
O-Ring Compound N70 Data Sheet

Material: Butadiene Acrylonitrile Copolymer
70 Durometer, Black

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 compounds show better low-temperature properties, however are more prone to hardening with high temperatures.

Temperature Range: -40°C (-40°F) to 100°C (212°F)

Attributes:

- Color: Black
- 70±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
- 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 COMPOUND N70

MATERIAL: BUTADIENE ACRYLONITRILE COPOLYMER

DUROMETER: 70

COLOR: BLACK

ASTM* D2000 M2BG714 A14 B14 EA14 EF11 EF21 EO14 EO34 Z1

SECTION OF SPEC.	PROPERTIES	REQUIREMENTS	RESULTS	ASTM TEST METHOD
	ORIGINAL PHYSICAL PROPERTIES			
	Hardness, Shore A	70±5	70.5	D2240-05
	Tensile Strength, psi (MPa)	2031 (min)	2206 (15.2)	D412-06a
	Elongation, min, percent	250 (min)	326	D412-06a
	Modulus @ 100%, psi (Mpa)		530 (3.66)	D412-06a
	Specific Gravity (g/cm ³)		1.23	
A14	HEAT AGE			D573-04
	70 hours at 100°C (212°F)			
	Hardness Change, points	±15	+4	
	Tensile Strength Change, percent	-20(max)	+9	
	Elongation Change, percent	-40(max)	-13.0	
	Weight Change, percent		-1	
B14	COMPRESSION SET, METHOD B			D395-03B
	22 hours at 100°C (212°F), percent	25 (max)	7	
EA14	WATER RESISTANCE			D471-06
	70 hours at 100°C (212°F)			
	Hardness Change, points	±10	+1	
	Tensile Change, max, percent		+1	
	Elongation Change, max, percent		-11	
	Volume Change, percent	±15	+0.1	
EF11	FUEL A RESISTANCE			D471-06
	70 hours at 23°C (73.4°F)			
	Hardness Change, points	±10	-1	
	Tensile Change, max, percent	-25(max)	-3	
	Elongation Change, max, percent	-25(max)	-6	
	Volume Change, percent	-5 to +10	+0.3	
EF21	FUEL B RESISTANCE			D471-06
	70 hours at 23°C (73.4°F)			
	Hardness Change, points	0 to -30	-12	
	Tensile Change, max, percent	-60(max)	-31	
	Elongation Change, max, percent	-60(max)	-29	
	Volume Change, percent	0 to +40	18.9	
EO14	IRM 901 OIL			D471-06
	70 hours at 100°C (212°F)			
	Hardness Change, points	-5 to +10	+7	
	Tensile Change, max, percent	-25(max)	+5	
	Elongation Change, max, percent	-45(max)	-21	
	Volume Change, percent	-10 to +5	-9.8	
EO34	IRM 903 OIL			D471-06
	70 hours at 100°C (212°F)			
	Hardness Change, points	-10 to +5	+1	
	Tensile Change, max, percent	-45(max)	+5	
	Elongation Change, max, percent	-45(max)	-15	

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