Rubber Material Selection Guide
HNBR or Highly Saturated Nitrile
Hydrogenated Acrylonitrile Butadiene

- Abbreviation: HNBR
- ASTM D-2000 Classification: DH
- Chemical Definition: Hydrogenated Acrylonitrile Butadiene
- RRP Compound Number Category: 30000 Series

♦ Physical & Mechanical Properties
- Durometer or Hardness Range: 30 – 95 Shore A
- Tensile Strength Range: 1,500 – 3,500 PSI
- Elongation (Range %): 90 % – 550 %
- 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: Excellent
- Resilience / Rebound: Good
- Tear Resistance: Good to Excellent
- Vibration Dampening: Fair to Good

♦ Chemical Resistance
- Acids, Dilute: Good
- Acids, Concentrated: Fair to Good
- Acids, Organic (Dilute): Good
- Acids, Organic (Concentrated): Fair to Good
Chemical Resistance

- Acids, Inorganic: Fair to Good
- Alcohol’s: Good to Excellent
- Aldehydes: Fair to Good
- Alkalies, Dilute: Good
- Alkalies, Concentrated: Poor to Good
- Amines: Good
- Animal & Vegetable Oils: Good to Excellent
- Brake Fluids, Non-Petroleum Based: Fair
- Diester Oils: Good
- Esters, Alkyl Phosphate: Poor
- Esters, Aryl Phosphate: Poor to Fair
- Ethers: Poor to Fair
- Fuel, Aliphatic Hydrocarbon: Excellent
- Fuel, Aromatic Hydrocarbon: Fair to Good
- Fuel, Extended (Oxygenated): Good to Excellent
- Halogenated Solvents: Poor to Fair
- Hydrocarbon, Halogenated: Poor
- Ketones: Poor
- Lacquer Solvents: Fair
- LP Gases & Fuel Oils: Excellent
- Mineral Oils: Good to Excellent
- Oil Resistance: Good to Excellent
- Petroleum Aromatic: Good to Excellent
- Petroleum Non-Aromatic: Good to Excellent
- Refrigerant Ammonia: Good
- Refrigerant Halofluorocarbons: R-11, R-12, R-13
- Refrigerant Halofluorocarbons w/ Oil: R-11, R-12
- Silicone Oil: Good to Excellent
- Solvent Resistance: Poor
Rubber Material Selection Guide
HNBR or Highly Saturated Nitrile
Halogenated Acrylonitrile Butadiene

♦ Thermal Properties
  ▪ Low Temperature Range - 70° F to -30° F
  ▪ Minimum for Continuous Use (Static) - 40° F
  ▪ Brittle Point - 70° F to -30° F
  ▪ High Temperature Range + 250° F to + 300° F
  ▪ Maximum for Continuous Use (Static) + 325° F

♦ Environmental Performance
  ▪ Colorability Excellent
  ▪ Flame Resistance Poor
  ▪ Gas Permeability Fair to Excellent
  ▪ Odor Good
  ▪ Ozone Resistance Good to Excellent
  ▪ Oxidation Resistance Excellent
  ▪ Radiation Resistance Fair to Good
  ▪ Steam Resistance Fair to Good
  ▪ Sunlight Resistance Good to Excellent
  ▪ Taste Retention Fair to Good
  ▪ Weather Resistance Good to Excellent
  ▪ Water Resistance Excellent

For assistance in identifying the appropriate polymer or material, or to develop and formulate an HNBR 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.

Robinson Rubber Products Company, Inc. makes no expressed or implied warranty as to any qualities, attributes, or characteristics of any polymer or material. This information is provided for reference only.