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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 Designation	D2000 Specification	Actual Result
Original properties		
Durometer, Shore A	90 ± 5	91
Tensile, psi (MPa), min.	1450 (10)	2,270 (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
	Volume change, %	± 15
		+ 1
		+ 4.4
EF11	Fluid A resistance, 70 hrs @ 23° C	
	Durometer change, points	± 10
	Tensile change, % max	- 25
	Elongation change, % max	- 25
	Volume change, %	-5 / +10
		0
		- 2.4
		- 3.1
		+ 0.5
EF21	Fluid B resistance, 70 hrs @ 23° C	
	Durometer change, points	0 / -30
	Tensile change, % max	- 60
	Elongation change, % max	- 60
	Volume change, %	0 / +40
		- 15
		- 19.9
		- 37.3
		+ 19.6
EO14	ASTM #1 oil, 70 hrs @ 100° C	
	Durometer change, points	-5 / + 10
	Tensile change, % max	- 25
	Elongation change, % max	- 45
	Volume change, %	-10 / +5
		+ 1
		+ 3.1
		- 16.7
		- 1.5
E034	ASTM #3 oil, 70 hrs @ 100° C	
	Durometer change, points	-10 / +5
	Tensile change, % max	- 45
	Elongation change, % max	- 45
	Volume change, %	0 / +25
		- 4
		- 2
		- 13.2
		+ 11.7
F16	Low Temp. 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

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

Nitrile is NOT Recommended for

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