

FKM - Fluorocarbon, Fluoroelastomer Rubber, Viton[®], Fluorel[®]

Hardness Range da 50 a 95 Shore A

Temperature Range da - 30°C a + 220°C

Advantages in performance...

- for adhesion to metal and for compression set.
- in dilute acids, concentrated acids, inorganic acids, alcohol's, animal & vegetable oils, diester oils, aryl phosphate esters, petroleum based fuels & oils including aliphatic hydrocarbons, aromatic hydrocarbons, non-aromatic hydrocarbons, bio-diesel, extended or oxygenated fuels, and silicone oils
- for coloring capability, flame resistance, low gas permeability, ozone resistance, oxidation resistance, steam resistance, sunlight resistance, weather resistance, and water resistance.

Limitations in performance...

- in performance in organic acids concentrated, aldehydes, alkalis concentrated, amines, brake fluids, alkyl phosphate esters, ethers, ketones, lacquer solvents, and refrigerant ammonia.

Viton[®] is a registered trademark of the DuPont Corporation.

Fluorel[®] is a registered trademark of the Dyneon Division of 3M Corporation.

Rubber Material Selection Guide FKM o Fluorocarbon / Fluoroelastomer Viton[®] / Fluorel[®]

- Abbreviation FKM
- ASTM D-2000 Classification HK
- Chemical Definition Vinylidene fluoridehexafluoropropylene

◆ Physical & Mechanical Properties

- | | |
|-------------------------------|-------------------|
| • Durometer or Hardness Range | 50 – 95 Shore A |
| • Tensile Strength | 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

- | | |
|---------------------------------|-------------------|
| • 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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Viton[®] / Fluorel[®]*****◆ 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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◆ 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 ILGA S.R.L at e-mail: ilga@ilgagomma.com or phone: +39 0456336521 / 0456336514.

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