

## CONDUCTIVE ELASTOMERS



CONDUCTIVE ELASTOMERS | 1800 RANGE

EMI

### DESCRIPTION:

Conductive elastomers are a composite of high quality silicon and microscopic conductive particles. They are manufactured to strict formulations, yielding gasketing materials that meet nearly every military and electronic requirement. Arka Technologies stock a wide range of conductive gaskets which will allow the user to select the best suited compound for their application.

Applications may require environmental sealing, durability and shielding effectiveness.

Please see tables below for all available elastomers and conductive fillers.

### PART NUMBER SYSTEM:

The full part number would be structured as below.

Part No: - XXXX-XXXX

Example: Standard Silicone elastomer containing silver plated Nickel in solid round stock of 1mm Diameter.

Part No: - 1804-0201

Second part of number is taken from section tables.

Part No.	Elastomers
180x	Military Grade/Standard Silicone
181x	Military Grade / Fluorosilicone
182x	Military Grade / EPDM
183x	Military Grade / Fluoroelastomer Co-polymer
184x	Military Grade / Combination: Conductive Non Conductive
185x	Commercial Grade / Standard Silicone
186x	Commercial Grade / Standard Silicone
187x	Commercial Grade / Fluorosilicone
188x	Silver Coated Silicone
189x	One Part "Form-In-Place" Gasket Material

Part No.	Shape
18XX-01XX	Stock Sheet
18XX-02XX	Extrusion Round
18XX-03XX	Extrusion Rectangular
18XX-04XX	Extrusion "D" Shaped
18XX-05XX	Extrusion "P" Shaped
18XX-06XX	Extrusion "U" Channel
18XX-07XX	O- Rings
18XX-08XX	Flat Washers

Part No.	Conductive Filler
xx0	Non-Corrosive Particle
xx1	Carbon
18x2	Nickel
18x3	Silver Plated Glass
18x4	Silver Plated Nickel
18x5	Silver Plated Aluminium
18x6	Silver Plated Copper
18x7	Silver - Low Density
18x8	Silver - High Density
18x9	Reinforced Silver Plated Copper

Part No.	Description
xx0	Standard
xx1	Custom

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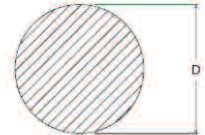
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### STANDARD SHEET STOCK:

Part No	Thickness	Sheet Size	Tolerance
101	0.5	254 x 254	+/- 0.13
102	0.8	254 x 254	+/- 0.13
103	1.57	254 x 254	+/- 0.13
104	2.36	254 x 254	+/- 0.18
105	3.18	254 x 254	+/- 0.25
106	0.5	304.8 x 304.8	+/- 0.13
107	0.8	304.8 x 304.8	+/- 0.13
108	1.57	304.8 x 304.8	+/- 0.13
109	2.36	304.8 x 304.8	+/- 0.18
110	3.18	304.8 x 304.8	+/- 0.25
111	0.5	381 x 508	+/- 0.20
112	0.8	381 x 508	+/- 0.13
113	1.57	381 x 508	+/- 0.13
114	2.36	381 x 508	+/- 0.18
115	3.18	381 x 508	+/- 0.25
116	0.5	452 x 520.7	+/- 0.13
117	0.8	452 x 520.7	+/- 0.13
118	1.57	452 x 520.7	+/- 0.13
119	2.36	452 x 520.7	+/- 0.18
120	3.18	452 x 520.7	+/- 0.25
121	0.7	254 x 254	+/- 0.13
122	0.76	254 x 254	+/- 0.13
123	1	254 x 254	+/- 0.13
124	1.2	254 x 254	+/- 0.13
125	1.52	254 x 254	+/- 0.13
126	0.7	304.8 x 304.8	+/- 0.13
127	0.76	304.8 x 304.8	+/- 0.13
128	1	304.8 x 304.8	+/- 0.13
129	1.2	304.8 x 304.8	+/- 0.13
130	1.52	304.8 x 304.8	+/- 0.13
131	0.7	381 x 508	+/- 0.13
132	0.76	381 x 508	+/- 0.13
133	1	381 x 508	+/- 0.13
134	1.2	381 x 508	+/- 0.13
135	1.52	381 x 508	+/- 0.13
136	0.7	452 x 520.7	+/- 0.13
137	0.76	452 x 520.7	+/- 0.13
138	1	452 x 520.7	+/- 0.13
139	1.2	452 x 520.7	+/- 0.13
140	1.52	452 x 520.7	+/- 0.13
141	0.5	254 x 508	+/- 0.13
142	0.7	254 x 508	+/- 0.13
143	0.76	254 x 508	+/- 0.13
144	0.81	254 x 508	+/- 0.13
145	1	254 x 508	+/- 0.13
146	1.2	254 x 508	+/- 0.13
147	1.52	254 x 508	+/- 0.13
148	1.57	254 x 508	+/- 0.13
149	2.36	254 x 508	+/- 0.18
150	3.175	254 x 508	+/- 0.25
151	0.5	304.8x457.2	+/- 0.13
152	0.7	304.8 x 457.2	+/- 0.13
153	0.76	304.8 x 457.2	+/- 0.13
154	0.81	304.8 x 457.2	+/- 0.13
155	1	304.8 x 457.2	+/- 0.13
156	1.2	304.8 x 457.2	+/- 0.13
157	1.52	304.8 x 457.2	+/- 0.13
158	1.57	304.8 x 457.2	+/- 0.13
159	2.36	304.8 x 457.2	+/- 0.18
160	3.175	304.8 x 457.2	+/- 0.25

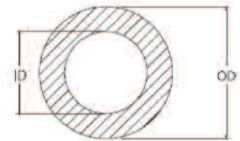
### SOLID ROUND STOCK

Part No	"A"	Dash M83528
201	1	1/001
202	1.35	1/002
203	1.57	1/003
204	1.78	1/004
212	2	1/005
205	2.36	1/006
206	2.6	1/007
213	2.84	N/A
207	3	1/008
208	3.18	1/009
214	3.3	N/A
209	3.5	1/010
215	3.8	N/A
216	4	N/A
217	4.78	1/011
210	5.5	1/012
211	6.35	1/013



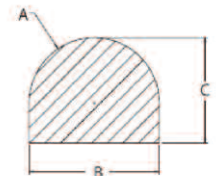
### HOLLOW ROUND STOCK

Part No	"OD"	"ID"	Dash M83528
226	1.78	0.635	N/A
227	2.36	0.889	N/A
228	2.62	1	11/007
220	3.18	1.14	11/001
229	3.18	1.57	11/006
221	3.96	1.27	11/002
230	4.5	2	11/008
222	6.35	3.18	11/003
223	7.92	4.88	11/004
224	9.53	6.35	1/005
225	11.1	6.35	N/A



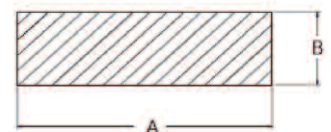
### "D" PROFILE SOLID STOCK

Part No	"A"	"B"	"C"	Dash M83528
410	0.79	1.4	1.62	N/A
411	0.79	1.57	1.73	3/001
412	1.19	1.57	1.73	N/A
413	1.19	2.39	1.98	3/002
414	1	1.98	2.26	3/003
415	1.19	2.39	2.39	3/004
416	0.79	1.57	2.54	3/005
417	1.9	3.81	2.79	3/006
418	1.55	3.1	3.33	N/A
419	1.55	3.15	3.45	3/007
420	1.5	3	3.96	3/008
421	1.98	3.96	3.96	3/009
422	2.26	4.52	4.45	3/010
423	2.39	4.78	4.78	3/011
424	3.175	6.35	6.35	3/012



### SOLID RECTANGULAR STOCK

Part No	"A"	"B"	Dash M83528
314	0.81	0.81	N/A
301	1.6	1	9/001
302	2.4	1.57	9/002
303	3	1.9	9/003
304	3.18	1.57	9/004
305	3.96	1.57	9/005
306	6.35	1.57	9/006
307	12.7	1.9	9/007
308	12.7	3.18	9/008
309	12.7	4.78	9/009
310	19.05	1.57	9/010
311	22.35	1.57	9/011
312	25.4	6.35	9/012
313	30	1.57	9/013
315	1.52	2.03	N/A



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PERFORMANCE CHARACTERISTIC: MILITARY GRADE MATERIAL TYPES PER MIL-DTL-83528

Series	U of M	801	802	812	803	813	804	814	805	U of M
Filler	-	C	Ni/Gr	Ni/Gr	AG/Glass	AG/NI	AG/NI	AG/NI	AG/NI	AG/NI
Elastomer	-	Silicone	Silicone	Fluoro-Silicone	Silicone	Fluoro-Silicone	Silicone	Fluoro-Silicone	Silicone	Fluoro-Silicone
MIL-83528 TYPE	-	-	-	-	M	-	L	-	B	D
Operating Temp (°C)	Min	-55	-55	-55	55	55	-55	-55	-55	-55
	Max	+200	+150	+150	+160	+160	+125	+160	+160	+160
Hardness	Shore A	70	65	65	65	65	75	70	65	70
Specific Gravity	g/cc	1.2	1.95	1.95	1.9	1.9	4.0	4.4	2.0	2.0
Compression	% min	3.5	3.0	3.0	3.5	3.5	3.5	3.5	3.5	3.5
Deflection	#/in sq	650	150	150	200	200	200	180	200	180
Tensile Strength	Min	100	100	100	100	100	100	60	100	60
	Max	-	-	-	300	300	300	260	300	260
Compression Set	%	40	35	25	30	30	32	30	32	30
Tear Strength	#/in	40	40	35	30	30	30	35	30	35
Volume Res	Ohm-cm	7.0	.10	0.1	.006	.006	.005	.012	.008	.012
Shielding Effectiveness as tested per Mil-DTL-83528	100 MHz	80	100	100	100	100	120	120	120	120
	500 MHz	80	100	100	90	90	120	120	120	120
	2 GHz	60	100	100	90	90	120	115	115	115
	10 GHz	50	100	100	90	90	110	110	115	115

Series	U of M	806	816	806	807	808	818	808	809	822
Filler	-	Silver Copper	Silver Copper	Silver Copper	Silver Low Density	Silver Pure	Silver Pure	Silver Pure	Silver Copper	Nickel Graphite
Elastomer	-	Silicone	Fluoro Silicone	Silicone	Silicone	Silicone	Fluoro Silicone	Silicone	Silicone	EPDM
MIL-83528 TYPE	-	A	C	K	J	E	F	H	G	N/QA
Operating Temp (°C)	MIN	-55	-55	-45	-55	-55	-65	-55	-45	-30
	MAX	+125	+125	+125	+160	+160	+160	+160	+125	+100
Hardness	Shore A	65	75	85	45	65	75	80	80	75
Specific Gravity	g/cc	3.5	4.1	3.8	1.8	3.5	4.0	4.0	4.75	2.1
Compression	(% min)	3.5	3.5	2.5	8.0	2.5	3.5	2.5	2.5	2.0
Deflection	(#/in sq)	200	180	400	150	300	250	400	600	200
Tensile Strength	MIN	100	100	100	50	200	100	90	20	75
Elongation	MAX	300	300	300	250	500	300	290	N/A	-
Compression Set	(%)	32	35	35	35	45	60	60	N/A	40
Tear Strength	(#/in)	25	35	40	20	50	40	60	70	70
Volume Res	(ohm-cm)	.004	.010	.005	-.010	.002	.002	.005	.007	5
Shielding Effectiveness as tested per Mil-DTL-83528	100 MHz	120	120	120	100	120	120	120	120	90
	500 MHz	120	120	120	100	120	120	120	120	90
	2 GHz	120	120	120	90	120	120	120	120	80
	10 GHz	120	115	120	90	120	120	120	120	80

PERFORMANCE CHARACTERISTIC: MILITARY GRADE MATERIAL TYPES

Series	852	853	854	855	856	857	858
Filler	Pure Nickel	Silver Glass	Silver Nickel	Silver Aluminium	Silver Copper	Silver Low Density	Silver Pure
Operating Temp. (C) MIN	-55	-55	-55	-55	-55	-55	-65
Operating Temp. (C) MAX	+125	+170	+180	+200	+125	+160	+180
Specific Gravity	3.05	1.8	4.0	2.0	3.5	1.7	4.0
Hardness Available (Shore A)	45-75	45-75	45-75	45-75	45-75	45-75	45-75
Tensile Strength (#/in.sq)	400	200	200	200	200	150	200
Elongation* (%)	300	280	300	280	280	100	300
Tear Strength* (#/in)	40	35	35	35	35	25	60
Volume Res.* (ohm-cm)	2.0	.05	.06	.08	.08	.1	.04
Shielding Effectiveness (20 MHz – 1 GHz) min	60	75	80	75	75	70	85