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 polyacrylate / acrylic 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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