

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
◆ <u>Physical & Mechanical Properties</u>	
▪ 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
◆ <u>Chemical Resistance</u>	
▪ 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

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◆ **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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