



Compound

**3844****NITRILE-BUTADIENE  
80 DUROMETER - BLACK  
FDA SANCTIONED MAT'L.****PRODUCT DATA SHEET**

Compound 3844 is an 80 durometer black colored Buna N elastomer, it is formulated with FDA sanctioned materials. It exhibits good resistance to compression set, petroleum based oils, aliphatic and aromatic fuels.

This compound will meet or exceed the specifications listed and has the following physical properties:

ASTM D2000 2 BF 820 B14 B34 EO14 EO34  
3 BG 820 B14  
4 BG 820 B14 EO34  
6 BG 820 A14 B14 B34 EO14 EO34  
7 BG 820 B14 EA14 EF11 EF21 EO14 EO34  
  
3 CH 820 A25 B14 B34 EO16 EO36  
4 CH 820 A25 B14 B34 EO15 EO35 F14  
5 CH 820 B14 B34 EF31 EO36  
6 CH 820 B14 B34 EF31 EO36

**Original Properties**

Modulus @ 100% Elongation	1139 psi	7.9 MPa
Tensile Strength	2308 psi	15.9 MPa
Ultimate Elongation	280 %	
Hardness, Shore A	82 Durometer	
Specific Gravity	1.27 grams/cc	
Brittleness Temperature	-18 °F	-28 °C
Tear Resistance, Die B	325 ppi	56.9 kN/m
Tear Resistance, Die C	242 ppi	42.4 kN/m

**Compression Set**

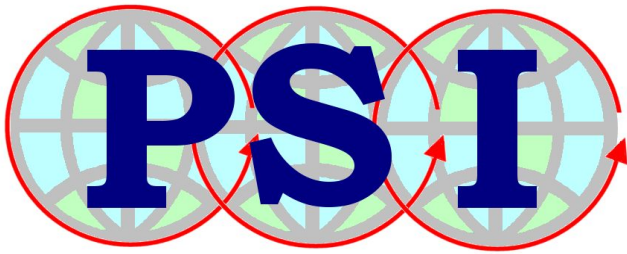
Solid: 22 hrs @ 212°F (100°C)	5.4 %
Solid: 70 hrs @ 212°F (100°C)	8.4 %
Plied: 22 hrs @ 212°F (100°C)	12.7 %
Plied: 70 hrs @ 212°F (100°C)	17.5 %

**HEAT AGED: 70 hrs @ 212°F (100°C)**

Change - Tensile Strength	+ 10.4 %
Change - Elongation	- 17.5 %
Change - Hardness, Shore A	+ 5

**HEAT AGED: 70 hrs @ 257°F (125°C)**

Change - Tensile Strength	+ 15.4 %
Change - Elongation	- 45.4 %
Change - Hardness, Shore A	+ 9



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Change - Tensile Strength	+ 16.1 %
Change - Elongation	- 40.0 %
Change - Hardness, Shore A	+ 12

**DISTILLED WATER AGED: 70 hrs @ 212°F (100°C)**

Change - Hardness, Shore A	- 2
Change - Volume	+ 3.3 %

**ASTM REFERENCE FUEL A: 70 hrs @ RT (73°F, 23°C)**

Change - Tensile Strength	+ 1.4 %
Change - Elongation	+ 3.9 %
Change - Hardness, Shore A	- 1
Change - Volume	- 0.3 %

**ASTM REFERENCE FUEL B: 70 hrs @ RT (73°F, 23°C)**

Change - Tensile Strength	- 13.7 %
Change - Elongation	- 26.4 %
Change - Hardness, Shore A	- 11
Change - Volume	+ 18.4 %

**ASTM REFERENCE FUEL C: 70 hrs @ RT (73°F, 23°C)**

Change - Tensile Strength	- 17.6 %
Change - Elongation	- 28.2 %
Change - Hardness, Shore A	- 14
Change - Volume	+ 30.6 %

**ASTM OIL #1: 70 hrs @ 212°F (100°C)**

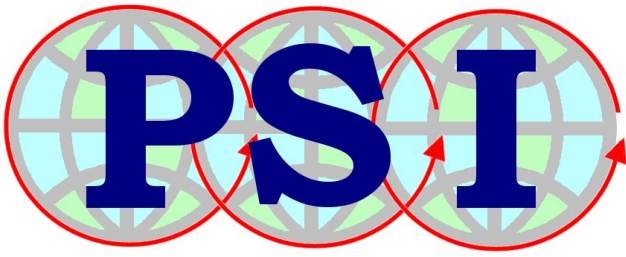
Change - Tensile Strength	+ 4.9 %
Change - Elongation	+ 0.4 %
Change - Hardness, Shore A	+ 3
Change - Volume	- 5.7 %

**ASTM OIL #1: 70 hrs @ 257°F (125°C)**

Change - Tensile Strength	+ 14.0 %
Change - Elongation	- 15.4 %
Change - Hardness, Shore A	+ 5
Change - Volume	- 8.5 %

**ASTM OIL #1: 70 hrs @ 302°F (150°C)**

Change - Tensile Strength	+ 9.0 %
Change - Elongation	- 21.4 %
Change - Hardness, Shore A	+ 4
Change - Volume	- 7.6 %



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**ASTM OIL #3: 70 hrs @ 212°F (100°C)**

Change - Tensile Strength	+ 9.4 %
Change - Elongation	- 5.7 %
Change - Hardness, Shore A	- 2
Change - Volume	+ 0.1 %

**ASTM OIL #3: 70 hrs @ 257°F (125°C)**

Change - Tensile Strength	+ 10.1 %
Change - Elongation	- 13.6 %
Change - Hardness, Shore A	+ 1
Change - Volume	+ 1.1 %

**ASTM OIL #3: 70 hrs @ 302°F (150°C)**

Change - Tensile Strength	+ 8.4 %
Change - Elongation	- 26.7 %
Change - Hardness, Shore A	+ 1
Change - Volume	+ 2.4 %