Fluorsilicone Rubber (FVMQ)

Classification
Fluorosilicone elastomers add to silicone versatility a good/excellent solvent and fuel resistance, equalizing under this aspect the fluoro-elastomer's performance. The elevated cost jeopardizes its general employment, limiting its use to "prestigious" sectors such as the aerospace industry.

Polymer type
These fluorinated polymers are based on polyaikilsilosssane. The vulcanization is usually based on a peroxide cure system. They are generally available as "gum" with mineral filler already added and only cure system (peroxide) has to be added. Such basic elastomers have a range of hardness varying from 40 to 80 ShA and a specific gravity between 1.30 to 1.70 Kg/cm^3.

Hardness ShA	Pti	40	60	80
Tensile strength	Mpa	8	9.5	7.5
Elongation	%	600	450	250
Compression set 24 H @ 177ºc	%	24	30	25
Heat ageing 24H @ 220ºC				
Hardness ShA	Pti	-2	-1	-1
Volume	%	+4	+3	+2
Elongation	%	-24	-30	-10
ASTM Fuel 8 70 H @ 23ºC				
Hardness ShA	Pti	-15	-10	-8
Volume	%	+22	+20	+18
M15 28 H @ 23ºC				
Hardness ShA	Pti	-10	-10	-8
Volume	%	+20	+20	+17
Brittle Point	ºC	-65	-65	-60

Applications
With Fluorosilicone rubbers are obtainable molded and extruded articles with good performances at low temperatures in combination with a low swelling in oil, solvents and aromatic fluids such as motor and di-ester oils. The most severe aerospace, automotive and military specifications can be matched. Typical technical applications include: electric connectors for airplanes, membranes, pipes for recycling of exhaust gas, O-Ring, gaskets, apparatuses for fuel injectors. They exhibit besides good electric properties while maintaining elastic characteristics without a meaningful changing of the hardness from -60˚ to +220˚C.