

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 FluoroSilicone (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 FluoroSilicone (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

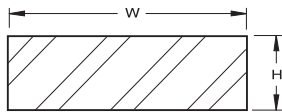
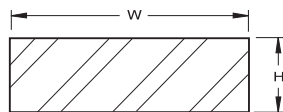


Table 2 - Standard Sheets: (Other Sizes Available)

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:

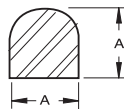


Height	.125 [3.18]	.188 [4.78]	.250 [6.35]	.375 [9.53]	.500 [12.70]
	Part Number	Part Number	Part Number	Part Number	Part Number
.032 [0.76]	5010-03012-xx	5010-03019-xx	5010-03025-xx	5010-03038-xx	5010-03050-xx
.062 [1.57]	5010-06012-xx	5010-06019-xx	5010-06025-xx	5010-06038-xx	5010-06050-xx
.093 [2.36]	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

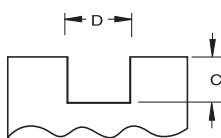
* Other dimensions of this part are available upon request.

Table 4 - Standard "D" Shapes

Part Dimensions



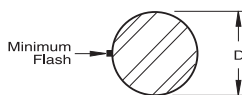
Groove Dimensions



A Dimension*	Part Number	Groove Dimensions	
		C +.006 -0 [0.15]	D +.006 -0 [0.15]
.062 [1.57]	5009-06006-xx	.045 [1.14]	.065 [1.65]
.093 [2.36]	5009-09009-xx	.070 [1.78]	.097 [2.46]
.125 [3.18]	5009-12012-xx	.091 [2.31]	.128 [3.25]
.188 [4.78]	5009-18018-xx	.141 [3.58]	.193 [4.90]
.250 [6.35]	5009-25025-xx	.187 [4.75]	.255 [6.48]

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

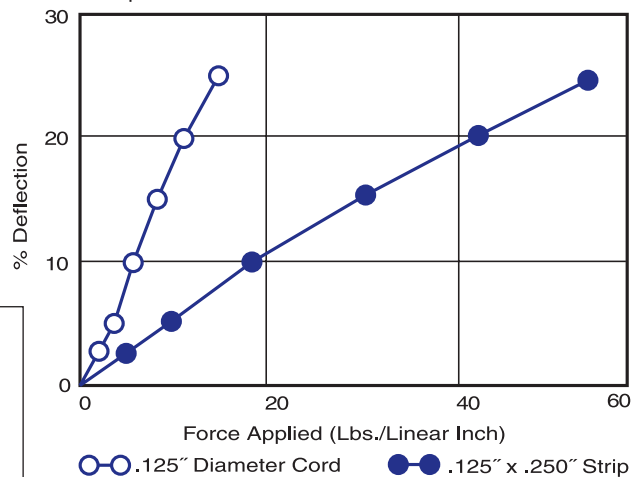


Ordering Information:

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 FluoroSilicone (64)
 Silver-Plated Nickel (65)
 Silver (66)

**Figure 3
Compression and Deflection Data:**

Compression/Deflection Curve



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