

Material Properties

General Purpose FKM (V90, Viton® 90 Duro,)

Material code: 202

Also referred to as fluorocarbon, this compound is a thermoset elastomer containing fluorine. The general purpose FKM material makes for a great O-ring seal, due to its exceptional resistance to chemicals, oil, and temperature extremes (-15° to +400° F). Specialty compounds can further extend the low temperature limit down to about -22° F for dynamic seals and about -40° F in static applications. The higher durometer allows for higher pressures.

NOTE - All testing done on AS568-214 size O-rings

Original Properties	AMS-7276 and MIL-R-83248 Type 1 Class 1	Typical Values
Hardness, Shore A, ASTM D2240	90 ±5	89
Tensile Strength, psi, ASTM D1414	1400 min.	1993
Elongation, %, ASTM D1414	100 min.	121
Specific Gravity, ASTM D297	As determined	1.84
Temperature Retraction, ASTM D1329		
TR-10, degrees F	±5 or colder	+3
Air Aging ASTM D573, 70 hrs. at 518°F		
Hardness change, Shore A, ASTM D2240	-5 to +10	+4
% Tensile Strength change, ASTM D1414	-45 max.	-9
% Elongation change, ASTM D1414	-20 max.	+12
% Weight loss, ASTM D297	10 max.	3.7
Compression Set, ASTM D395 Method B and ASTM D1414, 22 hrs. at 392°F		
% Permanent set	25 max.	11.7
Compression Set, ASTM D395 Method B and ASTM D1414, 336 hrs. at 392°F		
% of Original Deflection	60 max.	44.2
ARM-200 fluid immersion, ASTM D471 and ASTM D1414, 70 hrs. at 392°F		
Hardness change, Shore A, ASTM D2240	-15 to 0	-10
% Tensile Strength change, ASTM D1414	-35 max.	-14
% Elongation change, ASTM D1414	-20 max.	+10
% Volume change, ASTM D471	+1 to +25	+15.1
Compression Set, ASTM D395 Method B and ASTM D1414, 70 hours at 392°F in ARM-200 fluid		
% Permanent set	20 max.	7.1
ASTM Fuel B immersion, ASTM D471 and ASTM D1414, 70 hrs. at 75°F		
Hardness change, Shore A, ASTM D2240	±5	-1
% Tensile Strength change, ASTM D1414	-20 max.	-8
% Elongation change, ASTM D1414	-20 max	-2
% Volume change, ASTM D471	0 to +5	+1

Note: Property values should be interpreted as typical rather than minimum value. All technical information and recommendations are presented in good faith, and based upon laboratory and real-world tests believe to be reliable and practical. However, K.C. Seals, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customers' responsibility to determine product suitability to any given application.

