



## Rubber Material Selection Guide NBR / Nitrile or Buna N Acrylonitrile Butadiene

- |                                |                         |
|--------------------------------|-------------------------|
| ■ Abbreviation                 | NBR                     |
| ■ ASTM D-2000 Classification   | BF, BG, BK              |
| ■ Chemical Definition          | Acrylonitrile Butadiene |
| ■ RRP Compound Number Category | 30000 Series            |

### **Physical & Mechanical Properties**

- |                               |                   |
|-------------------------------|-------------------|
| ■ Durometer or Hardness Range | 20 – 95 Shore A   |
| ■ Tensile Strength Range      | 200 – 3,500 PSI   |
| ■ Elongation (Range %)        | 350 % – 650 %     |
| ■ Abrasion Resistance         | Good to Excellent |
| ■ Adhesion to Metal           | Excellent         |
| ■ Adhesion to Rigid Materials | Good to Excellent |
| ■ Compression Set             | Good to Excellent |
| ■ Flex Cracking Resistance    | Fair to Good      |
| ■ Impact Resistance           | Fair to Good      |
| ■ Resilience / Rebound        | Good              |
| ■ Tear Resistance             | Good to Excellent |
| ■ Vibration Dampening         | Fair to Good      |

### **Chemical Resistance**

- |                                 |              |
|---------------------------------|--------------|
| ■ Acids, Dilute                 | Good         |
| ■ Acids, Concentrated           | Poor to Fair |
| ■ Acids, Organic (Dilute)       | Good         |
| ■ Acids, Organic (Concentrated) | Poor         |
| ■ Acids, Inorganic              | Fair to Good |



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### Chemical Resistance

■ Alcohol's	Fair to Good
■ Aldehydes	Poor to Fair
■ Alkalies, Dilute	Good
■ Alkalies, Concentrated	Poor to Good
■ Amines	Poor
■ Animal & Vegetable Oils	Good to Excellent
■ Brake Fluids, Non-Petroleum Based	Poor
■ Diester Oils	Fair to Good
■ Esters, Alkyl Phosphate	Poor
■ Esters, Aryl Phosphate	Poor to Fair
■ Ethers	Poor
■ Fuel, Aliphatic Hydrocarbon	Good to Excellent
■ Fuel, Aromatic Hydrocarbon	Fair to Good
■ Fuel, Extended (Oxygenated)	Fair to Good
■ Halogenated Solvents	Poor
■ Hydrocarbon, Halogenated	Poor to Fair
■ Ketones	Poor
■ Lacquer Solvents	Fair
■ LP Gases & Fuel Oils	Excellent
■ Mineral Oils	Excellent
■ Oil Resistance	Good to Excellent
■ Petroleum Aromatic	Good
■ Petroleum Non-Aromatic	Excellent
■ Refrigerant Ammonia	Good
■ Refrigerant Halofluorocarbons	R-11, R-12, R-13
■ Refrigerant Halofluorocarbons w/ Oil	R-11, R-12
■ Silicone Oil	Good
■ Solvent Resistance	Good to Excellent



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### Thermal Properties

- |                                       |                      |
|---------------------------------------|----------------------|
| ■ Low Temperature Range               | - 70° F to 0° F      |
| ■ Minimum for Continuous Use (Static) | - 40° F              |
| ■ Brittle Point                       | - 70° F to 0° F      |
| ■ High Temperature Range              | + 210° F to + 250° F |
| ■ Maximum for Continuous Use (Static) | + 250° F             |

### Environmental Performance

- |                        |                   |
|------------------------|-------------------|
| ■ Colorability         | Excellent         |
| ■ Flame Resistance     | Poor              |
| ■ Gas Permeability     | Fair to Excellent |
| ■ Odor                 | Good              |
| ■ Ozone Resistance     | Fair to Good      |
| ■ Oxidation Resistance | Good              |
| ■ Radiation Resistance | Fair to Good      |
| ■ Steam Resistance     | Fair to Good      |
| ■ Sunlight Resistance  | Poor to Good      |
| ■ Taste Retention      | Fair to Good      |
| ■ Weather Resistance   | Fair to Good      |
| ■ Water Resistance     | Good to Excellent |

For assistance in identifying the appropriate polymer or material, or to develop and formulate a polyacrylate / acrylic rubber compound to meet your specific application and performance requirements, please contact Robinson Rubber Products at e-mail: [sales@robinsonrubber.com](mailto:sales@robinsonrubber.com) or phone: +1-763-535-6737.

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