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## O-Ring Compound V90RGD Data Sheet

Material: Fluorocarbon Rubber – Rapid Gas Decompression  
90 Durometer, Black

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### **General Information:**

V90RGD is a type of FKM 90 Shore A durometer compound with excellent resistance to synthetic and mineral lubricants. The Norsok M-710 test yielded a perfect 0000 score for this compound. This means that o-rings made from this material were tested in an RGD environment and cut into 4 pieces, none of the pieces showed any signs of cracking or blistering.

**Cure System:** *Peroxide-cured*

**Temperature Range:** -15°C (5°F) to 220°C (428°F)

### **Attributes:**

- Color: Black
- 90±5 Shore A durometer
- Shelf-life: Unlimited
- NORSOK M-710 Score: 0000

### Performs Well In:

- Synthetic/Mineral Lubricants
- Petroleum products
- Fuel or blend with methanol or ethanol
- Diesel or blend with biodiesel
- Mineral oil and grease
- Silicone oil and grease
- High vacuum
- Ozone, weather and very high temp. air
- Strong acid

### Doesn't Perform Well In:

- Ketones
- Low molecular weight organic acids (formic and acetic acids)
- Superheat steam
- Low molecular weight esters and ethers.
- Phosphate ester based hydraulic fluids - Skydrol(R)

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## TEST REPORT FOR O-RING COMPOUND V90RGD

MATERIAL: FLUOROCARBON RUBBER - RAPID GAS DECOMPRESSION

DUROMETER: 90

COLOR: BLACK

ASTM\* D2000 M3HK914 A1-10 B37 B38 EF31 E078 F17 Z1

SECTION OF SPEC.	PROPERTIES	REQUIREMENTS	RESULTS	ASTM TEST METHOD
	<b>ORIGINAL PHYSICAL PROPERTIES</b>			
	Hardness, Shore A	90±5	92.5	D2240-05
	Tensile Strength, psi (MPa)	2031(14)(min)	2849(19.64)	D412-06a
	Elongation, min, percent	100(min)	143	D412-06a
	Modulus @ 100%, psi (Mpa)		2012(13.87)	D412-06a
	Density,(Mg/m <sup>3</sup> )		1.83	CNS 5341-96A
A1-10	<b>HEAT AGE</b>			D573-04
	<b>70 hours at 250°C</b>			
	Hardness Change, points	+10(max)	+2	
	Tensile Strength Change, percent	-25(max)	-8	
	Elongation Change, percent	-25(max)	+12	
B37	<b>COMPRESSION SET</b>			D395-16B
	22 hours at 175°C, percent	30%(plied)(max)	18.8	
B38	<b>COMPRESSION SET</b>			D395-16B
	22 hours at 200°C, percent	50%(plied)(max)	19.1	
EF31	<b>ASTM FUEL C RESISTANCE</b>			D471-16a
	<b>70 hours @ 23°C</b>			
	Hardness Change, points	±5	-4	
	Tensile Change, max, percent	-25(max)	-17	
	Elongation Change, max, percent	-20(max)	-18	
	Volume Change, percent	0~+10	+5.2	
E078	<b>ASTM No. 101 OIL</b>			D471-16a
	<b>70 hours at 200°C</b>			
	Hardness Change, points	-15~+5	-12	
	Tensile Change, max, percent	-40(max)	-28	
	Elongation Change, max, percent	-20(max)	-10	
	Volume Change, percent	0~+15	+13.7	
F17	<b>LOW-TEMP BRITTLNESS POINT TEST</b>	no-cracks	pass	D2137-11C
	<b>3 minute @ -40°C</b>			
	Sample type: T-50			
	Coolant: Isopropyl Alcohol			
	Brittleness temp to nearest 1°C			
Z1	<b>LOW-TEMP RETRACTION TEST (TR-TEST)</b>			D1329-16
	<b>Testing Elongation 50%</b>			
	Equipment of measure: thermocouple			
	Length of Sample: 51 mm			
	Rate of Temp. increasing: 1°C/min			
	Test Temperature: 26°C			
	Coolant: Methanol			
TR10 °C		-30.4		

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