Conductive Silicone (5000 Series)

Conductive Silicone (5000 Series)

General Descriptions

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

Application Information

Conductive 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%.

EMI Shielding Performance*

MAJR’s Conductive 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 Conductive Silicone 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 Silicone									
Material Designation Number		52	61	62	63	64	65	66	67
Silicone	------	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
Operating Temp.	Deg. C. Min.	-55	-55	-45	-55	-55	-55	-55	-55
	Deg. C. Max.	150	160	125	160	160	125	160	200

Material Designation Number		68	69	71	74	75	76	78	79
Silicone	------	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
Operating Temp.	Deg. C. Min.	-55	-65	-60	-55	-55	-55	-55	-45
	Deg. C. Max.	125	160	200	125	150	160	160	125

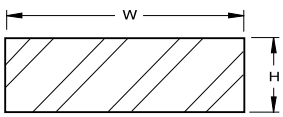


Table 2 - Standard Sheets: (Other Sizes Available)

Height	Standard Size (L x W)	Part Number
.020 [0.51]	15” x 20” Sheet	5000-021520-XX
.032 [0.76]	15” x 20” Sheet	5000-031520-XX
.040 [1.02]	15” x 20” Sheet	5000-041520-XX
.062 [1.57]	15” x 20” Sheet	5000-061520-XX
.093 [2.36]	15” x 20” Sheet	5000-091520-XX
.125 [3.18]	15” x 20” Sheet	5000-121520-XX

** Other sheet sizes available upon request.*

Phone: (814) 763-3211 | Fax: (814) 763-2952 | email: sales@majr.com | www.majr.com

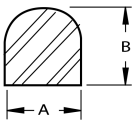


Table 3 - Standard "D" Shapes

Wide	Tall	Part Number	MIL SPEC M83258/003X-( )
.067	.068	5009-06007-XX	(001)
.094	.078	5009-09008-XX	(002)
.079	.089	5009-08009-XX	(003)
.094	.094	5009-09009-XX	(004)
.150	.110	5009-15011-XX	(006)
.124	.136	5009-12014-XX	(007)
.250	.250	5009-25025-XX	(012)
.125	.125	5009-12012-XX	-
.188	.188	5009-18018-XX	-

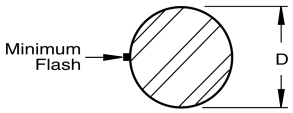


Table 4 - Standard Round:

Diameter	Part Number	MIL SPEC M83258/001X-( )
.040 [1.57]	5011-04000-XX	(001)
.053 [2.36]	5011-05000-XX	(002)
.062 [3.18]	5011-06000-XX	(003)
.070 [4.78]	5011-07000-XX	(004)
.080 [6.35]	5011-08000-XX	(005)
.093 [1.57]	5011-09000-XX	(006)
.103 [2.36]	5011-10000-XX	(007)
.119 [3.18]	5011-11900-XX	(008)
.125 [4.78]	5011-12000-XX	(009)
.139 [6.35]	5011-14000-XX	(010)
.188 [1.57]	5011-18000-XX	(011)
.216 [2.36]	5011-21600-XX	(012)
.250 [3.18]	5011-25000-XX	(013)

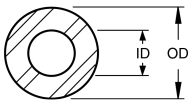


Table 5 - Hollow Core:

Outside Diameter	Inside Diameter	Part Number	MIL SPEC M83258/003X-( )
.125	.045	5011-12045-XX	(001)
.156	.050	5011-16050-XX	(002)
.250	.125	5011-25012-XX	(003)
.312	.192	5011-31019-XX	(004)
.375	.250	5011-38025-XX	(005)
.125	.062	5011-12062-XX	(006)
.090	.050	5011-09050-XX	-
.103	.040	5011-10040-XX	(007)
.177	.079	5011-18080-XX	(008)

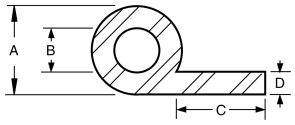


Table 6 - P-Strip Tubing - Hollow Core:

A	B	C	D	Part Number	MIL SPEC M83258/008X-( )
.200	.080	.650	.062	5012-20065-XX	(001)
.250	.125	.250	.062	5012-25025-XX	(002)
.250	.125	.650	.062	5012-25065-XX	(003)
.250	.125	.375	.062	5012-25038-XX	(004)
.312	.187	.563	.062	5012-31056-XX	(005)
.360	.255	.420	.070	5012-36042-XX	(006)
.200	.080	.275	.062	5012-20028-XX	(007)
.250	.125	.625	.062	5012-25063-XX	(008)

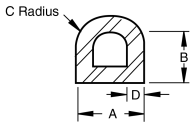


Table 7 - Hollow D-Strip:

A	B	C	D	Part Number	MIL SPEC M83258/007X-( )
.156	.078	.078	.045	5013-16078-XX	(001)
.187	.093	.093	.050	5013-19093-XX	(002)
.312	.156	.156	.062	5013-31016-XX	(003)
.312	.156	.156	.062	5013-31016-XX	(004)
.312	.200	.112	.062	5013-31020-XX	(005)
.487	.080	.244	.080	5013-48008-XX	(006)
.250	.125	.125	.065	5013-25012-XX	(007)
.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	-

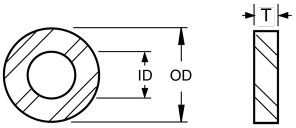


Table 8 - Flat Washers:

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

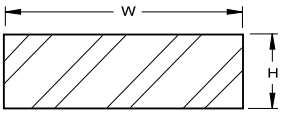


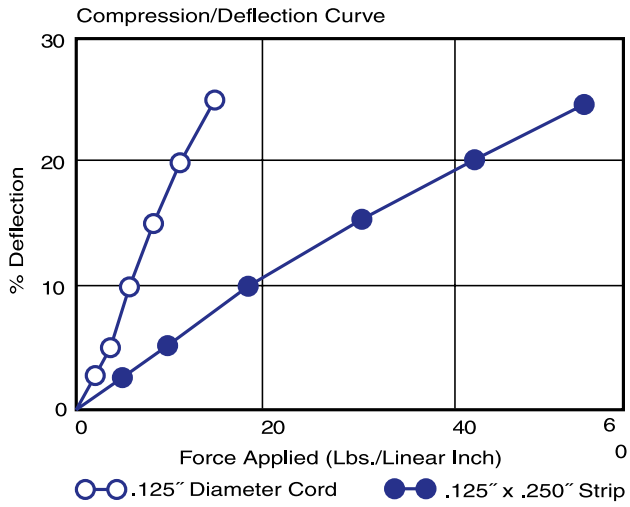
Table 9 - Standard Strips: (Other Sizes Available)

Width	Height	Part Number	MIL SPEC M83258/009X-( )
.063	.042	5010-04006-XX	(001)
.095	.062	5010-06009-XX	(002)
.120	.075	5010-07012-XX	(003)
.125	.062	5010-06012-XX	(004)
.156	.062	5010-06016-XX	(005)
.250	.062	5010-06025-XX	(006)
.500	.075	5010-07050-XX	(007)
.500	.125	5010-12050-XX	(008)
.500	.188	5010-18050-XX	(009)
.750	.062	5010-06075-XX	(010)

** 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.