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## O-Ring Compound N90HG Data Sheet

Material: High Visibility Nitrile Rubber (NBR)  
90 Durometer, Lime Green

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### **General Information:**

Nitrile, Buna, or NBR is one of the most common sealing elastomers due to its resistance to petroleum-based fuels and lubricants. Nitrile elastomers are copolymers of acrylonitrile and butadiene.

### **Cure System:** *Sulfur-cured*

Sulfur-cured compounds offer better low temperature properties but are more prone to hardening with high temperatures. Peroxide-cured nitriles have better heat resistance and lower compression sets but are more expensive and are more difficult to process.

**Temperature Range:** -20°C (-4°F) to 120°C (248°F)

### **Attributes:**

Color: Lime Green

Durometer Shore A: 90±5

Shelf-life: 15 years

### Performs Well In:

- Petroleum based oils & fuels
- Aliphatic hydrocarbons
- Vegetable oils
- Silicone oils & greases
- Ethylene glycol
- Dilute acids
- Water to below 100°C (212°F)

### Doesn't Perform Well In:

- Aromatic hydrocarbons
- Automotive brake fluid
- Chlorinated hydrocarbons
- Ketones
- Ethers
- Esters
- Phosphate ester hydraulic fluids
- Strong acids
- Ozone / weathering / sunlight

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## TEST REPORT FOR O-RING COMPOUND N90HG

MATERIAL: HIGH RESOLUTION NITRILE RUBBER (NBR)

DUROMETER: 90

COLOR: LIME GREEN

ASTM D2000 M7BG910 B14 EA14 EF11 EF21 EO14 EO34 F13

SECTION OF SPEC.	PROPERTIES	REQUIREMENTS	RESULTS	ASTM TEST METHOD
	<b>ORIGINAL PHYSICAL PROPERTIES</b>			
	Hardness, Shore A	90±5	88	D2240-15
	Tensile Strength, MPa	10(min)	10.3	D412-16
	Elongation, min, percent	100(min)	122	D412-16
	Specific Gravity,(g/cm <sup>3</sup> )	REPORT	1.49	D297-15
BASIC	<b>HEAT AGE</b>			D573-15
	<b>70 hours at 100°C</b>			
	Hardness Change, points	±15	+2.6	
	Tensile Strength Change, percent	±30	+1.9	
	Elongation Change, percent	-50	-17.2	
EA14	<b>WATER RESISTANCE</b>			D471-16
	<b>70 hours at 100°C</b>			
	Hardness Change, max, points	±10	-2.1	
	Volume Change, percent	±15	+8.1	
B14	<b>COMPRESSION SET, METHOD B</b>			D395-18
	<b>22 hours at 100°C, max, percent</b>	25	16	
EO14	<b>IRM 901 OIL RESISTANCE</b>			D471-16
	<b>70 hours @ 100°C</b>			
	Hardness Change, points	-5~+5	0	
	Tensile Change, max, percent	-25	+8.6	
	Elongation Change, max, percent	-45	-22.1	
	Volume Change, percent	-10~+5	-0.2	
EO34	<b>IRM 903 OIL RESISTANCE</b>			D471-16
	<b>70 hours at 100°C</b>			
	Hardness Change, points	-10~+5	-11.4	
	Tensile Change, max, percent	-45	-7.6	
	Elongation Change, max, percent	-45	+2.5	
	Volume Change, percent	0~+25	+16.4	
F13	<b>LOW-TEMP RESISTANCE</b>	pass	pass	D2137-11(18)
	<b>Nonbrittle after 3 minutes @ -10°C</b>			
	<b>TR-10, Retraction</b>		-19.0	D1329-16
	<b>@ Lower Temperature Resistance</b>			
	51 mm die, 50% elongation, °C			
	<b>ON O-RING</b>			
	Hardness, Shore A (Type M)	90±5	88-89	D2240-15
<b>COMPRESSION SET, METHOD B</b>				
22 hours at 100°C, max, percent	25	20.5	D395-18	

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