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

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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

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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 a polyacrylate / acrylic 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.

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