GLOBAL O-RING and SEAL
ALL-AROUND BETTER

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O-ring Compound N90PC Data Sheet

Material: Butadiene Acrylonitrile – Peroxide Cured
90 Durometer, Black

General Information:
Nitrile rubber, also known as NBR or Buna N, is one of the most commonly used sealing elastomers due to its resistance to petroleum-based fuels and lubricants and its relatively low price. Nitrile elastomers are copolymers of acrylonitrile and butadiene. There are a number of common variations of nitrile compounds.

Cure System: *Peroxide-cured* nitriles have better heat resistance and lower compression sets.

Temperature Range: -40°C (-40°F) to 125°C (257°F)

Attributes:
▪Color: Black
▪90±5 Shore A durometer
▪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 N90PC

MATERIAL: BUTADIENE ACRYLONITRILE - PEROXIDE CURED
DUROMETER: 90
COLOR: BLACK
ASTM* D2000 M3CH915 A25 B14 B34 EO16 EO36 F16 Z1 Z2

SECTION OF SPEC.	PROPERTIES	REQUIREMENTS	RESULTS	ASTM TEST METHOD
	ORIGINAL PHYSICAL PROPERTIES			
	Hardness, Shore A	90±5	87	D2240-05
	Tensile Strength, psi (MPa)	2175(15)(min)	2993(20.64)	D412-06a
	Elongation, min, percent	100(min)	123	D412-06a
	Modulus @ 100%, psi (Mpa)		2541(17.52)	D412-06a
	Specific Gravity (g/cm^3)		1.33	
A25	**HEAT AGE**			D865-99
	70 hours at 125°C (257°F)			
	Hardness Change, points	0~+15	0	
	Tensile Strength Change, percent	-25(max)	-4	
	Elongation Change, percent	-50(max)	-20	
	Weight Change, percent		1.1	
B14	**COMPRESSION SET**			D395-16B
	22 hours at 100°C, percent	25%(button)(max)	6.8	
B34	**COMPRESSION SET**			D395-16B
	22 hours at 100°C, percent	25%(plied)(max)	12.8	
Z2	**COMPRESSION SET**			D395-16B
	70 hours at 125°C, percent	%(plied)(max)	11.1	
EO16	**IRM 901 OIL**			D471-16
	70 hours at 150°C			
	Hardness Change, points	0~+10	+4	
	Tensile Change, max, percent	-20(max)	-15	
	Elongation Change, max, percent	-40(max)	-34	
	Volume Change, percent	-15~+5	-2.1	
EO36	**IRM 903 OIL**			D471-16a
	70 hours at 150°C			
	Hardness Change, points	±10	-5	
	Tensile Change, max, percent	-35(max)	-29	
	Elongation Change, max, percent	-35(max)	-30	
	Volume Change, percent	0~+25	+6.8	
F16	**LOW-TEMPERATURE BRITTLENESS POINT**			D2137-11A
	3 minutes at -35°C			
	Sample Type: T-50			
	Coolant: Isopropyl alcohol			
	Brittleness temp. to nearest 1°C(1°F)	No crack	Pass	

N90PC