

Compound

**3919****NITRILE BUTADIENE  
90 DUROMETER  
BLACK-GRAPHITE FILLED****PRODUCT DATA SHEET**

Compound 3919 is a 90 durometer black colored Buna N elastomer, it is formulated with graphite to provide internal lubrication.

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

ASTM D2000 6 BG 915 A14 B14 B34 EO14 EO34  
7 BG 915 B14 EO14 EO34 EA14 EF11 EF21  
  
3 CH 915 A25 B14 B34  
4 CH 915 A25 B14 EF31  
5 CH 915 B14 B34 EF31 F14  
6 CH 915 B14 B34 EF31 EO36

**Original Properties**

|                           |               |           |
|---------------------------|---------------|-----------|
| Modulus @ 100% Elongation | 2051 psi      | 14.1 MPa  |
| Tensile Strength          | 2513 psi      | 17.3 MPa  |
| Ultimate Elongation       | 130 %         |           |
| Hardness, Shore A         | 86 Durometer  |           |
| Specific Gravity          | 1.32 grams/cc |           |
| Brittleness Temperature   | -26 °F        | -32 °C    |
| Tear Resistance, Die B    | 167 ppi       | 29.2 kN/m |

**Compression Set**

|                               |        |
|-------------------------------|--------|
| Solid: 22 hrs @ 212°F (100°C) | 10.3 % |
| Solid: 70 hrs @ 257°F (125°C) | 29.8 % |
| Plied: 22 hrs @ 212°F (100°C) | 20.8 % |

**HEAT AGED: 70 hrs @ 212°F (100°C)**

|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | + 2.5 %  |
| Change - Elongation        | - 30.8 % |
| Change - Hardness, Shore A | + 3      |

**HEAT AGED: 70 hrs @ 257°F (125°C)**

|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | - 3.3 %  |
| Change - Elongation        | - 46.2 % |
| Change - Hardness, Shore A | + 7      |

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

|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | - 3.3 %  |
| Change - Elongation        | - 46.2 % |
| Change - Hardness, Shore A | + 7      |



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|                            |         |
|----------------------------|---------|
| Change - Hardness, Shore A | - 2     |
| Change - Volume            | + 5.8 % |

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

|                            |         |
|----------------------------|---------|
| Change - Tensile Strength  | - 5.7 % |
| Change - Elongation        | - 7.7 % |
| Change - Hardness, Shore A | 0       |
| Change - Volume            | + 0.3 % |

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

|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | - 26.4 % |
| Change - Elongation        | - 15.4 % |
| Change - Hardness, Shore A | - 9      |
| Change - Volume            | + 19.1 % |

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

|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | - 36.7 % |
| Change - Elongation        | - 30.8 % |
| Change - Hardness, Shore A | - 11     |
| Change - Volume            | + 30.1 % |

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

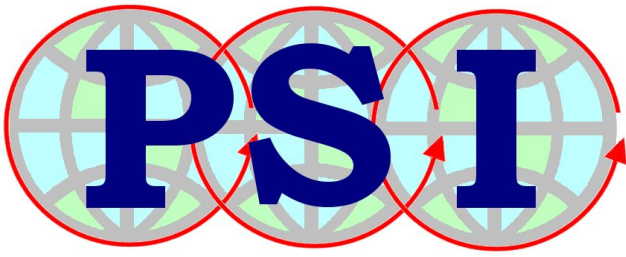
|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | + 3.3 %  |
| Change - Elongation        | - 23.1 % |
| Change - Hardness, Shore A | + 5      |
| Change - Volume            | - 7.9 %  |

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

|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | - 8.8 %  |
| Change - Elongation        | - 46.2 % |
| Change - Hardness, Shore A | + 7      |
| Change - Volume            | - 9.2 %  |

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

|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | - 34.7 % |
| Change - Elongation        | - 69.2 % |
| Change - Hardness, Shore A | + 8      |
| Change - Volume            | - 9.3 %  |



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**PRODUCT DATA SHEET**

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

|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | + 2.0 %  |
| Change - Elongation        | - 15.4 % |
| Change - Hardness, Shore A | 0        |
| Change - Volume            | + 1.7 %  |

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

|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | - 13.4 % |
| Change - Elongation        | - 38.5 % |
| Change - Hardness, Shore A | + 2      |
| Change - Volume            | + 1.8 %  |

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

|                            |          |
|----------------------------|----------|
| Change - Tensile Strength  | - 28.6 % |
| Change - Elongation        | - 38.5 % |
| Change - Hardness, Shore A | 0        |
| Change - Volume            | + 1.8 %  |

**Tear Resistance, Method D 624, Die B**

|                 |           |
|-----------------|-----------|
| Tear Resistance | 167.0 ppi |
|-----------------|-----------|