GLOBAL O-RING and SEAL
ALL-AROUND BETTER

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O-ring Compound HNBR90 Data Sheet

Material: Hydrogenated Nitrile, HNBR
90 Durometer, Black

General Information:
Also known as Highly Saturated Nitrile (HSN), it is a synthetic polymer that is obtained by saturating the double bonds in nitrile=s 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
▪90±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 ºC (300 ºF)

Doesn't Perform Well In:

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

Request A Quote

HNBR90

TEST REPORT FOR COMPOUND HNBR90

MATERIAL: HYDROGENATED NITRILE
DUROMETER: 90
COLOR: BLACK
ASTM* D2000 M4DH910 A26 B36 EO16 EO36 F17 Z

SECTION OF SPEC.	PROPERTIES	REQUIREMENTS	RESULTS	ASTM TEST METHOD
	ORIGINAL PHYSICAL PROPERTIES			
	Hardness, Shore A	90±5	87	D2240-15
	Tensile Strength, min, Mpa	10	21.6	D412-16
	Elongation, min, percent	100	229	D412-16
	Specific Gravity (g/cm³)		1.28	D297-15
A26	**HEAT RESISTANCE**			D573-10
	70 hours at 150°C (302°F), percent			
	Hardness Change, points	+10	+6	
	Tensile Strength Change, percent	-15	+17	
	Elongation Change, percent	-25	-20.0	
B36	**COMPRESSION SET, METHOD B**			D395-18
	22 hours at 150°C (302°F), max, percent	35	17	
EO16	**IRM901 OIL RESISTANCE**			D471-16
	70 hours at 150°C (302°F)			
	Hardness Change, points	-5 to +10	+4	
	Tensile Change, max, percent	-20	+11	
	Elongation Change, max, percent	-30	+2	
	Volume Change, percent	-10 to +5	-3	
EO36	**IRM903 OIL RESISTANCE**			D471-16
	70 hours at 150°C (302°F)			
	Hardness Change, points	-15	-3	
	Tensile Change, max, percent	-40	-4	
	Elongation Change, max, percent	-30	-17	
	Volume Change, percent	+25	+13	
F17	**LOW-TEMPERATURE RESISTANCE**			D2137-18
	nonbrittle after 3 min at -40°C	pass	pass	
Z	**TR-10, Retraction at Lower Temperature Resistance**			D1329-16
	51 mm die, 50% elongation, °C		-21.9	

*American Society for Testing and Materials