

Conductive Elastomers (5000 Series)

General Descriptions

Conductive Elastomers are a molded elastomer filled with conductive inert particles. It provides high electrical conductivity, broadband shielding and moisture sealing.

Application Information

Conductive Elastomers 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%.

EMI Shielding Performance*

MAJR's Conductive Elastomers 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.

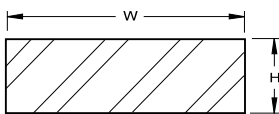
MAJR's Conductive Elastomers Shielding Effectiveness has been tested in accordance with the test method described in paragraph 4.6.12 of MIL-DTL-83528.

Material Selection — Table 1

Conductive Elastomer									
Material Designation Number		52	61	62	63	64	65	66	67
Elastomer	-----	Silicone	Silicone	Silicone	Silicone	Fluorosilicone	Silicone	Silicone	Silicone
MIL-DTL-83528 Type	-----	-----	M	A	B	D	L	E	-----
Material Description	-----	Ni/Gr	Ag/Glass	Ag/Cu	Ag/Al	Ag/Al	Ag/Ni	Ag	Carbon
Volume resistivity	Ohm-cm	0.1	0.006	0.005	0.008	0.012	0.005	0.002	7
Hardness	Shore A	30-70	65	65	65	70	75	65	70
	Deg. C. Min.	-55	-55	-45	-55	-55	-55	-55	-55
Operating Temp.	Deg. C. Max.	150	160	125	160	160	125	160	200

Material Designation Number		68	69	71	74	75	76	78	79
Elastomer	-----	Silicone	Fluorosilicone	Silicone	Fluorosilicone	Fluorosilicone	Silicone	Silicone	Silicone
MIL-DTL-83528 Type	-----	K	F	-----	C	-----	I	H	G
Material Description	-----	Ag/Cu	Ag	Ni/Al	Ag/Cu	Ni/Gr	Ag	Ag	Ag/Cu
Volume resistivity	Ohm-cm	0.004	0.002	0.08	0.01	0.1	0.01	0.005	0.007
Hardness	Shore A	85	75	65	75	65	45	80	80
	Deg. C. Min.	-55	-65	-60	-55	-55	-55	-55	-45
Operating Temp.	Deg. C. Max.	125	160	200	125	150	160	160	125

Table 2 - Standard Sheets: (Other Sizes Available)



Height	Part Number	Standard Size
.020 [0.51]	5000-021520-XX	15" x 20" [381 x 508 mm]
.032 [0.76]	5000-031520-XX	15" x 20" [381 x 508 mm]
.062 [1.57]	5000-061520-XX	15" x 20" [381 x 508 mm]
.093 [2.36]	5000-091520-XX	15" x 20" [381 x 508 mm]
.125 [3.18]	5000-121520-XX	15" x 20" [381 x 508 mm]

* Other sheet sizes available upon request.

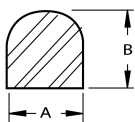


Table 3 - Standard "D" Shapes

A Dimension*	B Dimension*	Part Number
.062 [1.57]	.065 [1.65]	5009-06006-XX
.093 [2.36]	.093 [2.36]	5009-09009-XX
.125 [3.18]	.125 [3.18]	5009-12012-XX
.188 [4.78]	.188 [4.78]	5009-18018-XX
.250 [6.35]	.250 [6.35]	5009-25025-XX

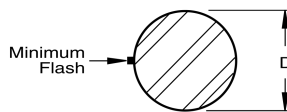


Table 4 - Standard Round:

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

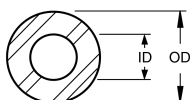


Table 5 - Hollow Core:

Outside Diameter	Inside Diameter	Part Number
.103	.040	5011-10040-XX
.125	.045	5011-12045-XX
.156	.050	5011-16050-XX
.250	.125	5011-25012-XX
.312	.192	5011-31019-XX
.375	.250	5011-38025-XX

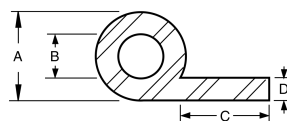


Table 6 - P-Strip Tubing - Hollow Core:

A	B	C	D	Part Number
.200	.080	.650	.062	5012-20065-XX
.250	.125	.250	.062	5012-25025-XX
.250	.125	.375	.062	5012-25038-XX
.250	.150	.375	.062	5012-25015-XX
.312	.187	.563	.062	5012-31056-XX
.360	.255	.420	.070	5012-36042-XX
.200	.080	.275	.062	5012-20028-XX
.250	.125	.625	.062	5012-25063-XX

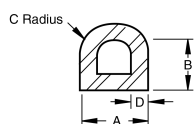


Table 7 - Hollow D-Strip:

A	B	C	D	Part Number
.156	.078	.078	.045	5013-16078-XX
.187	.093	.093	.050	5013-19093-XX
.250	.125	.125	.065	5013-25013-XX
.312	.156	.156	.062	5013-31016-XX
.312	.200	.112	.062	5013-31011-XX
.487	.080	.244	.080	5013-48024-XX

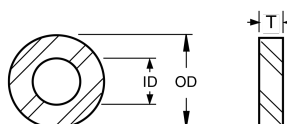
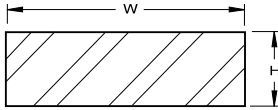


Table 8 - Flat Washers:

I.O. +/- .015	O.D. +/- .015	THICK T	MIL SPEC M83528/012X-()	MAJR PART NUMBER
.250	.625	.032	(001)	2603-025063-XX
		.062	(002)	2606-025063-XX
.375	.750	.032	(003)	2603-038075-XX
		.062	(004)	2606-038075-XX
.500	.656	.032	(005)	2603-050066-XX
		.062	(006)	2606-050066-XX
.500	.875	.032	(007)	2603-050088-XX
		.062	(008)	2606-050088-XX
.750	1.000	.032	(009)	2603-075010-XX
		.062	(010)	2606-075010-XX
1.000	1.438	.032	(011)	2603-100144-XX
		.062	(012)	2606-100144-XX

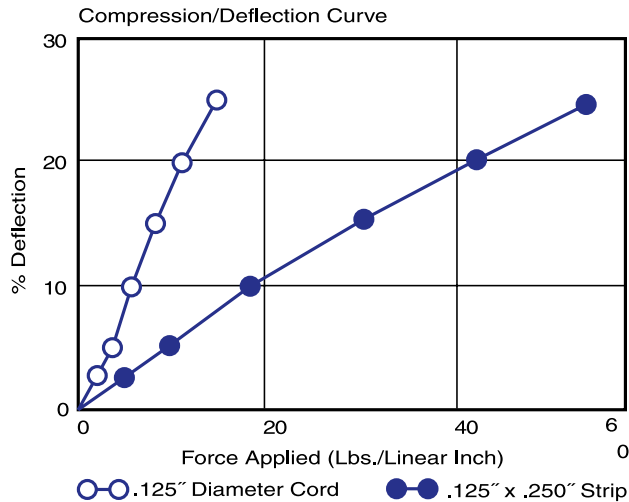
Table 9 - Standard Strips: (Other Sizes Available)



Width	Height	MIL SPEC M83258/009X-()	Part Number
0.063 (1.60)	0.042 (1.07)	(001)	5010-04006-XX
0.095 (2.41)	0.062 (1.57)	(002)	5010-06009-XX
0.120 (3.05)	0.075 (1.91)	(003)	5010-07012-XX
0.125 (3.18)	0.062 (1.57)	(004)	5010-06012-XX
0.156 (3.96)	0.062 (1.57)	(005)	5010-06016-XX
0.250 (6.35)	0.062 (1.57)	(006)	5010-06025-XX
0.500 (12.70)	0.075 (1.91)	(007)	5010-07050-XX
0.500 (12.70)	0.125 (3.18)	(008)	5010-12050-XX
0.500 (12.70)	0.188 (4.78)	(009)	5010-18050-XX
0.750 (19.05)	0.062 (1.57)	(010)	5010-06075-XX

* Other sheet sizes available upon request.

Figure 1
Compression and Deflection Data:



Ordering Information:

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

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