

# Metallized Filled Silicone (5000 Series)

## Conductive Metallized Filled Silicone Elastomers

### General Descriptions

Metallized Filled Silicone is a molded silicone elastomer filled with conductive inert particles. It provides high electrical conductivity, broadband shielding and moisture sealing. MAJR offers these elastomers filled with:

- Nickel Graphite (52)
- Nickel (60)
- Silver-Plated Glass (61)
- Silver-Plated Copper (62)
- Silver-Plated Aluminum (63)
- Silver-Plated Aluminum FlouroSilicone (64)
- Silver-Plated Nickel (65)
- Silver (66)

Metallized Filled Silicone is designed to provide reliable and cost-effective shielding for a wide range of EMI applications. Metallized Filled Silicone is manufactured in sheets, molded parts, strips and die-cut flat gaskets.

### Application Information

Metallized Filled Silicone should be used where there is a need for high broadband shielding combined with excellent moisture-sealing properties.

In order to assure electrical conductivity and sealing reliability, recommended design compression is 7% - 15% of original height for sheets and rectangular strips. For "O" and "D" shapes the recommended compression is 12% - 30%.

### Adhering and Joining

For splicing, joining and bonding Metallized Filled Silicone gaskets to enclosures, MAJR recommends a two-component, electrically conductive, silver silicone adhesive sealant of medium viscosity. This material provides a flexible bond and a resilient seal. If necessary, MAJR can provide this sealant with your order; ask your representative.

### EMI Shielding Performance\*

MAJR's Metallized Filled Silicone Shielding Effectiveness has been tested in accordance with MAJR's Test Methods and based upon modified MIL-STD-285. Typical Shielding effectiveness values are based on a 5" square aperture.

MAJR's Metallized Filled Silicone Shielding Effectiveness has been tested in accordance with the test method described in paragraph 4.6.12 of MIL-DTL-83528. Typical values are shown:

**Table 3**

H-Field 100 kHz	E-Field 10MHz	Plane Wave	
		1GHz	10GHz
dB	dB	dB	dB
105	110	120	110

\*Silver Material (66)

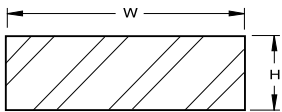
**Table 1**  
**Specifications:** Material Description

Metallized Filled Silicone	
Elastomer Binder:	Silicone
Conductive Filler:	Nickel Graphite (52)
	Nickel (60)
	Silver-Plated Glass (61)
	Silver-Plated Copper (62)
	Silver-Plated Aluminum (63)
	Silver-Plated Aluminum FlouroSilicone (64)
	Silver-Plated Nickel (65)
	Silver (66)
Color:	Tan (Other colors available upon request)
Form Available:	Molded Sheets & Strips

**Table 2**  
**Specifications:** Performance Characteristics

Data	Typical Values
Shore A	58-72
Tensile psi	200
Elongation %	200
Tear "B" ppi	35
Specific Gravity	1.7 - 2.2
Volume Resistivity	.005
Compression Set %	35
Compression/Deflection %	3.5
Temperature Range °C	-55 + 160

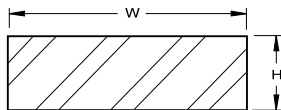
**Table 2 - Standard Sheets: (Other Sizes Available)**



Height	Part Number	Standard Size
.020 [0.51]	5000-02000-xx	12" Square [305 mm square]
.032 [0.76]	5000-03000-xx	12" Square [305 mm square]
.040 [1.02]	5000-04000-xx	12" Square [305 mm square]
.062 [1.57]	5000-06000-xx	12" Square [305 mm square]
.093 [2.36]	5000-09000-xx	12" Square [305 mm square]
.125 [3.18]	5000-12000-xx	12" Square [305 mm square]

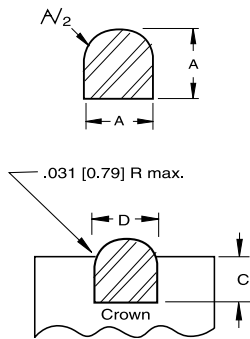
\* Other sheet sizes available upon request.

**Table 3 - Standard Rectangle:**



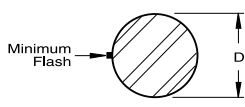
Height	.125 [3.18]	.188 [4.78]	.250 [6.35]	.375 [9.53]	.500 [12.70]
	Part Number	Part Number	Part Number	Part Number	Part Number
.032 [0.76]	5010-03012-xx	5010-03019-xx	5010-03025-xx	5010-03038-xx	5010-03050-xx
.062 [1.57]	5010-06012-xx	5010-06019-xx	5010-06025-xx	5010-06038-xx	5010-06050-xx
.093 [2.36]	5010-09012-xx	5010-09019-xx	5010-09025-xx	5010-09038-xx	5010-09050-xx
.125 [3.18]	5010-12012-xx	5010-12019-xx	5010-12025-xx	5010-12038-xx	5010-12050-xx
.188 [4.78]	5010-18012-xx	5010-18019-xx	5010-18025-xx	5010-18038-xx	5010-18050-xx
.250 [6.35]	5010-25012-xx	5010-25019-xx	5010-25025-xx	5010-25038-xx	5010-25050-xx

**Table 4 - Standard "D" Shapes**



A Dimension	Part Number	Groove Dimensions	
		C +.006 -0 [0.15]	D +.006 -0 [0.15]
.062 [1.57]	5009-06005-xx	.046 [1.17]	.103 [2.65]
.093 [2.36]	5009-09007-xx	.071 [1.80]	.137 [3.50]
.125 [3.18]	5009-12010-xx	.096 [2.44]	.188 [4.75]
.188 [4.78]	5009-18015-xx	.146 [3.17]	.256 [6.50]
.250 [6.35]	5009-25020-xx	.199 [5.05]	.336 [8.55]

**Table 5 - Standard Round:**

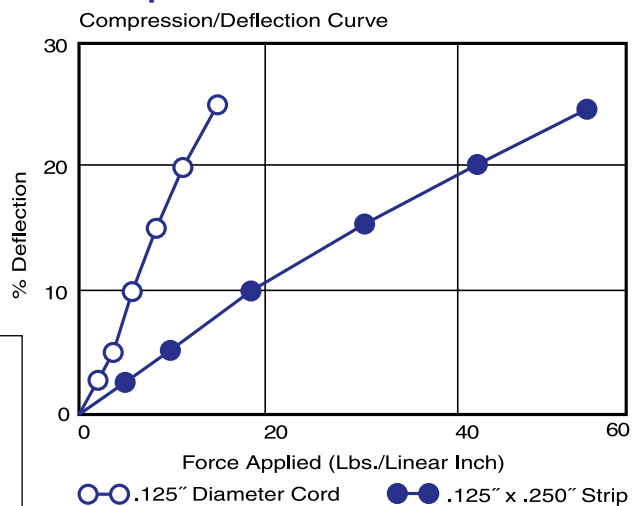


Diameter	Part Number
.062 [1.57]	5011-06000-xx
.093 [2.36]	5011-09000-xx
.125 [3.18]	5011-12000-xx
.188 [4.78]	5011-18000-xx
.250 [6.35]	5011-25000-xx

**Ordering Information:**

Replace xx with the appropriate material code:  
 Nickel Graphite (52)  
 Nickel (60)  
 Silver-Plated Glass (61)  
 Silver-Plated Copper (62)  
 Silver-Plated Aluminum (63)  
 Silver-Plated Aluminum FlouroSilicone (64)  
 Silver-Plated Nickel (65)  
 Silver (66)

**Figure 3  
Compression and Deflection Data:**



**For cross-sections not listed above and custom design applications and molded parts, contact your MAJR representative.**