

NBR Mateial Specification

Standard Gasket Compound	BG7A1	
Common Names/Aliases	Buna-N (Nitrile Rubber)	
Grade	Commercial	
Color	Black	
Chemical Group (ASTM D-2000 Code)	NBR (BG)	
Application	General purpose rubber with excellent elastomeric properties plus resistance to petroleum based lubricants and hydrocarbon fuels. Most common and cost effective rubber o-ring compound.	
Competing Compounds	N674, 7507, B46-70, 4200-70, HI4327, 366Y	
Standard Specifications (related technical specs detailed below)	ASTM D-2000-99 M2BG714-B14-EA14-EF11-EF21-EO14-EO34-F17	
	Physical Properties	
Item (Unit)	Specification	Actual
Hardness - Durometer	70 +/- 5 Shore A	70 Shore A
Tensile Strength	2031 psi (14 Mpa) max	2476 psi (17 Mpa)
Elongation%	250% min	385%
Temperature Range	-40 F/+250 F (-40 C /+121 C)	
Specific Gravity	n/a	1.24
	Actual Test Data (ASTM D2000 Suffix Reference)	
	Heat Age, 70 hrs @ 212° F (100° C)	
Hardness-Durometer Change	+/- 15 Shore A max	+1 Shore A
Tensile Strength Change	+/- 30% max	+4%
Elongation% Change	-50% max	-16%
	(B14) Compression Set, 22 hrs @ 212° F (100° C)	
Original Deflection	25% max	16.7%

Compression Deflection%	n/a	n/a
	(EA14) Water Resistance, 70 hrs @ 212° F (100° C)	
Hardness-Durometer Change	+/-10 Shore A max	+2
Volume Change	+/- 15% max	+6.2%
	(EF11) Fuel A Resistance, 70 hrs @ 73° F (23° C)	
Hardness-Durometer Change	+/- 10 Shore A	+1 Shore A
Tensile Strength Change	-25% max	-6.3%
Elongation% Change	-25% max	-2.3%
Volume Change	-5/+10%	+1.5%
	(EF21) Fuel B Resistance, 70 hrs @ 73° F (23° C)	
Hardness-Durometer Change	-30/0 Shore A	-7 Shore A
Tensile Strength Change	-60% max	-37.8%
Elongation% Change	-60% max	-26.2%
Volume Change	+40% max	+21.1%
	(EO14) ASTM #1 Oil, 70 hrs @ 212° F (100° C)	
Hardness-Durometer Change	-5/+10 Shore A	+2 Shore A
Tensile Strength Change	-25% max	+3.2%
Elongation% Change	-45% max	-12.8%
Volume Change	-10/+5%	-3.7%
	(EO34) ASTM #3 Oil, 70 hrs @ 212° F (100° C)	
Hardness-Durometer Change	-10/+5 Shore A	-5 Shore A
Tensile Strength Change	-45%	-10%
Elongation% Change	-45%	-11.4%
Volume Change	+25%	+7.8%
	(F17) Low Temperature Brittleness, 3 min @ -40° F (-40° C)	
Per ASTM D2137, Method A	Non-Brittle	Non-Brittle
Per ASTM D2137, Method A	n/a	n/a