Rubber Material Selection Guide
BR or Polybutadiene

Abbreviation	BR
ASTM D-2000 Classification	AA
Chemical Definition	Polybutadiene
RRP Compound Number Category	13-0000 Series

Physical & Mechanical Properties

Durometer or Hardness Range	45 – 80 Shore A
Tensile Strength Range	500 – 2,000 PSI
Elongation (Range %)	450 % – 650 %
Abrasion Resistance	Fair to Excellent
Adhesion to Metal	Good
Adhesion to Rigid Materials	Fair to Good
Compression Set	Good to Excellent
Flex Cracking Resistance	Fair to Excellent
Impact Resistance	Poor to Good
Resilience / Rebound	Fair to Excellent
Tear Resistance	Poor to Good
Vibration Dampening	Fair to Good

Chemical Resistance

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

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Chemical Resistance

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

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Thermal Properties

Low Temperature Range	- 150º F to - 100º F
Minimum for Continuous Use (Static)	- 90º F
Brittle Point	- 100º F
High Temperature Range	+ 180º F to + 220º
Maximum for Continuous Use (Static)	+ 200º F

Environmental Performance

Colorability	Good
Flame Resistance	Poor
Gas Permeability	Good
Odor	Good
Ozone Resistance	Poor
Oxidation Resistance	Good to Excellent
Radiation Resistance	Poor
Steam Resistance	Fair to Good
Sunlight Resistance	Poor
Taste Retention	Fair to Good
Weather Resistance	Poor 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 or phone: +1-763-535-6737.

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