Rubber Material Selection Guide
VMQ, PMQ, or PVMQ
Silicone Rubber

- Abbreviation: VMQ, PMQ, PVMQ
- ASTM D-2000 Classification: FC, FE, GE
- Chemical Definition: Polydimethylsiloxane
- RRP Compound Number Category: 10-0000 Series

Physical & Mechanical Properties

- Durometer or Hardness Range: 20 – 90 Shore A
- Tensile Strength Range: 200 – 1,500 PSI
- Elongation (Range %): 100 % – 900 %
- Abrasion Resistance: Poor to Good
- Adhesion to Metal: Good
- Adhesion to Rigid Materials: Good
- Compression Set: Good to Excellent
- Flex Cracking Resistance: Poor to Good
- Impact Resistance: Poor to Good
- Resilience / Rebound: Good to Excellent
- Tear Resistance: Poor to Good
- Vibration Dampening: Fair to Good

Chemical Resistance

- Acids, Dilute: Fair to Good
- Acids, Concentrated: Poor to Fair
- Acids, Organic (Dilute): Good
- Acids, Organic (Concentrated): Fair
- Acids, Inorganic: Fair to Good
Chemical Resistance

- Alcohol’s: Fair to Good
- Aldehydes: Good
- Alkalies, Dilute: Poor to Good
- Alkalies, Concentrated: Poor to Excellent
- Amines: Good
- Animal & Vegetable Oils: Good to Excellent
- Brake Fluids, Non-Petroleum Based: Good
- Diester Oils: Poor to Fair
- Esters, Alkyl Phosphate: Good
- Esters, Aryl Phosphate: Good
- Ethers: Poor
- Fuel, Aliphatic Hydrocarbon: Poor to Fair
- Fuel, Aromatic Hydrocarbon: Poor
- Fuel, Extended (Oxygenated): Poor
- Halogenated Solvents: Poor
- Hydrocarbon, Halogenated: Poor
- Ketones: Poor
- Lacquer Solvents: Poor
- LP Gases & Fuel Oils: Fair
- Mineral Oils: Poor
- Oil Resistance: Fair
- Petroleum Aromatic: Fair
- Petroleum Non-Aromatic: Good
- Refrigerant Ammonia: Excellent
- Refrigerant Halofluorocarbons: Poor
- Refrigerant Halofluorocarbons w/ Oil: Poor
- Silicone Oil: Poor
- Solvent Resistance: Poor
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♦ Thermal Properties
  - Low Temperature Range -178° F to -90° F
  - Minimum for Continuous Use (Static) -170° F
  - Brittle Point -178° F to -60° F
  - High Temperature Range +400° F to +550° F
  - Maximum for Continuous Use (Static) +550° F

♦ Environmental Performance
  - Colorability Excellent
  - Flame Resistance Fair to Excellent
  - Gas Permeability Poor to Fair
  - Odor Good
  - Ozone Resistance Excellent
  - Oxidation Resistance Excellent
  - Radiation Resistance Poor to Good
  - Steam Resistance Fair to Good
  - 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 a silicone 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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