



# MATERIAL REPORT

DATE: 01/14/95

**TITLE:** Evaluation of Parker Compound VP102-80 (Aflas) to obtain basic characteristics.

**PURPOSE:** To establish general data review.

**CONCLUSION:** Parker Compound VP102-80 shows good properties, especially compression set for this type of polymer.

**Recommended Temperature Range:** 15 to 450F

**Recommended for:** bases, sour oil & gas, steam, phosphate esters, amines, petroleum oils, acids, ozone, alcohols

**Not Recommended for:** aromatic fuels, ketones, carbon tetrachloride, ethers, non-polar solvents, acetic acid, organic acetates

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## REPORT DATA

<u>Original Physical Properties, ASTM D1414, D2240</u>	<b>VP102-80 Results</b>
Hardness, Shore A, pts.	82
Tensile Strength, psi	2220
Ultimate Elongation, %	180
Modulus @ 100%, psi	1100
<b>Compression Set, ASTM D395 Method B (70 hrs. @ 392°F)</b>	
Percent of Original Deflection	41
<b>Dry Heat Resistance, ASTM D573 (70 hrs. @ 528°F)</b>	
Hardness Change, pts.	0
Tensile Change, %	-36
Elongation Change, %	+25
<b>Fluid Immersion, ASTM D471 ASTM #1 Oil, (70 hrs. @ 302°F)</b>	
Hardness Change, pts.	+1
Tensile Change, %	+3
Elongation Change, %	0
Volume Change, %	+3
<b>Fluid Immersion, ASTM D471 ASTM #3, (70 hrs. @ 302°F)</b>	
Hardness Change, pts.	-5
Tensile Change, %	-28
Elongation Change, %	0
Volume Change, %	+17
<b>Fluid Immersion, ASTM D471 Fuel A, (70 hrs. @ RT)</b>	
Hardness Change, pts.	-15
Tensile Change, %	-51
Elongation Change, %	+12
Volume Change, %	+32
<b>Fluid Immersion, ASTM D471 Fuel B, (70 hrs. @ RT)</b>	
Hardness Change, pts.	-20
Tensile Change, %	-69
Elongation Change, %	-13
Volume Change, %	+73
<b>Fluid Immersion, ASTM D471 Test Diesel Fuel #2, (70 hrs. @ 302°F) Results</b>	
Hardness Change, pts.	-15
Tensile Change, %	-42
Elongation Change, %	+25
Volume Change, %	+39
<b>Fluid Immersion, ASTM D471 ASTM Service Fluid #101, (70 hrs. @ 400°F)</b>	
Hardness Change, pts.	-15
Tensile Change, %	-29
Elongation Change, %	+38
Volume Change, %	+30

**Fluid Immersion, ASTM D471**

**1% NACE 'A' / 99% Water, (168 hrs. @ 350°F)**

Hardness Change, pts.	-5
Tensile Change, %	-7
Elongation Change, %	+38
Volume Change, %	+31

**Fluid Immersion, ASTM D471**

**1% NACE 'B' / 99% Diesel Fuel #2, (168 hrs. @ 350°F)**

Hardness Change, pts.	-16
Tensile Change, %	-54
Elongation Change, %	+25
Volume Change, %	+57

**Fluid Immersion, ASTM D471**

**Stauffer 7700, (70 hrs. @ 350°F)**

Hardness Change, pts.	-10
Tensile Change, %	-24
Elongation Change, %	+38
Volume Change, %	+25