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Marco Compound # F1003
60 Durometer, Blue, AMS & MIL-R Compliant
Technical Datasheet

Common Names:
Fluorosilicone, FVMQ

General Description:
Fluorosilicone is a widely used elastomer that can be compounded to meet a wide range of applications. The mechanical and physical properties are very similar to silicone rubber. However, fluorosilicone offers improved fuel and mineral oil resistance but poor hot air resistance when compared with silicone. This material is widely used in semiconductor Ashing equipment for its resistance to oxygen plasma. Please contact engineering@marcorubber.com for assistance in selecting a specialized compound when increased resistance to temperature, lubricants, or physical properties is required.

Features:
- Excellent flexibility and resistance to compression set
- Excellent resistance to aging and weather-sunlight
- Resistance to oxidizing chemicals, animal and vegetable oils, fuels, aromatic and chlorinated solvents
- Resistant to diluted alkalies, diester oils, aliphatic and aromatic fluorocarbons, silicone oil, toluene, benzene, ozone and oxidative environments.

Limitations:
- Brake fluids, ketones, hydrazine, adelhydes, amines, ketones
- Poor abrasion resistance

Service Temperature:
-100 to 350° F (-73 to 177°C)

Specification:
AMS-R-25988 Class 1 Type 1 and MIL-R- 25988 Class 1, Type 1.

PHYSICAL PROPERTIES

ORIGINAL PROPERTIES	Specification Requirements	Typical Test Results
Hardness, Shore A, ASTM D2240	60 +/- 5	64
Color	Blue	Blue
Tensile Strength, psi, ASTM D1414	700 min.	900
Ultimate Elongation, %, ASTM D1414	150	170
Specific Gravity, ASTM D297	1.48 +/- .03	1.48

HEAT RESISTANCE – ASTM D 573 (70 hrs. @ 437°F)	Specification Requirements	Typical Test Results
Hardness Change, Shore A, ASTM D2240	-5 to +10	+5
Tensile Strength Change, %, ASTM D1414	-25 (max)	-15
Ultimate Elongation Change, %, ASTM D1414	-25 (max)	-24
Weight Loss, %, ASTM D297	-2 max.	-1

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COMPRESSION SET – ASTM D 395 Method B and ASTM D1414	**Specification Requirements**	**Typical Test Results**
Permanent Set, %, 70 hrs. at 75°F	15 max	5
Permanent Set, %, 22 hrs. at 347°F	40 max	12

FLUID RESISTANCE –AMS3021 – ASTM D 471 and ASTM D1414 (70 hrs. @ 392°F)	**Specification Requirements**	**Typical Test Results**
Hardness Change, Shore A, ASTM D2240	+/- 15	-6
Tensile Strength Change, %, ASTM D1414	-30 max.	-20
Ultimate Elongation Change, %, ASTM D1414	-25 max.	-5
Volume Change, %, ASTM D471	+1 to +15	+10

FUEL IMMERSION TT-S-735 Type III - ASTM D 471 and ASTM D1414 (22 hrs. @ 75°F)	**Specification Requirements**	**Typical Test Results**
Hardness Change, Shore A, ASTM D2240	-15	-8
Tensile Strength Change, %, ASTM D1414	-45	-30
Ultimate Elongation Change, %, ASTM D1414	-30	-15
Volume Change, %, ASTM D471	+1 to +25	+15

COMPRESSION SET in AMS 3021 Fluid, ASTM D395 Method B and ASTM D1414, (70 hrs at 392°F)	**Specification Requirements**	**Typical Test Results**
Permanent Set, %	45 max.	10

TEMPERATURE RETRACTION – ASTM D1329	**Specification Requirements**	**Typical Test Results**
TR-10, Degrees F	-70 max.	-78