parco's 9009-90 seals offer outstanding performance in fuel, including gasoline and diesel. Exposure to such fluids can cause seals to swell significantly. Our 9009-90 seals had volume swell of only 1 percent after 70 hours at 73°F in Reference Fuel C.

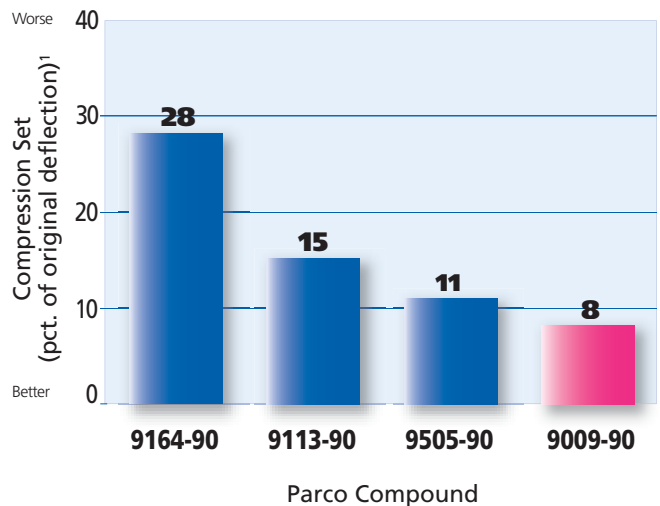
3. Exceeds AMS 7259

Seals made from our 9009-90 compound exceed the requirements of Aerospace Material

Specification (AMS) 7259 (see test report on reverse side). Parco supplies seals to 28 military and aerospace specifications. We are also one of only a few manufacturers approved to supply Qualified Products List (QPL) rubber seals. Our quality system is certified to ISO 9001, ISO/TS 16949, AC7115, and AS9100. So when you specify 9009-90, rest assured that you've made the right choice.

Fig. 1:

Compression Set of Typical Parco 90-Durometer FKM Compounds



¹Compression set calculated after 22 hours at 200°C (392°F).
Source: Parco Test Reports.

Parco seals made from 9009-90 have excellent resistance to compression set. At 8 percent, 9009-90 outperforms other high durometer fluorocarbon compounds.

Key Features

Parco's 9009-90 fluorocarbon seals are ideal for a variety of oil field and aerospace applications. Key features include the following:

- **Excellent resistance to compression set:**
Parco 9009-90 seals have a compression set of only 8 percent after 22 hours at 392°F.
- **Outstanding resistance to fuel, including gasoline and diesel:**
Parco 9009-90 seals have volume swell of only 1 percent after 70 hours at 73°F in Reference Fuel C.
- **Meets popular aerospace specification:**
Parco 9009-90 seals exceed the requirements of AMS 7259.
- **Wide range of service temperatures:**
Parco 9009-90 seals are suitable for applications ranging from -20 to +400°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 9009-90 90-durometer fluorocarbon for AMS 7259

Section of Spec.	Physical Property	Requirement ¹	Typical Value	ASTM ² Test Method
	Original Properties			
	Hardness, Shore A	90 ± 5	89	D2240
	Tensile strength, MPa (psi), min.	10(1450)	17.1(2484)	D412
	Ultimate elongation, pct., min.	100	129	D412
Basic	Fluid Aging, IRM³ 903 Oil 70 hours at 150°C (302°F)			D471
	Volume change, pct., max.	10	1	
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	-4	
	Ultimate elongation change, pct., max.	-25	5	
B37 B38	Compression Set, Plied pct. of original deflection, max.			D395 Method B
	22 hours at 175°C (347°F)	30	14	
	22 hours at 200°C (392°F)	50	8	
EF31	Fluid Aging, ASTM Reference Fuel C 70 hours at 23°C (73°F)			D471
	Hardness change, pts., Shore A	±5	-4	
	Tensile strength change, pct., max.	-25	-12	
	Ultimate elongation change, pct., max.	-20	2	
	Volume change, pct.	0 to 10	1	
EO78	Fluid Aging, Service Liquid No. 101 70 hours at 200°C (392°F)			D471
	Hardness change, pts., Shore A	-15 to 5	-10	
	Tensile strength change, pct., max.	-40	-17	
	Ultimate elongation change, pct., max.	-20	33	
	Volume change, pct.	0 to 15	8	
Z1	Low Temperature Property TR-10, °C (°F)	Report	-17(2)	D1329

¹Compound 9009-90 meets the requirements shown above for ASTM D2000 M3HK910 A1-10 B37 B38 EF31 EO78 Z1. ²ASTM is the acronym for the American Society for testing and Materials. ³IRM is the acronym for Industry Reference Material.

Source: Parco Test Report 8924B.

⚠ 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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