



Compound

3820**NITRILE - BUTADIENE
80 DURO BLACK COLOR
HOT OIL RESISTANT****PRODUCT DATA SHEET**

Compound 3820 is an 80 durometer black colored Buna N elastomer, it is specifically formulated for resistance to hot petroleum based oils and dry heat. It also exhibits very good resistance to compression set.

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 EO14
4 BG 820 A14 B14 EO14
6 BG 820 A14 B14 B34 EO14 EO34
7 BG 820 B14 EA14 EF11 EF21 EO14 EO34 F16
4 BK 820 A24 B14 B34 EF11 EF21 EO14
3 CH 820 A25 B14 B34 EO16 EO36
4 CH 820 A25 B14 EF31 EO15 EO35 F16
5 CH 820 A25 B14 B34 EO36 F14
6 CH 820 B14 B34 EO36

Original Properties

Modulus @ 100% Elongation	1044 psi	7.2 MPa
Tensile Strength	2314 psi	16.0 MPa
Ultimate Elongation	173 %	
Hardness, Shore A	78 Durometer	
Specific Gravity	1.22 grams/cc	
Brittleness Temperature	-35 °F	-37 °C
Tear Resistance, Die B	260 ppi	45.5 kN/m
Tear Resistance, Die C	167 ppi	29.2 kN/m

Compression Set

Solid: 22 hrs @ 212°F (100°C)	9.0 %
Solid: 22 hrs @ 257°F (125°C)	12.0 %
Solid: 70 hrs @ 212°F (100°C)	9.9 %
Plied: 22 hrs @ 212°F (100°C)	12.9 %
Plied: 22 hrs @ 257°F (125°C)	20.3 %
Plied: 70 hrs @ 212°F (100°C)	16.0 %

HEAT AGED: 70 hrs @ 212°F (100°C)

Change - Tensile Strength	- 3.8 %
Change - Elongation	- 14.5 %
Change - Hardness, Shore A	+ 4



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Change - Tensile Strength	- 3.9 %
Change - Elongation	- 32.9 %
Change - Hardness, Shore A	+ 8

HEAT AGED: 70 hrs @ 257°F (125°C) Test Tube Method

Change - Tensile Strength	- 3.9 %
Change - Elongation	- 32.9 %
Change - Hardness, Shore A	+ 8

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

Change - Hardness, Shore A	- 2
Change - Volume	+ 2.8 %

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

Change - Tensile Strength	+ 2.5 %
Change - Elongation	+ 1.1 %
Change - Hardness, Shore A	0
Change - Volume	- 0.7 %

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

Change - Tensile Strength	- 36.1 %
Change - Elongation	- 30.1 %
Change - Hardness, Shore A	- 9
Change - Volume	+ 23.8 %

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

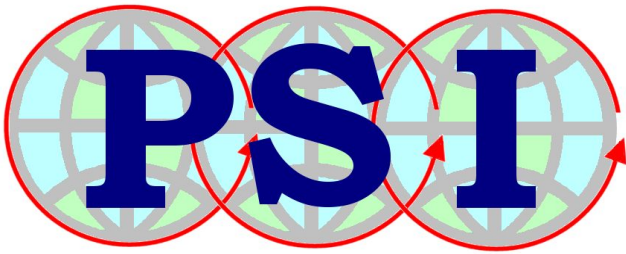
Change - Tensile Strength	- 52.8 %
Change - Elongation	- 43.9 %
Change - Hardness, Shore A	- 11
Change - Volume	+ 43.3 %

ASTM OIL #1: 70 hrs @ 212°F (100°C)

Change - Tensile Strength	+ 6.0 %
Change - Elongation	- 3.5 %
Change - Hardness, Shore A	+ 4
Change - Volume	- 4.6 %

ASTM OIL #1: 70 hrs @ 257°F (125°C)

Change - Tensile Strength	+ 10.5 %
Change - Elongation	- 5.8 %
Change - Hardness, Shore A	+ 2
Change - Volume	- 4.8 %



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ASTM OIL #1: 70 hrs @ 302°F (150°C)

Change - Tensile Strength	- 5.6 %
Change - Elongation	- 25.4 %
Change - Hardness, Shore A	+ 2
Change - Volume	- 4.6 %

ASTM OIL #3: 70 hrs @ 212°F (100°C)

Change - Tensile Strength	+ 5.4 %
Change - Elongation	0.0 %
Change - Hardness, Shore A	- 3
Change - Volume	+ 7.8 %

ASTM OIL #3: 70 hrs @ 257°F (125°C)

Change - Tensile Strength	- 3.7 %
Change - Elongation	- 9.2 %
Change - Hardness, Shore A	- 5
Change - Volume	+ 9.2 %

ASTM OIL #3: 70 hrs @ 302°F (150°C)

Change - Tensile Strength	- 10.0 %
Change - Elongation	- 18.5 %
Change - Hardness, Shore A	- 4
Change - Volume	+ 9.6 %