

# Natural Rubber (Pure Gum)

ASTM D1418 & ISO 1629 Designation: **NR**  
ASTM D2000, SAE J200 Type/Class: **AA**  
Mil-R-3065 (Mil-Std 417) Class: **RN**



**Advantages:** Excellent dynamic, mechanical and fatigue properties; high strength, resilience and abrasion properties.

**Limitations:** Suffers from poor oxidation, ozone, oil and solvent resistance. Temperature resistance is also relatively poor.

## **Physical & Mechanical Properties**

Durometer or Hardness Range: 30-95 Shore A  
Tensile Strength Range: 500 - 3,500 PSI  
Elongation (Range%): 300% - 800%  
Abrasion Resistance: Good to Excellent  
Adhesion to Metal: Excellent  
Adhesion to Rigid Materials: Excellent  
Compression Set: Excellent  
Flex Cracking Resistance: Excellent  
Impact Resistance: Good to Excellent  
Resilience/Rebound: Excellent  
Tear Resistance: Good to Excellent  
Vibration Dampening: Good to Excellent

## **Thermal Properties**

General Temperature Range -70°F to 250°F  
Min. for continuous Use (Static): -60°F  
Brittle Point: -80°F  
Max. for Continuous Use (Static): 220°F

## **Environmental Performance**

Colorability: Poor  
Flame Resistance: Fair to Good  
Gas Permeability: Fair to Good  
Odor: Good to Excellent  
Ozone Resistance: Poor  
Oxidation Resistance: Good  
Radiation Resistance: Fair to Good  
Steam Resistance: Good  
Sunlight Resistance: Poor to Fair  
Weather Resistance: Poor to Fair  
Water Resistance: Excellent

## **Chemical Resistance**

Acids, Dilute: Fair to Excellent  
Acids, Concentrated: Poor to Good  
Acids, Organic (Dilute): Fair to Good  
Acids, Organic (Concentrated): Good  
Alcohols: Good to Excellent  
Aldehydes: Good  
Alkalies, Dilute: Fair to Excellent  
Alkalies, Concentrated: Fair to Good  
Amines: Poor to Fair  
Animal & Vegetable Oils: Poor to Good  
Brake Fluids, Non-Petroleum Based: 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): Fair 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: Good  
Solvent Resistance: Fair