

Rubber Material Selection Guide EPDM or Ethylene Propylene

▪ Abbreviation	EP, EPR, EPT, EPDM
▪ ASTM D-2000 Classification	AA, BA, CA, DA
▪ Chemical Definition	ethylene propylene diene
▪ RRP Compound Number Category	80000 Series
♦ <u>Physical & Mechanical Properties</u>	
▪ Durometer or Hardness Range	30 – 90 Shore A
▪ Tensile Strength Range	500 – 2,500 PSI
▪ Elongation (Range %)	100 % – 700 %
▪ Abrasion Resistance	Good
▪ Adhesion to Metal	Good to Excellent
▪ Adhesion to Rigid Materials	Good to Excellent
▪ Compression Set	Poor to Excellent
▪ Flex Cracking Resistance	Good
▪ Impact Resistance	Very Good
▪ Resilience / Rebound	Fair to Good
▪ Tear Resistance	Fair to Good
▪ Vibration Dampening	Fair to Good
♦ <u>Chemical Resistance</u>	
▪ Acids, Dilute	Excellent
▪ Acids, Concentrated	Excellent
▪ Acids, Organic (Dilute)	Excellent
▪ Acids, Organic (Concentrated)	Fair to Good
▪ Acids, Inorganic	Excellent
▪ Alcohol's	Good to Excellent

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◆ Chemical Resistance

▪ Aldehydes	Good to Excellent
▪ Alkalies, Dilute	Excellent
▪ Alkalies, Concentrated	Excellent
▪ Amines	Fair to Good
▪ Animal & Vegetable Oils	Good
▪ Brake Fluids, Non-Petroleum Based	Good to Excellent
▪ Diester Oils	Poor
▪ Esters, Alkyl Phosphate	Excellent
▪ Esters, Aryl Phosphate	Excellent
▪ Ethers	Fair
▪ Fuel, Aliphatic Hydrocarbon	Poor
▪ Fuel, Aromatic Hydrocarbon	Poor
▪ Fuel, Extended (Oxygenated)	Poor
▪ Halogenated Solvents	Poor
▪ Hydrocarbon, Halogenated	Poor
▪ Ketones	Good to Excellent
▪ Lacquer Solvents	Poor
▪ LP Gases & Fuel Oils	Poor
▪ Mineral Oils	Poor
▪ Oil Resistance	Poor
▪ Petroleum Aromatic	Poor
▪ Petroleum Non-Aromatic	Poor
▪ Refrigerant Ammonia	Good
▪ Refrigerant Halofluorocarbons	R-12, R-13
▪ Refrigerant Halofluorocarbons w/ Oil	Poor
▪ Silicone Oil	Excellent
▪ Solvent Resistance	Poor

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◆ **Thermal Properties**

- | | |
|---------------------------------------|----------------------|
| ▪ Low Temperature Range | - 60° F to - 40° F |
| ▪ Minimum for Continuous Use (Static) | - 60° F |
| ▪ Brittle Point | - 70° F |
| ▪ High Temperature Range | + 220° F to + 300° F |
| ▪ Maximum for Continuous Use (Static) | + 300° F |

◆ **Environmental Performance**

- | | |
|------------------------|-------------------|
| ▪ Colorability | Good to Excellent |
| ▪ Flame Resistance | Poor |
| ▪ Gas Permeability | Fair to Good |
| ▪ Odor | Good |
| ▪ Ozone Resistance | Good to Excellent |
| ▪ Oxidation Resistance | Excellent |
| ▪ Radiation Resistance | Good to Excellent |
| ▪ Steam Resistance | Excellent |
| ▪ Sunlight Resistance | Excellent |
| ▪ Taste Retention | Good to Excellent |
| ▪ Weather Resistance | Excellent |
| ▪ Water Resistance | Excellent |

For assistance in identifying the appropriate polymer or material, or to develop and formulate an EP or ethylene propylene 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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