SBR - Styrene Butadiene Rubber

Hardness Range 30 to 95 Durometer Shore A
Temperature Range - 45º C to + 90º C

Advantages in performance…

- for abrasion resistance, adhesion to metal and rigid materials, compression set, impact resistance, and tear resistance.
- in dilute acids, certain dilute organic acids, certain concentrated organic acids, alcohols, dilute alkalis, certain concentrated alkalis, certain amines, animal & vegetable oils, certain brake fluid applications, certain ketones, and refrigerant ammonia.
- for coloring capability, odor, oxidation resistance, radiation resistance, steam resistance, taste retention, weather resistance, and water resistance.

Limitations in performance…

- for tear resistance and vibration dampening certain polymers.
- in certain concentrated acids, in certain concentrated organic acids, certain aldehydes, certain amines, certain animal and vegetable oils, certain brake fluids, diester oils, alkyl phosphates esters, aryl phosphate esters, ethers, aliphatic hydrocarbon fuels, aromatic hydrocarbon fuels, extended or oxygenated fuels, halogenated solvents, halogenated hydrocarbons, certain ketones, lacquer solvents LP gases & fuel oils, mineral oils, aromatic & non-aromatic petroleum, refrigerant halofluorocarbons with oil, and silicone oil.
- for flame resistance, ozone resistance, and sunlight resistance.

Rubber Material Selection Guide SBR or Styrene Butadiene

- Abbreviation SBR
- ASTM D-2000 Classification AA, BA
- Chemical Definition Styrene Butadiene

♦ Physical & Mechanical Properties

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**

• 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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♦ 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 ILGA S.R.L at e-mail: ilga@ilgagomma.com or phone: +39 0456336521 / 0456336514.

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