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

<table>
<thead>
<tr>
<th>Property</th>
<th>Range/Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durometer or Hardness Range</td>
<td>40 – 90 Shore A</td>
</tr>
<tr>
<td>Tensile Strength Range</td>
<td>500 – 2,500 PSI</td>
</tr>
<tr>
<td>Elongation (Range %)</td>
<td>200 % – 800 %</td>
</tr>
<tr>
<td>Abrasion Resistance</td>
<td>Fair to Good</td>
</tr>
<tr>
<td>Adhesion to Metal</td>
<td>Fair to Good</td>
</tr>
<tr>
<td>Adhesion to Rigid Materials</td>
<td>Fair to Excellent</td>
</tr>
<tr>
<td>Compression Set</td>
<td>Good to Excellent</td>
</tr>
<tr>
<td>Flex Cracking Resistance</td>
<td>Good</td>
</tr>
<tr>
<td>Impact Resistance</td>
<td>Fair to Excellent</td>
</tr>
<tr>
<td>Resilience / Rebound</td>
<td>Good</td>
</tr>
<tr>
<td>Tear Resistance</td>
<td>Fair to Excellent</td>
</tr>
<tr>
<td>Vibration Dampening</td>
<td>Good</td>
</tr>
</tbody>
</table>

### 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
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♦ 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.

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