



MATERIAL REPORT

DATE: 01/26/94

TITLE: Evaluation of Parker Compound VP103-90 (Aflas) to obtain basic characteristics.

PURPOSE: To establish general data review.

CONCLUSION: Parker Compound VP103-90 shows good properties, especially compression set for this type of polymer.

Recommended Temperature Range: 25 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>	VP103-90 <u>Results</u>
Hardness, Shore A, pts.	94
Tensile Strength, psi	2100
Ultimate Elongation, %	67
Modulus @ 100%, psi	1753
Compression Set, ASTM D395 Method B	
(70 hrs. @ 392°F)	
Percent of Original Deflection	54
Dry Heat Resistance, ASTM D573	
(70 hrs. @ 528°F)	
Hardness Change, pts.	+2
Tensile Change, %	-27
Elongation Change, %	-55
Fluid Immersion, ASTM D471	
ASTM #1 Oil, (70 hrs. @ 302°F)	
Hardness Change, pts.	-1
Tensile Change, %	-12
Elongation Change, %	+15
Volume Change, %	+3
Fluid Immersion, ASTM D471	
ASTM #3, (70 hrs. @ 302°F)	
Hardness Change, pts.	-2
Tensile Change, %	-14
Elongation Change, %	+35
Volume Change, %	+15
Fluid Immersion, ASTM D471	
Fuel A, (70 hrs. @ RT)	
Hardness Change, pts.	-2
Tensile Change, %	-14
Elongation Change, %	+15
Volume Change, %	+14
Fluid Immersion, ASTM D471	
Fuel B, (70 hrs. @ RT)	
Hardness Change, pts.	-6
Tensile Change, %	-54
Elongation Change, %	0
Volume Change, %	+40
Fluid Immersion, ASTM D471 Test	
Diesel Fuel #2, (70 hrs. @ 302°F) Results	
Hardness Change, pts.	-5
Tensile Change, %	-28
Elongation Change, %	+46
Volume Change, %	+30
Fluid Immersion, ASTM D471	
ASTM Service Fluid #101, (70 hrs. @ 400°F)	
Hardness Change, pts.	-7
Tensile Change, %	-20
Elongation Change, %	+54

Volume Change, % +23

Fluid Immersion, ASTM D471

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

Hardness Change, pts. -5
Tensile Change, % -12
Elongation Change, % +85
Volume Change, % +22

Fluid Immersion, ASTM D471

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

Hardness Change, pts. -9
Tensile Change, % -26
Elongation Change, % +73
Volume Change, % +39

Fluid Immersion, ASTM D471

Stauffer 7700, (70 hrs. @ 350°F)

Hardness Change, pts. +2
Tensile Change, % -18
Elongation Change, % +23
Volume Change, % +21