



Marco Compound # F1011 60 Durometer, Blue Fluorosilicone 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 alkalis, diester oils, aliphatic and aromatic fluorocarbons, silicone oil, toluene, benzene, ozone and oxidative environments.

Limitations:

- Brake fluids, ketones, hydrazine, aldehydes, amines, ketones
- Poor abrasion resistance

Service Temperature:

-100 to 350° F

Equivalent Specification:

This compound can meet MIL-R- 25988 Class 1, Type 1, but it is not certifiable.

PHYSICAL PROPERTIES

| ORIGINAL PROPERTIES | Specification Requirements | Typical Test Results |
|---|----------------------------|----------------------|
| Hardness, Shore A, ASTM D2240 | 60 +/- 5 | 63 |
| Color | Blue | Blue |
| Tensile Strength, MPa (psi) Min, ASTM D1414 | 6.20 (895) | 7.3 (1,050) |
| Ultimate Elongation, %, ASTM D1414 | 175 | 319 |
| Specific Gravity, ASTM D297 | | 1.388 |

| HEAT RESISTANCE – ASTM D 573 (70 hrs. @ 200° C) | Specification Requirements | Typical Test Results |
|---|----------------------------|----------------------|
| Hardness Change, Shore A, ASTM D2240 | -5 to +10 | +1 |
| Tensile Strength Change, %, ASTM D1414 | -25 (max) | -25 |
| Ultimate Elongation Change, %, ASTM D1414 | -25 (max) | -15 |

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| COMPRESSION SET @ 175° C for 70 Hrs. | Specification Requirements | Typical Test Results |
|--------------------------------------|----------------------------|----------------------|
| Compression Set % | 40 max. | 6% |

| FLUID RESISTANCE - Oil #1 - (70 hrs. @ 150° C) | Specification Requirements | Typical Test Results |
|--|----------------------------|----------------------|
| Hardness Change, Shore A, ASTM D2240 | --- | -2 |
| Tensile Strength Change, %, ASTM D1414 | --- | -6 |
| Ultimate Elongation Change, %, ASTM D1414 | --- | +4 |
| Volume Change, %, ASTM D471 | --- | +9 |

| FLUID RESISTANCE - Oil #3 - (70 hrs. @ 150° C) | Specification Requirements | Typical Test Results |
|--|----------------------------|----------------------|
| Hardness Change, Shore A, ASTM D2240 | --- | -2 |
| Tensile Strength Change, %, ASTM D1414 | --- | -26 |
| Ultimate Elongation Change, %, ASTM D1414 | --- | +6 |
| Volume Change, %, ASTM D471 | --- | +10 |

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