ECO - Epichlorohydrin Rubber, Hydrin® Rubber

Hardness Range 40 to 90 Durometer Shore A
Temperature Range - 45º C to +130º C

Advantages in performance…

- for adhesion to rigid materials, compression set, impact resistance, and tear resistance.
- in animal & vegetable oils, selected aliphatic & aromatic hydrocarbon fuels, halogenated solvents, LP gases & fuel oils mineral oils refrigerant halofluorocarbons, and silicone oils.
- for low gas permeability, ozone resistance, and oxidation resistance.

Limitations in performance…

- for selected acids, aldehydes, alkalis, amines, brake fluids, diester oils, esters, halogenated solvents, certain non-aromatic petroleum, and refrigerant ammonia.
- for flame resistance, and radiation resistance.

Rubber Material Selection Guide ECO or Hydrin® Epichlorohydrin

- Abbreviation ECO
- ASTM D-2000 Classification CH, DK, DJ
- Chemical Definition Epichlorohydrin

♦ 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

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♦ **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

Rubber Material Selection Guide ECO or Hydrin® Epichlorohydrin

♦ 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 epichlohydron / ECO rubber compound to meet your specific application and performance requirements, please contact ILGA S.R.L at e-mail: ilga@ilgagomma.com or phone: +39 0456336521 / 0456336514.