

EXSHIELD | Conductive Silicone E Shielding

Our E Shielding gaskets are constructed from silicone containing metal powder fillers which combine to produce high levels of attenuation with excellent environmental shielding and a high level of conductivity. Many types of filler, from nickel graphite to pure silver, are available to suit a wide range of applications. There are also Fluorosilicone variants for use in the presence of hydrocarbon contamination.

Applications:

The Conductive Silicone Range was originally developed for high performance shielding mainly for military applications. However, the introduction of lower cost fillers has now made them accessible to the commercial sector. They are used where environmental and EMI screening is required but space constraints or stringent environmental protection necessitates a small cross section profile, often fitted into a groove or channel.

Conductively loaded silicone is best used where mating surfaces are smooth and well machined. They should be mounted to provide adequate volume for the material to deflect under pressure and should be compressed by between 8 and 20% of their relaxed height for solid sections and between 20 and 100% of the height of the hollow centre for tubular sections. Moulded 'O' rings, gasket profiles and sheet materials all have their own compression characteristics according to how they are mounted and do not comply with the guidelines above.

Specifications:

SERIES	EC-C	EC-Q	EC-J	EC-H	EC-S	EC-N	ECF-Q	ECF-J	ECF-H	ECF-N
CONDUCTIVE FILLER	Carbon	Nickel Graphite	Silver Aluminium (65)	Silver Copper	Silver	Nickel	Fluoro Nickel Graphite (70)	Fluoro Silver Aluminium	Fluoro Silver Copper	Fluoro Nickel
SHIELDING PERFORMANCE	STD 285 /MIL-DTL 83528C (db)									
10 MHz	30	115	111	115	117	114	116	114	116	110
100 MHz	65	121	120	122	126	115	122	122	125	116
400 MHz	60	119	120	119	121	121	119	118	118	124
1 GHz	N/A	122	121	123	130	114	122	121	124	117
2 GHz	40	122	119	122	129	122	122	123	121	112
6 GHz	N/A	115	115	116	121	117	114	109	117	111
10 GHz	30	114	112	115	118	114	107	114	115	113
18 Ghz	N/A	106	105	104	115	105	105	103	104	103
Operating Temp Range (°C)	+160 -50	+160 -55	+160 -55	+125 -55	+160 -55	+160 -55	+160 -55	+160 -55	+125 -55	+160 -55
Colour	Black	Dark Grey	Beige	Dark Tan	Beige	Grey	Green	Light Green	Green	Dark Green
Shore Hardness (A +/-5) ASTM D2240	60	60	65	65	75	65	65	70	65	70
Volume Resistivity (ohms) ASTM D991	2.2	0.04	0.008	0.005	0.002	0.1	0.05	0.01	0.005	0.1
Specific Gravity (+/- 0.25)	2.0	2.0	2.0	3.5	3.2	4.5	2.2	2.0	4.0	4.8

* the results and procedures provides data applicable only to the test enclosure & cover panel design, but which is useful for the making comparisons between gasket materials as stated in the MIL-DTL-83528C spec



EXSHIELD | Conductive Silicone EC Shielding



EC Shielding:

For conductively loaded silicone extrusions, a round or D section profile, fitted into a correctly dimensioned groove or channel will provide the most effective sealing and shielding performance. Fixing with any form of conductive adhesive is not recommended as this is likely to have an adverse effect on the environmental sealing.

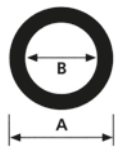
How to order:

Standard sizes can be specified from the table below. Alternatively please provide a drawing of the profile required indicating series and filler.

EC=Silicone	Q=Nickel Graphite	60=Solid Round	xxxx
ECF=Fluorosilicone	G=Silver Glass	61=Hollow Round	xxxx-xxxx
ECR=Flame Retardant*	J=Silver Aluminium	11=Solid 'D'	xxxx-xxxx-xxxx
	H=Silver Copper	12=Hollow 'D'	xxxx-xxxx-xxxx-xxxx
	S=Silver	13='U' Channel	xxxx-xxxx-xxxx-xxxx
*Nickel Graphite Only	C=Carbon	70=Rectangular	xxxx-xxxx
	N=Nickel	81=Solid 'P' Section	xxxx-xxxx-xxxx-xxxx
		82=Hollow 'P' Section	xxxx-xxxx-xxxx-xxxx

Example:

EC-J-61-0032-0016 is extruded tubular Silicone with Silver plated Aluminium filler of 3.2 mm o.d. and 1.6 mm i.d.



HOLLOW ROUND

DIM A (mm)	DIM B (mm)	PART NUMBER
2.40	0.80	61-0024-0008
3.18	1.14	61-0032-0011
3.96	1.27	61-0040-0013
6.35	3.18	61-0064-0032
7.92	4.88	61-0080-0048
9.53	6.35	61-0095-0064



SOLID ROUND

DIM A (mm)	PART NUMBER
1.02	60-0010
1.35	60-0014
1.57	60-0016
1.78	60-0018
2.03	60-0020
2.36	60-0024
2.62	60-0026
2.84	60-0028
3.02	60-0030
3.18	60-0032
3.30	60-0033
3.53	60-0035
3.81	60-0038
4.06	60-0040
4.78	60-0048
5.49	60-0055
6.35	60-0064



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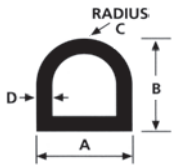
EXSHIELD | Conductive Silicone

EC Shielding



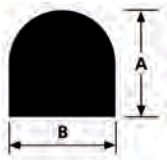
HOLLOW 'P'

DIM A (mm)	DIM B (mm)	DIM C (mm)	DIM D (mm)	PART NUMBER
5.08	2.03	1.57	12.70	82-0051-0020-0016-0127
5.08	2.03	1.57	21.59	82-0051-0020-0016-0216
6.35	3.18	1.57	12.70	82-0064-0032-0016-0127
6.35	3.18	1.57	15.88	82-0064-0032-0016-0160
6.35	3.18	1.57	22.22	82-0064-0032-0016-0222
7.92	4.75	1.57	22.22	82-0080-0048-0016-0222
9.14	6.48	1.79	19.81	82-0091-0065-0018-0198



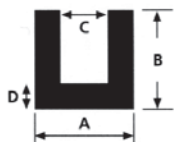
HOLLOW 'D'

DIM A (mm)	DIM B (mm)	DIM C (mm)	RAD R (mm)	PART NUMBER
3.96	3.96	1.14	1.98	12-0040-0040-0011-0020
4.75	4.72	1.27	2.36	12-0048-0047-0013-0024
6.35	6.35	1.65	3.18	12-0064-0064-0017-0032
7.92	7.92	1.27	3.96	12-0080-0080-0013-0040
7.92	7.92	1.57	3.96	12-0080-0080-0016-0040
12.37	8.23	2.03	6.20	12-0124-0082-0020-0062



SOLID 'D'

DIM A (mm)	DIM B (mm)	PART NUMBER
1.63	1.40	11-0016-0014
1.73	1.57	11-0017-0016
1.98	2.39	11-0020-0024
2.26	1.98	11-0023-0020
2.54	1.57	11-0025-0016
2.79	3.81	11-0028-0038
3.43	3.10	11-0034-0031
3.96	3.00	11-0040-0030
4.45	4.52	11-0045-0045
4.78	4.78	11-0048-0048
6.35	6.35	11-0064-0064



U CHANNEL

DIM A (mm)	DIM B (mm)	DIM C (mm)	DIM D (mm)	PART NUMBER
2.54	2.54	0.86	0.84	13-0025-0025-0009-0008
3.20	2.79	0.66	1.27	13-0032-0028-0007-0013
3.20	5.72	0.51	1.91	13-0032-0057-0005-0020
3.96	3.94	1.57	1.19	13-0040-0040-0016-0012
4.45	3.96	1.19	1.91	13-0044-0040-0012-0020
8.31	5.94	1.57	2.92	13-0083-0060-0016-0029



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EXSHIELD | Conductive Silicone ES Shielding

ES Shielding:

ES Shielding is conductively loaded silicone which is produced in sheet form or as die-cut flat gaskets.

How to order:

Specify: *Series - Filler code - and Drawing Number or Size*

SERIES	FILLER CODE	P/N	SHEET SIZE
ES=Silicone	Q=Nickel Graphite	-1	50mm x 50mm
ESF=Fluorosilicone	G=Silver Glass	-2	100mm x 100mm
ESR=Flame Retardant Silicone	J=Silver Aluminium	-3	150mm x 150mm
	H=Silver Copper	-4	250mm x 250mm
	S=Silver	-5	300mm x 300mm
	C=Carbon	-6	400mm x 400mm
	N=Nickel	-7	430mm x 450mm

Example:

ES-J-0008-5 = Silver Aluminium 0.8mm x 300mm x 300mm



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