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 NBR or nitrile / buna n rubber compound to meet your specific application and performance requirements, please contact Robinson Rubber Products at e-mail: sales@robinsonrubber.com or phone: +1-763-535-6737.

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