



## Porter Seal Denver Compound Technical Report

### Nitrile 70 Duro (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	70 ± 5	70
	Tensile, psi (MPa), min.	2031 (14)	2476 (17)
	Elongation, % min	250	385
	<u>Heat age, 70 hrs @ 100° C</u>		
	Durometer change, points	± 15	+ 1
	Tensile strength change, % max	± 30	+ 4
	Elongation change, % max	- 50	- 16
B14	<u>Compression set, 22 hrs @ 100° C</u>		
	Original deflection, % Max.	25	16.7
EA14	<u>Water Resistance, 70 hrs @ 100° C</u>		
	Durometer change, points	± 10	+ 2
	Volume change, %	± 15	+ 6.2
EF11	<u>Fluid A resistance, 70 hrs @ 23° C</u>		
	Durometer change, points	± 10	+ 1
	Tensile change, % max	-25	-6.3
	Elongation change, % max	- 25	- 2.3
	Volume change, %	-5 / +10	+ 1.5
EF21	<u>Fluid B resistance, 70 hrs @ 23° C</u>		
	Durometer change, points	0 / -30	- 7
	Tensile change, % max	- 60	- 37.8
	Elongation change, % max	- 60	- 26.2
	Volume change, %	0 / +40	+ 21.1
EO14	<u>ASTM #1 oil, 70 hrs @ 100° C</u>		
	Durometer change, points	-5 / + 10	+ 2
	Tensile change, % max	- 25	+ 3.2
	Elongation change, % max	- 45	- 12.8
	Volume change, %	-10 / +5	- 3.7
EO34	<u>ASTM #3 oil, 70 hrs @ 100° C</u>		
	Durometer change, points	-10 / +5	- 5
	Tensile change, % max	- 45	- 10
	Elongation change, % max	- 45	- 11.4
	Volume change, %	0 / +25	+ 7.8
F17	<u>Low Temperature Brittleness, 3 min @ -40° C</u>		
	ASTM D2137, Method A, 9.3.2	Non Brittle	Pass

Specifications met:

ASTM D2000-99 Grade M2BG714 B14 EA14 EF11 EF21 EO14 EO34 F17

Nitrile is Recommended for

General purpose sealing  
Petroleum Oils and fluids  
Di-ester based lubricants  
Water  
Silicone greases  
Ethylene glycol

Nitrile is not Recommended for

Ozone  
Halogenated and Nitro hydrocarbons  
Ketones  
Phosphate ester based fluids  
Automotive brake fluid