COMPOUND DATA SHEET

Parker O-Ring & Engineered Seals Division, North America

MATERIAL REPORT

Report Number 541330
Report Date 4/10/2025

Title: General Evaluation of Parker Compound NM507-90

Elastomer Type: NBR

Purpose: To document compliance to qualification requirements and basic material properties

Specification: AMS-P-5510

Color: Black

Recommended Temperature Range: -65°F to 180°F

Recommended For: Aliphatic hydrocarbons (propane, butane), petroleum oil, mineral oil, grease, diesel fuel, fuel oils, vegetable oils, HFA, HFB, & HFC hydraulic fluids, water (under 140°F), salt & alkali solutions, and dilute acids

Not Recommended For: Fuels of high aromatic content, aromatic hydrocarbons (benzene), chlorinated hydrocarbons (trichloroethylene), strong acids, glycols, ozone, weather, atmospheric aging, and polar solvents (ketone, acetone, acetic acid, ethylene-ester)

Original Physical Properties	**Test Method**	**Spec Limits**	**Results**
Specific Gravity	ASTM D297	1.25 to 1.45	1.29
Hardness, Shore A, pts	ASTM D2240	85 to 95	86
Tensile Strength, min, psi	ASTM D1414	1450	1774
Ultimate Elongation, min, %	ASTM D1414	80	107
Tensile stress at 50% elongation, psi min	ASTM D1414	500	677
Temperature retraction TR-10-10 max, °F	ASTM D1329	-45	-50
Corrosion and Adhesion	Section 3.2.11	No Corrosion No Adhesion	
AMS-QQ-A-250/4 2024 Aluminum Alloy			Pass
AMS-QQ-A-250/11 6061 Aluminum Alloy			Pass
AMS-QQ-A-250/12 7075 Aluminum Alloy			Pass
AMS-QQ-S-763 440C Stainless Steel			Pass
ASTM A484 303 Stainless Steel			Pass
AMS-6350 4130 Steel, Aircraft Quality			Pass
Dry Heat Resistance	ASTM D573		
168 Hours ±0.5 @ 158°F ± 1.8 (70°C ± 1)			
Hardness change, pts		0 to 5	4
Tensile Strength change, % max		-10	-2
Elongation change, % max		-15	-11
Compression Set	ASTM D395		
168 Hours ±0.5 @ 158°F ± 1.8 (70°C ± 1)	Test Method B		
Percent of Original Deflection, max		35	27
Oil Resistance in Mil-PRF-5606 (Royco 756)			
168 Hours ±0.5 @ 158°F ± 1.8 (70°C ± 1)	ASTM D471		
Hardness change, Shore A, pts		-5 to 5	-4
Tensile Strength change, % max		-15	-8
Ultimate Elongation change, % max		-20	-11
Temperature retraction TR-10, max °F		-39	-50
Compression set, % of Original Deflection, max	ASTM D395 Method B	25	13
Volume Change, %		1 to 8	3