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Rubber Material Selection Guide
HNBR or Highly Saturated Nitrile
Hydrogenated Acryonitrile 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

Thermal Properties

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