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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

Thermal Properties

Low Temperature Range	- 178º F to - 90º F
Minimum for Continuous Use (Static)	- 170º F
Brittle Point	- 178º F to - 60º F
High Temperature Range	+ 400º F to + 550º F
Maximum for Continuous Use (Static)	+ 550º 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.