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## O-Ring Compound HNBR80 Data Sheet

Material: Hydrogenated Nitrile, HNBR  
80 Durometer, Black

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### **General Information:**

Also known as Highly Saturated Nitrile (HSN), it is a synthetic polymer that is obtained by saturating the double bonds in nitrile-butadiene segments with hydrogen. HNBR has superior heat, ozone, chemical resistance and mechanical characteristics over standard Nitrile.

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

**Temperature Range:** -40°C (-40°F) to 150°C (302°F)

### **Attributes:**

- Color: Black
- 80±5 Shore A durometer
- Shelf-life: 15 years

### Performs Well In:

- Petroleum based oils and fuels
- Aliphatic hydrocarbons
- Vegetable oils
- Silicone oils and greases
- Ethylene glycol
- Dilute acids, bases and salt solutions to moderate temperatures
- Water and steam to 150 °C (300 °F)

### Doesn't Perform Well In:

- Chlorinated hydrocarbons
- Ketones
- Ethers
- Esters
- Strong acids

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**TEST REPORT: O-RING COMPOUND HNBR80**

MATERIAL: HNBR  
DUROMETER: 80  
COLOR: BLACK

ASTM\* D2000 M3DH810 A26 B16 EO16 EO36

SECTION OF SPEC.	PROPERTIES	REQUIREMENTS	RESULTS	ASTM TEST METHOD
	<b>ORIGINAL PHYSICAL PROPERTIES</b>			
	Hardness, Shore A	80±5	83	D2240-15
	Tensile Strength, psi (MPa)	1450 (10)(min.)	3271 (22.56)	D412-16
	Elongation, %	175 (min.)	217	D412-16
	Modulus at 100%, psi (MPa)		1664 (11.48)	D412-16
	Density (Mg/m <sup>3</sup> )		1.32	CNC 5341-96A
A26	<b>HEAT AGE</b>			D865-11
	<b>70 hours at 150°C</b>			
	Hardness Change, pts	+10(max)	+4	
	Tensile Strength Change, %	-25(max)	+1	
	Elongation Change, %	-30(max)	-8	
	Weight Change, %		-0.3	
B16	<b>COMPRESSION SET</b>			D395-16B
	<b>22 hours at 150°C</b>	30% (button)(max)	12.7	
EO16	<b>IRM 901 OIL</b>			D471-16a
	<b>70 hours at 150°C</b>			
	Hardness Change, pts	-5 - 10	+2	
	Tensile Strength Change, %	-20(max)	+9	
	Elongation Change, %	-30(max)	-6	
	Volume Change, %	±5	-2.3	
EO36	<b>IRM 903 OIL</b>			D471-16a
	<b>70 hours at 150°C</b>			
	Hardness Change, pts	-15(max)	-6	
	Tensile Strength Change, %	-30(max)	+1	
	Elongation Change, %	-30(max)	-5	
	Volume Change, %	+25(max)	+11.0	