



# TYPICAL PROPERTIES

Compound Number: <b>944</b>	Rubber Classification (ASTM D1418): <b>FKM</b>	Service Temperature Range: <b>-35°F to 450°F (-37°C to 232°C)</b>	Color: <b>BLACK</b>
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DESCRIPTION	
<b>Original Physicals</b>	
Hardness, Shore A, button (D2240) <sup>(1)</sup>	90
Hardness, IHRD (D1415) <sup>(1)</sup>	90
Specific Gravity (D792)	1.89
Tensile Strength @ Break, psi [MPa] (D412)	2750 [19.0]
Elongation % (D412)	170
Modulus @ 100% Elongation, psi [MPa] (D412) <sup>(1)</sup>	1600 [11.0]
Modulus @ 50% Elongation, psi [MPa] (D412) <sup>(1)</sup>	900 [6.2]
Tear Strength, lb/in [kg/cm] (D624, Die C)	160 [28]
<b>Thermal Properties</b>	
TR10/50, (D1329)	-10°F [-23°C]
Tg (D3418)	-15°F [-26°C]
O-ring Leak Test (200 psi N <sup>2</sup> ), average of 3 tests <sup>(2)</sup>	-35°F [-37°C]
Coefficient of Linear Thermal Expansion, (E831), (-20°C to 140°C)	116.9 $\mu\text{in}/(\text{in}^\circ\text{F})$ [210.5 $\mu\text{m}/(\text{m}^\circ\text{C})$ ]
<b>Compression Set @ 25% Deflection <sup>(1)</sup></b>	
70 Hrs. @ 400°F [205°C], in Air, % Orig. Deflection (D395)	37
<b>Fluid Aging</b>	
Methanol, 70 Hrs. at 275°F [135°C], % Swell (D471)	12.0
<b>Rapid Gas Decompression Resistance</b>	
ISO 23936-2 (1 <sup>st</sup> Revision)	
Pressure, psi [MPa]	2175 [15]
Temperature	355°F [180°C]
Decompression Rate, psi/min [MPa/min]	1470 [10]
Cross Section of Test Parts, inches [mm]	0.210 [5.33]
Repetition	8 Cycles
Test Gas	90% Methane/10% CO <sub>2</sub>
Test Parts	4 parts, AS568-312
Inspection Criterion	ISO rating after RGD testing
Acceptance Criteria	Rating Scale Number = or < 3
Measured Results per Specimen	0,0,0,0
<b>Gas Permeability, ASTM D1434-82 (2003) Procedure V, cm<sup>2</sup>/sec-atm</b>	
Carbon Dioxide	1.8 x 10 <sup>-9</sup>
Methane	1.6 x 10 <sup>-9</sup>
Nitrogen	6.6 x 10 <sup>-9</sup>

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*Statements and recommendations in this publication are based on our experience and knowledge of typical applications of this product and shall not constitute a guarantee of performance nor modify or alter our standard warranty applicable to such products.*

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### Notes

1. Required on each batch
2. O-ring leak test (not an ASTM standard) uses three 214 O-ring compressed 19% and pressurized with 200 psi N<sub>2</sub> pressure. The reported value is average temperature at which the 3 seals reach a leak rate of 2 sccm when the seals are cooled from room temperature at a rate of 0.3°C/minute.
3. Unless otherwise noted, all tests performed on slabs and buttons pre ASTM D412.  
Low temp O-ring tested on AS 568214 O-rings.  
RGD test run using 4 O-rings -AS568-312, compressed 13.5% in 80% groove fill.



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