

Rubber Material Selection Guide

NBR or Acrylonitrile Butadiene

Abbreviation	NBR
Chemical Definition	Acrylonitrile Butadiene

Physical & Mechanical Properties

Durometer or Hardness Range	20 – 95 Shore A
Tensile Strength Range	1.38 – 24.13 MPa
Elongation (Range %)	350 % – 650 %
Abrasion Resistance	Good
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
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
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
Silicone Oil	Good
Solvent Resistance	Good to Excellent

Thermal Properties

Low Temperature Range	-57°C to -18°C
Minimum for Continuous Use (Static)	-40°C
Brittle Point	-57°C to -18°C
High Temperature Range	+99°C to +121°C
Maximum for Continuous Use (Static)	+121°C

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
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 rubber compound to meet your specific application and performance requirements, please contact Zeta Chemicals.