

Rubber Material Selection Guide SBR or Styrene Butadiene

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| ▪ Abbreviation | SBR |
| ▪ ASTM D-2000 Classification | AA, BA |
| ▪ Chemical Definition | Styrene Butadiene |
| ▪ RRP Compound Number Category | 40000 Series |

◆ **Physical & Mechanical Properties**

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|-------------------------------|-------------------|
| ▪ Durometer or Hardness Range | 30 – 95 Shore A |
| ▪ Tensile Strength Range | 500 – 3,000 PSI |
| ▪ Elongation (Range %) | 450 % – 600 % |
| ▪ Abrasion Resistance | Excellent |
| ▪ Adhesion to Metal | Excellent |
| ▪ Adhesion to Rigid Materials | Excellent |
| ▪ Compression Set | Good to Excellent |
| ▪ Flex Cracking Resistance | Good |
| ▪ Impact Resistance | Excellent |
| ▪ Resilience / Rebound | Good |
| ▪ Tear Resistance | Fair to Excellent |
| ▪ Vibration Dampening | Fair to Good |

◆ **Chemical Resistance**

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|---------------------------------|--------------|
| ▪ Acids, Dilute | Fair to Good |
| ▪ Acids, Concentrated | Poor to Fair |
| ▪ Acids, Organic (Dilute) | Good |
| ▪ Acids, Organic (Concentrated) | Poor to Good |
| ▪ Acids, Inorganic | Fair to Good |
| ▪ Alcohol's | Good |
| ▪ Aldehydes | Poor to Fair |

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◆ Chemical Resistance

▪ 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	Poor to 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 - 60° F to - 30° F
- Minimum for Continuous Use (Static) - 60° F
- Brittle Point - 80° F
- High Temperature Range + 210° F to + 250° F
- Maximum for Continuous Use (Static) + 225° F

◆ **Environmental Performance**

- Colorability Good
- Flame Resistance Poor
- Gas Permeability Fair
- Odor Good
- Ozone Resistance Poor
- Oxidation Resistance Fair to Excellent
- Radiation Resistance Poor to Good
- Steam Resistance Fair to Good
- Sunlight Resistance Poor
- 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 SBR or styrene butadiene 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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