



# COMPOUND DATA SHEET

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## MATERIAL REPORT

LTR Report Number: 85868  
Date: 2/21/2012

**Title:** Evaluation of Parker Compound N0507-90

**Elastomer Type:** Acrylonitrile-Butadiene (NBR)

**Purpose:** To obtain typical test data.

**Specification:** ASTM D2000 M2BG910 B14 B34 EA14 EF11 EF21 E014 E034 Z1 (Specific Gravity) Z2 (TR-10) Z3 (Min. Elongation 85%)

**Color:** Black

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

**Recommended For:** Aliphatic hydrocarbons (propane, butane, petroleum oil, mineral oil and grease, diesel fuel, fuel oils) vegetable oils, mineral oils, greases, HFA, HFB, and HFC hydraulic fluids, water, 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)

**Additional Approvals:** AMS-P-5510

## REPORT DATA

| <u>Original Physical Properties</u>  | <u>Test Method</u> | <u>Spec Limits</u> | <u>Test Results</u> |
|--------------------------------------|--------------------|--------------------|---------------------|
| Hardness, Shore A, pts.              | ASTM D2240         | 90 ±5              | 90                  |
| Tensile Strength, PSI                | ASTM D412          | 1450               | 1740                |
| (Z3) Ultimate Elongation, %          | ASTM D412          | 85                 | 103                 |
| (Z1) Specific Gravity                | ASTM D297          | report             | 1.33                |
| <b>(B14) Compression Set (Plied)</b> |                    |                    |                     |
| <b><u>22 hrs. @ 212°F</u></b>        |                    |                    |                     |
| Percent of Original Deflection, Max  | ASTM D395 Method B | 25                 | 8                   |
| <b>(B34) Compression Set (Solid)</b> |                    |                    |                     |
| <b><u>22 hrs. @ 212°F</u></b>        |                    |                    |                     |
| Percent of Original Deflection, Max  | ASTM D395 Method B | 25                 | 14                  |
| <b>Heat Age, (Basic Requirement)</b> |                    |                    |                     |
| <b><u>70 hrs. @ 212°F</u></b>        |                    |                    |                     |
| Hardness Change, pts.                | ASTM D573          | ± 15               | +3                  |
| Tensile Strength Change, %           |                    | ± 30               | -4                  |
| Ultimate Elongation Change, %        |                    | -50                | -22                 |
| <b>(EA14) Fluid Resistance</b>       |                    |                    |                     |
| <b><u>Water, 70 hrs @ 212°F</u></b>  |                    |                    |                     |
| Hardness Change, pts.                | ASTM D471          | ± 10               | -2                  |
| Volume Change, %                     |                    | ± 15               | +5                  |
| <b>(EF11) Fluid Resistance</b>       |                    |                    |                     |
| <b><u>Fuel A, 70 hrs @ 73°F</u></b>  |                    |                    |                     |
| Hardness Change, pts.                | ASTM D471          | ± 10               | -5                  |
| Tensile Strength Change, %           |                    | -25                | -11                 |
| Ultimate Elongation Change, %        |                    | -25                | -10                 |
| Volume Change, %                     |                    | -5 to +10          | +3                  |
| <b>(EF21) Fluid Resistance</b>       |                    |                    |                     |
| <b><u>Fuel B, 70 hrs @ 73°F</u></b>  |                    |                    |                     |
| Hardness Change, pts.                | ASTM D471          | 0 to -30           | -14                 |
| Tensile Strength Change, %           |                    | -60                | -22                 |
| Ultimate Elongation Change, %        |                    | -60                | -30                 |
| Volume Change, %                     |                    | 0 to +40           | +21                 |

Parker O-Ring Division, United States

**(E014) Fluid Resistance**

**IRM 901, 70 hrs @ 212°F**

|                               | <b>Test<br/>Method</b> | <b>Spec<br/>Limits</b> | <b>Test<br/>Results</b> |
|-------------------------------|------------------------|------------------------|-------------------------|
| Hardness Change, pts.         | ASTM D471              | -5 to +10              | +1                      |
| Tensile Strength Change, %    |                        | -25                    | -15                     |
| Ultimate Elongation Change, % |                        | -45                    | -21                     |
| Volume Change, %              |                        | -10 to +5              | -7                      |

**(E034) Fluid Resistance**

**IRM 903, 70 hrs @ 212°F**

|                               |           |           |     |
|-------------------------------|-----------|-----------|-----|
| Hardness Change, pts.         | ASTM D471 | -10 to +5 | -4  |
| Tensile Strength Change, %    |           | -45       | -5  |
| Ultimate Elongation Change, % |           | -45       | -30 |
| Volume Change, %              |           | 0 to +25  | +6  |

**(Z2) Low Temperature Resistance**

|                       |            |        |     |
|-----------------------|------------|--------|-----|
| TR-10, temperature °F | ASTM D1329 | report | -43 |
|-----------------------|------------|--------|-----|