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Rubber Material Selection Guide
ECO or Hydrin®
Epichlorohydrin

▪ Abbreviation	ECO
▪ ASTM D-2000 Classification	CH, DK, DJ
▪ Chemical Definition	Epichlorohydrin
▪ RRP Compound Number Category	11-0000 Series

♦ Physical & Mechanical Properties

▪ Durometer or Hardness Range	40 – 90 Shore A
▪ Tensile Strength Range	500 – 2,500 PSI
▪ Elongation (Range %)	200 % – 800 %
▪ Abrasion Resistance	Fair to Good
▪ Adhesion to Metal	Fair to Good
▪ Adhesion to Rigid Materials	Fair to Excellent
▪ Compression Set	Good to Excellent
▪ Flex Cracking Resistance	Good
▪ Impact Resistance	Fair to Excellent
▪ Resilience / Rebound	Good
▪ Tear Resistance	Fair to Excellent
▪ Vibration Dampening	Good

♦ Chemical Resistance

▪ Acids, Dilute	Good
▪ Acids, Concentrated	Poor to Fair
▪ Acids, Organic (Dilute)	Fair
▪ Acids, Organic (Concentrated)	Poor
▪ Acids, Inorganic	Fair to Good
▪ Alcohol's	Fair to Good

- **Chemical Resistance**

Aldehydes	Poor
Alkalies, Dilute	Poor
Alkalies, Concentrated	Fair to Good
Amines	Poor to Good
Animal & Vegetable Oils	Excellent
Brake Fluids, Non-Petroleum Based	Poor
Diester Oils	Poor to Good
Esters, Alkyl Phosphate	Poor
Esters, Aryl Phosphate	Poor
Ethers	Good
Fuel, Aliphatic Hydrocarbon	Good to Excellent
Fuel, Aromatic Hydrocarbon	Good to Excellent
Fuel, Extended (Oxygenated)	Fair to Good
Halogenated Solvents	Poor
Hydrocarbon, Halogenated	Excellent
Ketones	Fair
Lacquer Solvents	Fair
LP Gases & Fuel Oils	Excellent
Mineral Oils	Excellent
Oil Resistance	Excellent
Petroleum Aromatic	Good to Excellent
Petroleum Non-Aromatic	Poor
Refrigerant Ammonia	Poor
Refrigerant Halofluorocarbons	R-12
Refrigerant Halofluorocarbons w/ Oil	Good to Excellent
Silicone Oil	Good to Excellent
Solvent Resistance	Good to Excellent

- **Thermal Properties**
  - Low Temperature Range — - 60º F to - 30º F
  - Minimum for Continuous Use (Static) — - 60º F
  - Brittle Point — - 80º F to - 40º F
  - High Temperature Range — + 250º F to + 275º F
  - Maximum for Continuous Use (Static) — + 275º F

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

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