

Styrene Butadiene Rubber (SBR)

ASTM D1418 & ISO 1629 Designation: **SBR**

ASTM D2000, SAE J200 Type/Class: **AA, BA**

Mil-R-3065 (Mil-Std 417) Class: **RS**



Advantages: Similar properties to NR but with improved ageing and temperature resistance; good dynamic, mechanical and fatigue properties; high strength, resilience and abrasion properties; good resistance to many inorganic chemicals.

Limitations: Suffers from poor tear strength, oxidation, ozone, UV and weathering; limited oil resistance; not recommended for use in contact with acids and organic liquids; temperature resistance is still low.

Physical & Mechanical Properties

Durometer or Hardness Range: 30-95 Shore A
Tensile Strength Range: 500 - 2,900 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

Thermal Properties

General Temperature Range -60°F to 250°F
Min. for continuous Use (Static): -60°F
Brittle Point: -80°F
Max. 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
Weather Resistance: Fair to Good
Water Resistance: Good to Excellent

Chemical Resistance

Acids, Dilute: Fair to Good
Acids, Concentrated: Poor to Fair
Acids, Organic (Dilute): Good
Acids, Organic (Concentrated): Poor to Good
Alcohols: Good
Aldehydes: Poor to Fair
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
Esthers: Poor
Fuel, Aliphatic Hydrocarbon: Poor
Fuel, Aromatic Hydrocarbon: Poor
Fuel, Extended (Oxygenated): Poor
Halogenated Solvents: Poor
Hydrocarbon, Halogenated: Poor
Ketones (MEK, acetone): 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, R13
Refrigerant Halofluorocarbons w/ Oil: Poor
Silicone Oil: Poor
Solvent Resistance: Poor