

Rubber Material Selection Guide **FKM or Fluorocarbon / Fluoroelastomer** **Viton® / Fluorel®**

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|--------------------------------|--|
| ▪ Abbreviation | FKM |
| ▪ ASTM D-2000 Classification | HK |
| ▪ Chemical Definition | Vinylidienefluoridehexafluoropropylene |
| ▪ RRP Compound Number Category | 90000 Series |

◆ Physical & Mechanical Properties

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|-------------------------------|-------------------|
| ▪ Durometer or Hardness Range | 50 – 95 Shore A |
| ▪ Tensile Strength Range | 500 – 2,000 PSI |
| ▪ Elongation (Range %) | 400 % – 500 % |
| ▪ Abrasion Resistance | Fair to Good |
| ▪ Adhesion to Metal | Good to Excellent |
| ▪ Adhesion to Rigid Materials | Fair to Good |
| ▪ Compression Set | Good to Excellent |
| ▪ Flex Cracking Resistance | Fair to Good |
| ▪ Impact Resistance | Good |
| ▪ Resilience / Rebound | Poor to Fair |
| ▪ Tear Resistance | Fair to Good |
| ▪ Vibration Dampening | Fair to Good |

◆ Chemical Resistance

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|---------------------------------|-------------------|
| ▪ Acids, Dilute | Good to Excellent |
| ▪ Acids, Concentrated | Good to Excellent |
| ▪ Acids, Organic (Dilute) | Fair to Good |
| ▪ Acids, Organic (Concentrated) | Poor to Good |
| ▪ Acids, Inorganic | Good to Excellent |

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◆ **Chemical Resistance**

▪ Alcohol's	Fair to Excellent
▪ Aldehydes	Poor
▪ Alkalies, Dilute	Fair to Good
▪ Alkalies, Concentrated	Poor
▪ Amines	Poor
▪ Animal & Vegetable Oils	Excellent
▪ Brake Fluids, Non-Petroleum Based	Poor to Fair
▪ Diester Oils	Good to Excellent
▪ Esters, Alkyl Phosphate	Poor
▪ Esters, Aryl Phosphate	Excellent
▪ Ethers	Poor
▪ Fuel, Aliphatic Hydrocarbon	Excellent
▪ Fuel, Aromatic Hydrocarbon	Excellent
▪ Fuel, Extended (Oxygenated)	Excellent
▪ Halogenated Solvents	Good to Excellent
▪ Hydrocarbon, Halogenated	Good to Excellent
▪ Ketones	Poor
▪ Lacquer Solvents	Poor
▪ LP Gases & Fuel Oils	Excellent
▪ Mineral Oils	Excellent
▪ Oil Resistance	Excellent
▪ Petroleum Aromatic	Excellent
▪ Petroleum Non-Aromatic	Excellent
▪ Refrigerant Ammonia	Poor
▪ Refrigerant Halofluorocarbons	R-11, R-12, R-13
▪ Refrigerant Halofluorocarbons w/ Oil	R-11, R-12
▪ Silicone Oil	Excellent
▪ Solvent Resistance	Excellent

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◆ Thermal Properties

▪ Low Temperature Range	-30° F to 0° F
▪ Minimum for Continuous Use (Static)	+ 10° F to - 30° F
▪ Brittle Point	0° F to - 40° F
▪ High Temperature Range	+ 450° F to + 500° F
▪ Maximum for Continuous Use (Static)	+ 500° F

◆ Environmental Performance

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

For assistance in identifying the appropriate polymer or material, or to develop and formulate a fluorocarbon / fluoroelastomer 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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