Rubber Material Selection Guide
XNBR or Carboxylated Nitrile

- Abbreviation: XNBR
- ASTM D-2000 Classification: BF, BG, BK
- Chemical Definition: Carboxylated Nitrile
- RRP Compound Number Category: 30000 Series

♦ Physical & Mechanical Properties
- Durometer or Hardness Range: 50 – 90 Shore A
- Tensile Strength Range: 1,000 – 3,500 PSI
- Elongation (Range %): 250 % – 600 %
- Abrasion Resistance: Excellent
- Adhesion to Metal: Good to Excellent
- Adhesion to Rigid Materials: Good to Excellent
- Compression Set: Fair to Good
- Flex Cracking Resistance: Fair
- Impact Resistance: Good to Excellent
- Resilience / Rebound: Fair to Good
- Tear Resistance: Excellent
- Vibration Dampening: Fair to Good

♦ Chemical Resistance
- Acids, Dilute: Good
- Acids, Concentrated: Fair to Good
- Acids, Organic (Dilute): Good
- Acids, Organic (Concentrated): Poor
- Acids, Inorganic: Fair to Good
- Alcohol’s: Fair to Good
## Chemical Resistance

- **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
- **Ketones**: Poor
- **Lacquer Solvents**: Fair
- **LP Gases & Fuel Oils**: Good to Excellent
- **Mineral Oils**: Good to 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
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♦ Thermal Properties
  ■ Low Temperature Range - 50° F to -20° F
  ■ Minimum for Continuous Use (Static) - 40° F
  ■ Brittle Point - 50° F to -20° F
  ■ High Temperature Range + 210° F to + 250° F
  ■ Maximum for Continuous Use (Static) + 250° F

♦ Environmental Performance
  ■ Colorability Good
  ■ Flame Resistance Poor
  ■ Gas Permeability Fair to Excellent
  ■ Odor Good
  ■ Ozone Resistance Fair
  ■ 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

For assistance in identifying the appropriate polymer or material, or to develop and formulate a XNBR or carboxylated nitrile 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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