Porter Seal Denver
Compound Technical Report

Nitrile 90 (Buna N)

Nitrile (Buna N) is a general purpose copolymer of butadiene and acrylonitrile. This compound is exceptionally resistant to petroleum based oils and hydrocarbon fuels over a temperature range of -40° F to +250° F.

ASTM Des.	Original properties	D2000 Spec.	Result
	Durometer, Shore A	90 ± 5	91
	Tensile, psi (MPa), min.	1450 (10)	2270 (15.7)
	Elongation, % min	100	125
	Heat age, 70 hrs @ 100° C		
	Durometer change, points	± 15	+ 4
	Tensile strength change, % max	± 30	- 6
	Elongation change, % max	- 50	- 22
B14	Compression set, 22 hrs @ 100° C		
	Original deflection, % Max.	25	19.8
EA14	Water Resistance, 70 hrs @ 100° C		
	Durometer change, points	± 10	+ 1
	Volume change, %	± 15	+ 4.4
EF11	Fluid A resistance, 70 hrs @ 23° C		
	Durometer change, points	± 10	0
	Tensile change, % max	- 25	- 2.4
	Elongation change, % max	- 25	- 3.1
	Volume change, %	-5 / +10	+ 0.5
EF21	Fluid B resistance, 70 hrs @ 23° C		
	Durometer change, points	0 / -30	- 15
	Tensile change, % max	- 60	- 19.9
	Elongation change, % max	- 60	- 37.3
	Volume change, %	0 / +40	+ 19.6
EO14	ASTM #1 oil, 70 hrs @ 100° C		
	Durometer change, points	-5 / + 15	+ 1
	Tensile change, % max	- 25	+ 3.1
	Elongation change, % max	- 45	- 16.7
	Volume change, %	-10 / +5	- 1.5
EO34	ASTM #3 oil, 70 hrs @ 100° C		
	Durometer change, points	-10 / +5	- 4
	Tensile change, % max	- 45	- 2
	Elongation change, % max	- 45	- 13.2
	Volume change, %	0 / +25	+11.7
F16	Low Temperature Brittleness, 3 min @ -35° C		
	ASTM D2137, Method A, 9.3.2	Non Brittle	Pass

Specifications met:
ASTM D2000-01 Grade M7BG910 B14 EA14 EF11 EF21 EO14 EO34 F16

Nitrile is Recommended for	Nitrile is not Recommended for
General purpose sealing	Ozone
Petroleum Oils and fluids	Halogenated and Nitro hydrocarbons
Di-ester based lubricants	Ketones
Water	Phosphate ester based fluids
Silicone greases	Automotive brake fluid
Ethylene glycol	