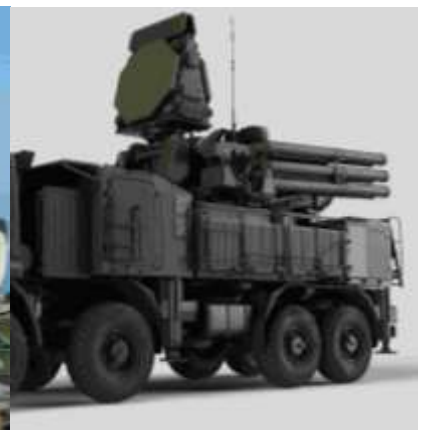


GBA

Electrically Conductive Elastomer Products



Military | Telecom | Aerospace | Heavy Industry



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GBA EC (ELECTRICALLY CONDUCTIVE ELASTOMER PRODUCT)

Electrically conductive elastomers are polymer materials that are compounded by a series of processing techniques using various silicone rubbers as the binder and suitable proportion of conductive powders. Final products show the flexibility and high resilience of the silicone rubbers and the high conductivity of the conductive particles. In applications, products can not only meet the requirements of conductive grounding and EMI shielding, but also achieve environmental sealing. Conductive particles include silver-plated aluminum, silver-plated glass, silver-plated nickel, silver-plated copper, nickel-plated aluminum, and nickel graphite, etc. The elastomer base material is mainly silicone or fluorosilicone.

PRODUCT FEATURES

1. Ultra-low resistance and excellent shielding performance are achieved after proper compression.
2. Excellent environmental sealing, up to IP68.
3. Excellent mechanical properties, softness, and resilience.
4. Easy customization, fast samples in sheet, strip, customized shape, by die cutting, molding, extrusion.

MATERIAL SELECTION

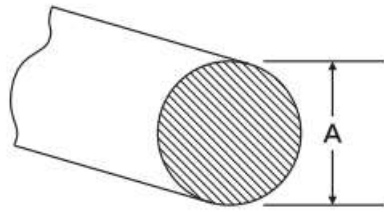
Material selection is based on the designer's requirements for performance and cost. For example, EC2320 (Ag/Al, fluoro silicone) with excellent shielding and corrosion resistance. It can greatly improve the reliability and service life of the product. This material is suitable for harsh aerospace applications. For industrial grade applications, the high conductivity of EC2310 (Ag/Al, silicone),

EC2410 (Ag/G, silicone) and EC2510 (Ag/Cu, silicone) are suitable for higher level shielding requirements and good grounding applications. EC2110 is a nickel-carbon filled conductive rubber with a particular cost advantage low weight, suitable for commercial and general consumer electronics applications. For the materials mentioned in the list (Table 1), the products can be extruded, molded, diecut and overmolded with metal parts by GoodBon. For customers' customization needs, molding process not only meet customers' needs of mass production, but also meet the small batch order for engineering in design variation.

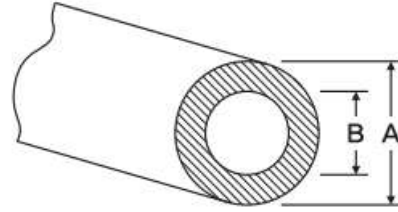
GBA Conductive Elastomer Performance Data

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GBA EC (ELECTRICALLY CONDUCTIVE ELASTOMER PRODUCT)



Solid O-Strip (Conductive)



Hollow O-Strip (Conductive)

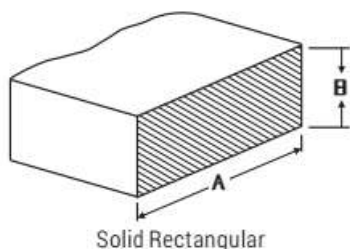
Profile P/N	Diameter A (mm)	Fitting Groove width (mm)	Fitting Groove Height (mm)
1103	0.6	0.6	0.51
1105	0.7	0.7	0.6
1107	0.8	0.9	0.7
1109	0.95	1	0.8
1111	1	1.1	0.8
1113	1.1	1.2	0.9
1115	1.2	1.3	1
1119	1.3	1.5	1.1
1121	1.4	1.5	1.2
1123	1.5	1.6	1.3
1124	1.57	1.6	1.3
1125	1.6	1.7	1.3
1127	1.8	1.9	1.4
1129	1.9	2	1.6
1131	2	2.2	1.6
1133	2.2	2.4	1.7
1135	2.3	2.4	1.8
1136	2.4	2.5	1.8
1137	2.6	2.8	2.1
1139	2.8	3	2.3
1141	2.9	3.1	2.4
1143	3	3.2	2.4
1145	3.2	3.4	2.5
1146	3.5	3.7	3.6
1147	4	4.2	3.3
1149	4.5	4.7	3.6
1151	5.5	5.7	4.1

Profile P/N	Outer Diameter (mm)	Inner Diameter (mm)
1203	1.2	0.5
1205	1.3	0.6
1207	1.4	0.6
1209	1.5	0.75
1211	1.6	0.8
1212	1.7	0.8
1213	1.8	0.7
1215	1.9	0.9
1217	2	1
1219	2.2	1.3
1221	2.3	1
1223	2.4	1.1
1225	2.5	1.4
1227	2.6	1.5
1229	2.7	1.1
1230	2.9	1.2
1231	3	2.2
1233	3.2	1.6
1234	3.5	1.8
1235	4	2
1237	4.5	2.3
1239	4.7	3.4
1241	5.5	2.3

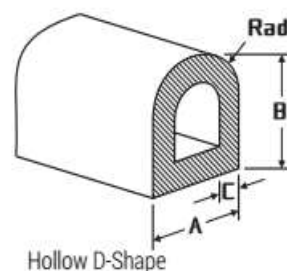
Ordering Code: Material#-Profile P/N (example: EC2010-1103)

Custom profile on request

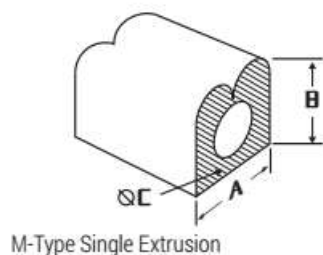
GBA EC (ELECTRICALLY CONDUCTIVE ELASTOMER PRODUCT)



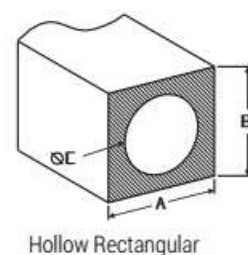
Profile P/N	Width A (mm)	Width B (mm)
1303	1.5	1.5
1305	2	1
1306	2.6	2
1307	6	1
1309	8	2
1311	10	0.75



Profile P/N	Width A (mm)	Height B (mm)	Wall thickness C (mm)
1601	1.4	2.8	0.5
1602	2	2	0.5
1603	2.4	4.5	0.7
1604	2.6	2.4	0.65
1605	6	6	1
1606	6.1	4	1
1607	6.4	3.7	0.8
1608	7.92	7.92	1.57
1609	11.8	7.8	1.6
1610	12.75	12.7	1.55



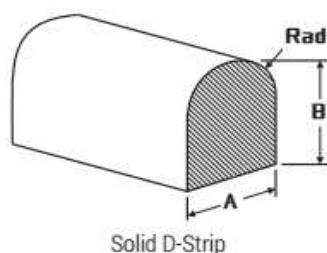
Profile P/N	Width A (mm)	Height B (mm)	Inner Diameter C (mm)
1701	1.7	2.3	0.8
1702	1.8	1.9	0.8
1703	1.8	2.4	0.8
1704	2	2.2	0.8
1705	2	3	0.8
1706	2.65	3.53	0
1707	2.7	2.8	1.3
1709	2.7	3	1.1
1708	2.7	3.3	1.1
1710	3	2.8	1
1711	3.2	3.4	2.2
1712	3.2	3.48	0
1713	3.2	3.63	1.63
1714	3.4	3.99	2



Profile P/N	Width A (mm)	Height B (mm)	Hollow Diameter C (mm)
1405	3.08	3.08	2
1407	6.26	6.26	3.96

Ordering Code: Material#-Profile P/N (example: EC2010-1103)

Custom profile on request



Profile P/N	Width A (mm)	Height B (mm)	Fitting Groove Width (mm)	Fitting Groove Height (mm)
1505	1.4	1.63	1.7	1.3
1506	1.6	1.7	1.8	1.4
1507	2.3	2.3	2.7	2
1508	3	3	3.2	2.5
1509	3	4	3.3	3.3

Electrically Conductive Sheet stock

Profile P/N	Thickness (mm)	length (mm)	width (mm)
3105	0.5	300	300
3107	0.7	300	300
3108	0.8	300	300
3110	1	300	300
3112	1.2	300	300
3115	1.5	300	300
3118	1.8	300	300
3218	1.8	300	300
3120	2	300	300
3123	2.3	300	300
3125	2.5	300	300
3128	2.8	300	300
3130	3	300	300
3135	3.5	300	300
3140	4	300	300
3145	4.5	300	300

Ordering Code: Material#-Profile P/N (example: EC2010-1103)

Custom profile on request



**Electrically Conductive
Elastomer Sheet Stock**



Profile P/N	Thickness (mm)	length (mm)	width (mm)
3105	0.5	300	300
3107	0.7	300	300
3108	0.8	300	300
3110	1	300	300
3112	1.2	300	300
3115	1.5	300	300
3118	1.8	300	300
3218	1.8	300	300
3120	2	300	300
3123	2.3	300	300
3125	2.5	300	300
3128	2.8	300	300
3130	3	300	300
3135	3.5	300	300
3140	4	300	300
3145	4.5	300	300

Ordering Code: Material#-Profile P/N (example: EC2010-1103)

Custom profile on request

GBA CF CO-EXTRUDED CONDUCTIVE ELASTOMER

Co-extruded conductive elastomers are made by combining conductive and non-conductive silicone elastomers through a specialized co-extrusion process using a custom-designed die. In addition to providing excellent EMI shielding performance, these products can also deliver outstanding waterproof and dustproof protection—up to IP68—when paired with properly designed groove dimensions.

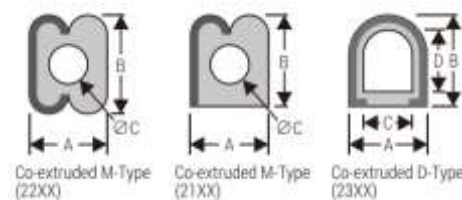
Depending on the type of conductive particles used, the products are classified into four categories:

CF2310: Silver/aluminum with silicone elastomer co-extrusion

CF2110: Nickel/carbon with silicone elastomer co-extrusion

CF2410: Silver/glass with silicone elastomer co-extrusion.

CF2320: Silver/aluminum with fluorosilicone and silicone elastomer co-extrusion



Profile P/N	Width A (mm)	Height B (mm)	Inner Diameter C (mm)
2100	1	1	0
2101	1.4	1.4	0
2103	2	2.2	0.8
2105	2.8	2.7	1.3
2107	3.2	3.63	1.63
2109	3.4	2	2
2111	3.4	2.2	2.2
2113	4	2.5	2.5
2215	4.57	2	2
2205	4.58	1.8	1.8
2301	6	1	1
2302	12	1.6	1.6
2303	12	1.8	1.8

REMARK:

1.Co-extrusion strips with PSA have different process needs. Length tolerance should be relaxed while the liner is attached, then restored after it's removed.

2.These strips are directional: the non-conductive side faces out for sealing, while the conductive side faces in to connect with metal covers and ensure electrical continuity.

Co-extruded gasket – performance parameter of different combinations of various filler materials

P/N	CF2110		CF2310		CF2320		CF2410		TEST METHOD
Compositions	Conductive Elastomer	Silicone	Conductive Elastomer	Silicone	Conductive Elastomer	Fluoro silicone	Conductive Elastomer	Silicone	
	EC2110	NC1010	EC2310	NC1010	EC2320	NC1020	EC2410	NC1010	
Conductive Particles	Ni/C	Nil	Ag/Al	Nil	Ag/Al	Nil	Ag/G	Nil	
Density (g/cm ³)	1.9	1.2	2.2	1.2	2.2	1.2	2	1.2	ASTM D792
Volume Resistivity (Ω·cm)	0.1	N/A	0.008	N/A	0.012	N/A	0.006	N/A	MIL-DTL-83528C
Hardness (Shore A)	65	55	65	55	60	60	65	55	ASTM D2240
Tensile Strength (PSI)	200	900	180	900	120	600	200	900	ASTM D412
Elongation (%)	150	300	150	300	120	300	150	300	ASTM D412
Tear Strength (PPI)	30	60	30	60	30	60	30	60	ASTM D624
Working Temperature (°C)	-55~160		-55~160		-55~160		-55~160		ASTM D1329

Ordering Code: Material#-Profile P/N (example: CF2110-2100)

Custom profile on request