

Acrylonitrile Butadiene Rubber (Nitrile)

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

ASTM D2000, SAE J200 Type/Class: **BF, BG, BK, CH**

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



Advantages: Good resistance to oil, inorganic chemical and aliphatic hydrocarbon resistant rubber; good mechanical properties and gas impermeability; good adhesion characteristics.

Limitations: Moderate ageing resistance; relatively poor resistance to low temperatures; limited ozone resistance. Most classes of organic chemicals will attack it; not recommended for use with polar liquids such as alcohols, aldehydes or ketones.

Physical & Mechanical Properties

Durometer or Hardness Range: 20-95 Shore A
Tensile Strength Range: 200 - 3,500 PSI
Elongation (Range%): 350% - 650%
Abrasion Resistance: Good to Excellent
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

Thermal Properties

General Temperature Range -70°F to 250°F
Min. for continuous Use (Static): -40°F
Brittle Point: -70°F
Max. for Continuous Use (Static): 300°F

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

Chemical Resistance

Acids, Dilute: Good
Acids, Concentrated: Poor to Fair
Acids, Organic (Dilute): Good
Acids, Organic (Concentrated): Poor
Alcohols: 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
Esters: Poor
Fuel, Aliphatic Hydrocarbon: Good to Excellent
Fuel, Aromatic Hydrocarbon: Fair to Good
Fuel, Extended (Oxygenated): Fair to Good
Halogenated Solvents: Poor
Hydrocarbon, Halogenated: Poor to Fair
Ketones (MEK, acetone): Poor
Lacquer Solvents: Fair
LP Gases & Fuel Oils: Excellent
Mineral Oils: Excellent
Oil Resistance: Excellent
Petroleum Aromatic: Good
Petroleum Non-Aromatic: Excellent
Refrigerant Ammonia: Good
Refrigerant Halofluorocarbons: R-11, R-12, R-13
Refrigerant Halofluorocarbons w/ Oil: R-11, R-12
Silicone Oil: Good
Solvent Resistance: Good to Excellent