



SPECTRUM CONTROL INC.
A Control Products and Systems Company

quietshield™ gaskets & shielding





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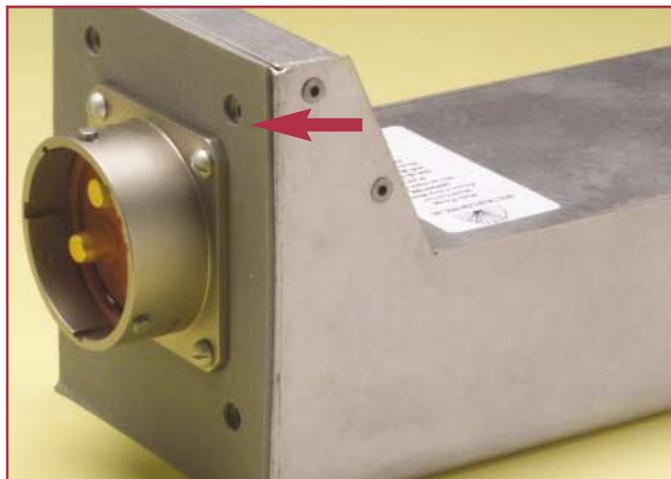
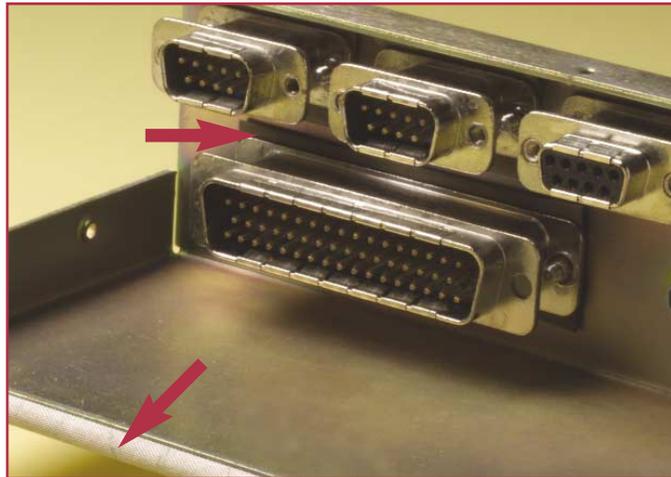
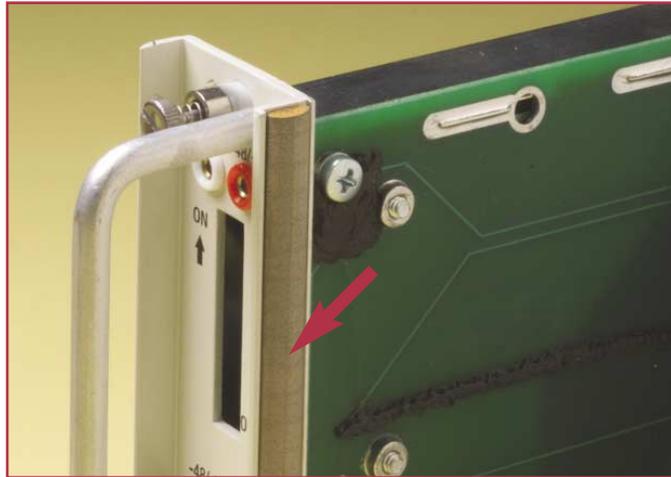
With years of experience in the design and manufacture of filtering and shielding products, Spectrum Control has a unique perspective on EMI and its control. Spectrum Control offers all the products necessary to protect electrical equipment from failures due to EMI.

As part of our broad range of products, Spectrum Control offers a line of shielding products intended to enable the user to seal their electronic enclosure. A variety of products are available including fabric-over-foam, conductive elastomer and wire mesh gaskets.

In combination with our filtering and TVSS products, Spectrum Control can solve EMI problems while providing you with increased design flexibility, reduced time-to-market and peak system performance.

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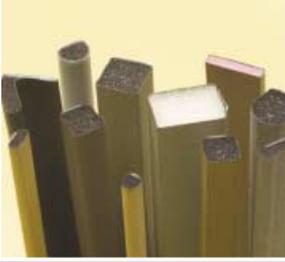
Quietshield™ Gaskets & Shielding



ISO 9001
CERTIFIED

www.spectrumcontrol.com/quietshield

Gaskets & Shielding Selection Guide

	Fabric Over Foam	Waved Metal and Fabric Over Foam	Fabric & Tape	Metal Mesh	Conductive Silicone
					
	<ul style="list-style-type: none"> Low cost Low closure force High shielding effectiveness Multiple fabric plating and core material PSA attachment 	<ul style="list-style-type: none"> Standard D-Sub shapes Improves grounding Improves high frequency attenuation 	<ul style="list-style-type: none"> Low cost High shielding Multiple fabric plating Conductive or nonconductive PSA Sheet or standard widths 	<ul style="list-style-type: none"> Profiles, sheets or gaskets Aluminum, stainless Elastomer core available Excellent heat and corrosion resistance High conductivity 	<ul style="list-style-type: none"> Good shielding Excellent water resistance Control static electric discharge High frequency absorber
Applications	<ul style="list-style-type: none"> Commercial enclosures Electronic cabinets Electrical test units Tempest computers and peripherals 	<ul style="list-style-type: none"> Telecommunications equipment Cellular base stations Secured communications Medical electronics Industrial process equipment Aerospace applications 	<ul style="list-style-type: none"> Commercial enclosures Electrical cabinets Unshielded cables and wires 	<ul style="list-style-type: none"> Electronic enclosures Industrial control 	<ul style="list-style-type: none"> Military equipment Tempest systems Outdoor communications
	<ul style="list-style-type: none"> FED/MIL Approvals UL 94VTM-1, V0 core optional 		<ul style="list-style-type: none"> FED/MIL Approvals UL 94VTM-1, 		
Performance Characteristics	<ul style="list-style-type: none"> Shielding Effectiveness Range/Performance 68-88 dB from 30 MHz to 5 GHz Temperature Range To 200 °C Surface Resistance <0.08 ohms Compression Set <5% 	<ul style="list-style-type: none"> Shielding Effectiveness Range/Performance 1 MHz - 5 GHz Temperature Range -55 °C to +125 °C Compression 80% 	<ul style="list-style-type: none"> Shielding Effectiveness Range/Performance 68-88 dB from 30 MHz to 1 GHz Temperature Range To 200 °C Surface Resistance <0.08 ohms Compression <5% 	<ul style="list-style-type: none"> Shielding Effectiveness Range/Performance 1 MHz to 5 GHz Temperature Range -55 °C to 200 °C Surface Resistance <0.08 ohms Compression Set 15% 	<ul style="list-style-type: none"> Shielding Effectiveness Range/Performance 60 dB at 30 MHz to 1 GHz Temperature Range -55 °C to 200 °C Surface Resistance 5 -10 ohms-cm Elongation % 240%

Shielding Theory and Introduction

Shielding Theory

Electromagnetic shielding is used to prevent electromagnetic signals such as radio signals from leaving or entering a box or enclosure. Signals inadvertently emitted by an electronic device can cause distortion or interruption in normal radio communications in a localized area. This is the basis of most laws and regulations concerning electromagnetic interference. In addition, normal radio signals can cause unprotected electronic devices to malfunction. Depending on the devices' function, a malfunction in the device could be a minor inconvenience such as static on a radio, or life threatening such as the malfunction of a life support system at a hospital.

Introduction

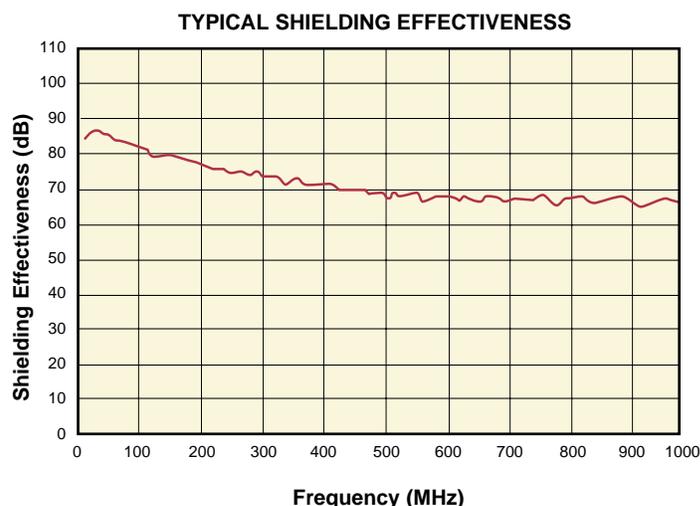
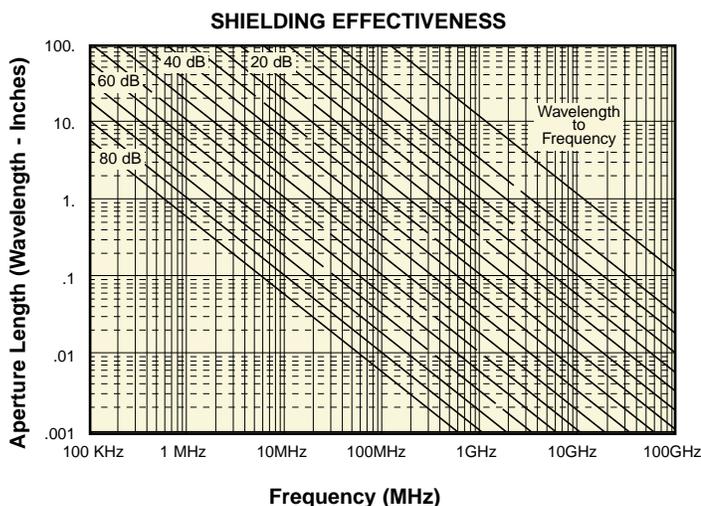
The electromagnetic shield in most cases is the electronic housing itself. The housing/shield forms a metal cage around the electronic circuits in a device. Most of the electromagnetic signal is absorbed with a small portion (3 to 10 dB) of the signal reflected off the metal housing. Most of the absorbed signal creates alternating currents at radio frequencies travels on the surface of metal. This allows the electromagnetic shield to keep signals from outside the enclosure on the outside of the shield and signals from inside signals on the inside of the shield.

The shield will continue to function as long as there are no holes in the electromagnetic shield which would allow the currents to flow from one side of the shield to the other. Holes are a necessity in an electronic enclosure. Connectors, wires, and cables are needed to transmit information to and from electronic devices. Doors and covers are needed to get access to components to maintenance, service, and keypads may also be required. The problem is that all of these items cause openings in the shield which reduce the performance of the shield.

Special devices such as shielding gaskets, shielding ventilation panels, shielded filtered connectors, and shielded switches minimize the effect of a hole in the shield.

The length of the hole and wavelength of the signal that needs to be shielded are the major factors determining the shielding effectiveness of an electronic enclosure. The distance between spotwelds, or screws which hold a metal housing together count as long narrow holes. Higher frequencies (lower wavelengths) flow more easily through smaller holes, and so the highest frequency needed to be shielded is the frequency of concern when designing shielding.

Aperture versus frequency charts can give a rough estimate of the shielding effectiveness of a metallic electronic housing.



Test Methods: ASTM D-4935-89
Test Fixture: Flanged coaxial transmission line

Quietshield™ Fabric-over-Foam Gaskets

Features

- Maintain shielding effectiveness across seams or gaps
- Shielding Effectiveness (SE) of 70 - 100 dB between 1 MHz to 18 GHz
- Exclusive Quiet Contact provides instantaneous shielding effectiveness upon initial contact of gasket
- Flexible and conformable
- No creasing or tearing
- Lightweight material

Profile Gaskets

Quietshield EMI/RFI Gaskets maintain shielding effectiveness (SE) across a seam or gap in the electronic equipment's shielding material.

Quietshield gaskets provide unique solutions to your most stringent shielding, grounding, ESD and packaging requirements. It's the cost-effective avenue for creativity in design. These gaskets consist of polyurethane foam combined with highly conductive fabrics. Specially designed polyurethane foam is soft, resilient and provides the perfect fit. Our gaskets are made with seven different types of fabric plating and two types of thermal adhesive, standard or flame retardant. Our flame retardant adhesive complies with UL94VTM-1 and VTM-0. If necessary, the polyurethane foam core can also be plated with Cu and Ni to provide additional conductivity.

Fabric Over Foam Gaskets, unlike elastomer or finger strip gaskets, provide softness for easy application with a variety of materials and designs at low cost. The best quality with high conductivity, low electrical resistance and minimum oxidation can be achieved by using gold gaskets with additional gold plating to provide superior shielding.

Profile gaskets are currently available in a variety of shapes and lengths. Spectrum Control's gaskets provide a variety of applications with lightweight and flexible solutions. Various thicknesses and shapes are available. These range from commonly used ones such as rectangular and "D" shape, to uncommon ones such as FL-shape (folding leaf) and DD-shape (Double DD-shape). We are able to produce gaskets with different shapes and sizes, based upon the customer's requests.

The mounting style available for most profile gaskets is pressure sensitive adhesive. These adhesives allow simple place and press mounting on smooth and clean metal surfaces. The parts can be cut to the desired length with common scissors or ordered to the exact length required. The adhesive provides high strength with aggressive initial tack, which increases in strength over time or after exposure to elevated temperatures.



I/O Gaskets

Spectrum Control offers a complete line of standard and custom I/O connector Electromagnetic Shielding Gaskets. I/O gaskets are flat gaskets used to provide a ground contact between a metal connector and the electronic enclosure or mating connector. They insure that the shield remains continuous from the input/output cable to the electronic enclosure.

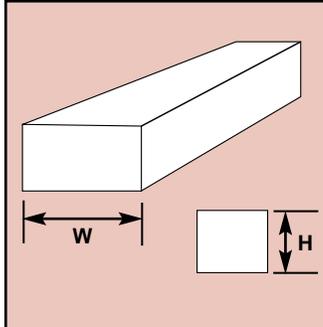
I/O Gaskets are available in the same materials as the fabric-over-foam profile gaskets, or as all-metal waved gaskets.

Spectrum Control's line of metal waved gaskets is designed to minimize the gaps between a D-Sub connector and the panel it is mounted to. These gaskets ensure the maximum "gap length" will not exceed the wave pitch, 0.200" (5.08 MM), even on surfaces with poor flatness. This ensures maximum filter performance to 1GHz and beyond.

Test	ASTM Test	Performance
Shielding Effectiveness, dB		70-100
Compression Set %	D3574	7.9
Compression Load Deflection, PSI	D3574	15
Compression at Max Load		60%
Water Absorption (Foam Only) %	D1667	5.8
Abrasion Resistance, 3,000 Cycles	D3885	Excellent
Ultra Violet Exposure	D750	No Visible Change
Fungus Exposure	G21	Small Growth
Operating Temperature C	D746	-40 to +90
Flammability Rating	UL94	VTM1, VTM0
Conductivity, OHMS/SQ		
Unexposed		0.2
Weathered (100 HRS)		0.3
Fungus		0.2
Salt		0.2
DC Conductivity		.2 Ohms/SQ
Tensile Strength		80 lb/in

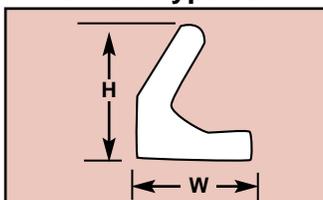
Quietshield™ Fabric-over-Foam Profile Gaskets

Rectangular Type "R"



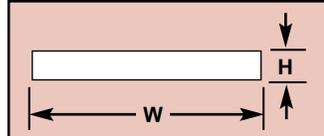
W	H	Part Number
3.0	2.0	57R11-1208-xxxx
9.5	3.2	57R11-3713-xxxx
3.9	3.0	57R11-1512-xxxx
10.0	10.0	57R11-3939-xxxx
8.0	12.0	57R11-3247-xxxx
13.0	3.0	57R11-5112-xxxx
12.4	9.4	57R11-4937-xxxx
25.0	10.0	57R11-9839-xxxx
12.7	12.7	57R11-5050-xxxx
25.4	9.5	57R11-0037-xxxx
4.0	2.0	57R11-1608-xxxx †
4.0	4.0	57R11-1616-xxxx †
5.0	5.0	57R11-2020-xxxx †
6.4	3.2	57R11-2512-xxxx †
10.0	6.0	57R11-4022-xxxx †
12.7	3.2	57R11-5013-xxxx †
13.0	10.0	57R11-5140-xxxx †
9.5	9.5	57R11-3737-xxxx †
1.0	1.0	57R13-4004-xxxx †
1.0	5.1	57R13-2004-xxxx †
1.6	5.1	57R13-2006-xxxx †
2.0	4.1	57R13-1608-xxxx †
3.1	10.1	57R13-4012-xxxx †
3.2	6.4	57R13-2512-xxxx †
3.3	4.8	57R13-1913-xxxx †
3.3	12.7	57R13-5013-xxxx †
4.1	4.1	57R13-1616-xxxx †
5.1	5.1	57R13-2020-xxxx †
5.6	10.2	57R13-4022-xxxx †
9.5	9.5	57R13-3737-xxxx †
10.2	13.0	57R13-5140-xxxx †
6.4	12.7	57R13-5025-xxxx †

C-Fold Type "C"



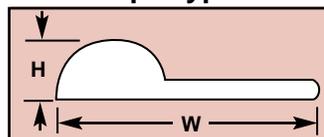
W	H	Part Number
7.5	3.5	57L11-3014-xxxx
8.0	8.0	57L11-3232-xxxx
10.0	10.0	57L11-3939-xxxx
10.7	9.8	57L11-4339-xxxx
17.3	15.0	57L11-6859-xxxx

Flat Type "R"



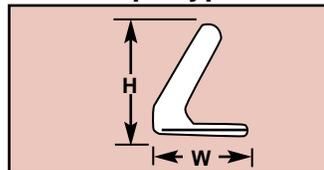
W	H	Part Number
3.0	1.0	57R11-1204-xxxx
4.0	0.9	57R11-1604-xxxx
4.0	1.2	57R11-1605-xxxx
5.0	1.0	57R11-2004-xxxx †
7.0	0.5	57R11-2802-xxxx
10.0	1.2	57R11-4005-xxxx
12.0	1.5	57R11-4706-xxxx
13.0	0.9	57R11-5104-xxxx
13.0	1.5	57R11-5106-xxxx
14.0	1.5	57R11-5506-xxxx
5.0	1.5	57R11-2006-xxxx
10.0	1.0	57R11-4004-xxxx
4.0	0.8	57R11-1603-xxxx
5.0	0.5	57R11-2002-xxxx
5.0	1.2	57R11-2005-xxxx
5.0	1.8	57R11-2007-xxxx
6.0	1.0	57R11-2404-xxxx
6.0	1.5	57R11-2406-xxxx
7.0	1.0	57R11-2804-xxxx
7.0	1.2	57R11-2805-xxxx
7.0	1.5	57R11-2806-xxxx
7.0	1.8	57R11-2807-xxxx
7.6	1.6	57R11-3006-xxxx
8.0	0.8	57R11-3203-xxxx
8.0	1.0	57R11-3204-xxxx
9.0	1.0	57R11-3604-xxxx
10.0	0.5	57R11-4002-xxxx
10.0	1.8	57R11-4007-xxxx
12.0	1.0	57R11-4704-xxxx
13.0	0.7	57R11-5103-xxxx

P-Shape Type "P"



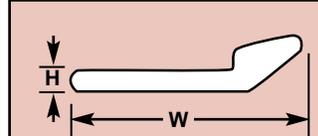
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8.0	2.0	57P11-3208-xxxx
13.2	3.3	57P11-5216-xxxx †

L-Shape Type "L"



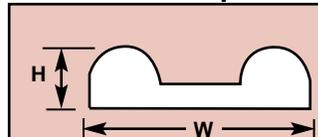
W	H	Part Number
11.0	11.0	57L11-4343-xxxx
14.0	15.0	57L11-5559-xxxx
10.0	11.0	57L12-4339-xxxx †
17.0	14.7	57L12-5767-xxxx †

Knife Edge Type "K"



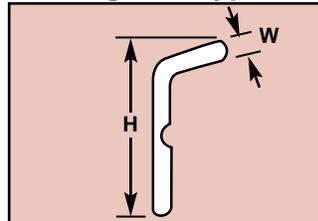
W	H	Part Number
12.5	3.5	57K11-4914-xxxx
12.7	2.4	57K11-5009-xxxx
3.0	2.0	57K11-5010-xxxx
3.0	2.0	57K11-7525-xxxx

Double D-Shape "V"



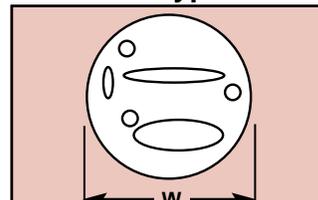
W	H	Part Number
9.6	3.2	57V11-3813-xxxx

Folding Leaf Type "U"



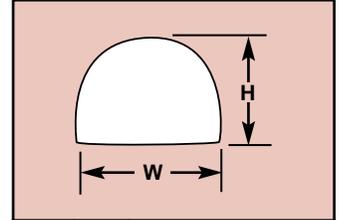
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18.0	7.9	57U11-7131-xxxx

Round Type "O"

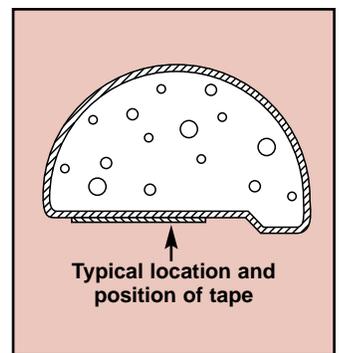


W	Part Number
2.5	57O11-1010-xxxx
2.7	57O11-1111-xxxx
3.2	57O11-1313-xxxx
4.5	57O11-1818-xxxx
5.0	57O11-2020-xxxx
8.8	57O11-3535-xxxx
10.0	57O11-3939-xxxx
11.6	57O11-4343-xxxx

D-Shape "D"



W	H	Part Number
2.3	2.3	57D13-0909-xxxx †
8.0	10.0	57D13-3240-xxxx
6.0	5.5	57D13-2422-xxxx
9.0	3.2	57D13-3513-xxxx
9.8	6.4	57D13-3925-xxxx
11.0	3.5	57D13-4314-xxxx
17.5	12.0	57D13-6947-xxxx
18.0	20.0	57D13-7177-xxxx
18.0	23.0	57D13-7191-xxxx
9.5	6.0	57D13-3725-xxxx †
6.5	3.4	57D13-2514-xxxx †
10.0	10.0	57D13-3939-xxxx
3.8	1.5	57D13-1506-xxxx †
3.8	3.0	57D13-1512-xxxx †
6.4	3.0	57D13-2512-xxxx †
2.3	3.2	57D13-0912-xxxx
2.6	3.2	57D13-1012-xxxx
3.0	2.0	57D13-1208-xxxx
3.0	3.5	57D11-1214-xxxx
4.0	4.0	57D13-1616-xxxx
5.0	5.0	57D13-2020-xxxx
6.0	2.0	57D13-2408-xxxx
6.0	4.5	57D13-2418-xxxx
6.0	5.0	57D13-2420-xxxx
6.5	5.0	57D13-2520-xxxx
10.0	4.0	57D13-3916-xxxx
10.0	4.5	57D13-3918-xxxx
10.0	5.0	57D13-3920-xxxx
10.0	5.5	57D13-3922-xxxx
10.0	6.0	57D13-3924-xxxx
10.0	7.0	57D13-3928-xxxx
10.0	7.5	57D13-3930-xxxx
11.0	4.5	57D13-4318-xxxx
11.0	5.5	57D13-4322-xxxx
9.0	3.0	57D13-3512-xxxx
18.0	14.0	57D13-7155-xxxx



NOTE: † Standard Part

Quietshield™ Fabric-over-Foam & Waved Metal I/O Gaskets



Specifications

Material Beryllium Copper, CA 172
(per QQ-C-533)

Finish Electro tin plate, 100 micro
inches (per MIL-T-10727)

Material

Thickness005" (.13mm) compressed

Wave

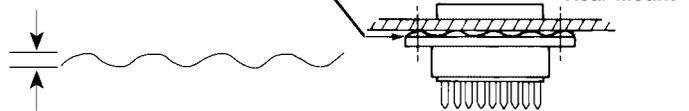
Height030"+.020/-.015
(.76+.51/-.38mm)

Length increase

when flattened 0.008" (.20mm) per inch

**Waved Metal
Grounding/Shielding Gasket**
(shown in free state)

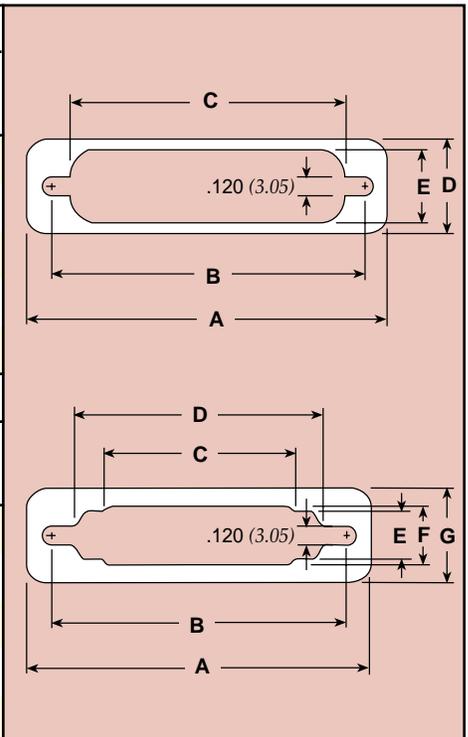
Wave Height



Waved Metal Gaskets (Select part number by filling in "xxx": 572019-00xxx-70)

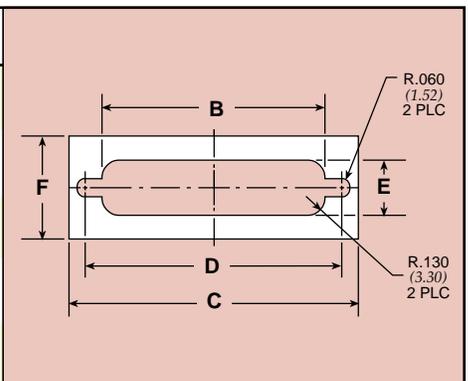
Mounting: Front mounted pin or socket connector, rear mounted pin connector.						
Shell Size	A ±.020 (0.51)	B ±.020 (0.51)	C ±.020 (0.51)	D ±.020 (0.51)	E ±.005 (0.13)	"xxx"
9	1.213 (30.81)	.984 (24.99)	.777 (19.74)	.600 (15.24)	.440 (11.18)	100
15	1.541 (39.14)	1.312 (33.32)	1.105 (28.07)	.600 (15.24)	.440 (11.18)	101
25	2.088 (53.04)	1.852 (47.04)	1.645 (41.78)	.600 (15.24)	.440 (11.18)	102
37	2.729 (69.32)	2.500 (63.50)	2.293 (58.24)	.600 (15.24)	.440 (11.18)	103
50	2.635 (66.93)	2.406 (61.11)	2.190 (55.63)	.710 (18.03)	.550 (13.97)	104

Mounting: Rear mounted socket connectors only.								
Shell Size	A ±.020 (0.51)	B ±.020 (0.51)	C ±.020 (0.51)	D ±.020 (0.51)	E ±.005 (0.13)	F ±.005 (0.13)	G ±.020 (0.51)	"xxx"
9	1.213 (30.81)	.984 (24.99)	.450 (11.43)	.660 (16.76)	.324 (8.23)	.360 (9.14)	.600 (15.24)	105
15	1.541 (39.14)	1.312 (33.32)	.670 (17.02)	.988 (25.10)	.324 (8.23)	.360 (9.14)	.600 (15.24)	106
25	2.088 (53.04)	1.852 (47.04)	1.110 (28.19)	1.528 (38.81)	.324 (8.23)	.360 (9.14)	.600 (15.24)	107
37	2.729 (69.32)	2.500 (63.50)	1.550 (39.37)	2.176 (55.27)	.324 (8.23)	.360 (9.14)	.600 (15.24)	108
50	2.635 (66.93)	2.406 (61.11)	1.550 (39.37)	2.082 (52.88)	.436 (11.07)	.470 (11.94)	.710 (18.03)	109



Fabric-over-Foam I/O Gaskets

Shell Size	Thickness	Dimensions					Fabric Type	Part Number
		A	B	C	D	E		
1	0.012	0.746 (18.95)	1.213 (30.81)	0.984 (24.99)	0.400 (10.16)	0.750 (19.05)	nonwoven	57F01-D112-1275
	0.040							57F11-D140-1275
	0.070							57F11-D170-1275
2	0.012	1.074 (27.28)	1.541 (39.14)	1.312 (33.32)	0.400 (10.16)	0.750 (19.05)	nonwoven	57F01-D212-1575
	0.040							57F11-D240-1575
	0.070							57F11-D270-1575
3	0.012	1.614 (41.00)	2.088 (53.04)	1.852 (47.04)	0.400 (10.16)	0.750 (19.05)	nonwoven	57F01-D312-2075
	0.040							57F11-D340-2075
	0.070							57F11-D370-2075
4	0.012	2.266 (57.56)	2.720 (69.09)	2.500 (63.50)	0.400 (10.16)	0.750 (19.05)	nonwoven	57F01-D412-2775
	0.040							57F11-D440-2775
	0.070							57F11-D470-2775
5	0.012	2.158 (54.81)	2.63 (66.80)	2.406 (61.11)	0.500 (12.70)	0.850 (21.59)	nonwoven	57F01-D512-2685
	0.040							57F11-D540-2685
	0.070							57F11-D570-2685



Dimensions in inches (mm)

Shielding Tapes & Fabric



Flexible and lightweight tapes provide easy installation and high conductivity and low electrical resistance provide a good shielding effect. Our products use stronger pressure sensitive adhesive to provide better adhesion. Standard widths are 1", 2", 3" and 42". Standard roll lengths are 200'.

Spectrum Control's conductive tapes consist of conductive fabric and adhesive which can be either conductive or non-conductive. Conductive tapes come in various types; conductive fabric tapes, Cu/Al foil tapes and double side conductive adhesive tapes. Anti-corrosion coating is done on foil tapes and flame retardant coating is available, which complies with UL94VTM-1 and VTM-0.

Styles

- Non-woven polyester taffeta
- Conductive woven polyester taffeta
- Woven ripstop
- Woven DTY filament
- Mesh
- Aluminum foil
- Copper foil

Material	Plating	Weight (g/sq m)	Thickness (mm)	Tensile Strength ((Kgf)	Surface Resistance (ohm/sq)	Shielding Effectiveness (min dB)	Part Number
Conductive Woven	Cu-Ni	76.0	0.1	40.0	0.08	67	57T1A14200-xxxx
Conductive Woven	Cu-Ni	76.0	0.1	40.0	0.08	67	57T1A24200-xxxx
Conductive Woven	Cu-Ni	76.0	0.1	40.0	0.08	67	57T1A64200-xxxx
Conductive Woven	Cu-Ni	76.0	0.1	40.0	0.08	67	57T1A34200-xxxx
Conductive Woven	Cu-Ni	76.0	0.1	40.0	0.08	67	57T1A44200-xxxx
Conductive Rip-Stop	Cu-Ni	76.0	0.1	40.0	0.08	67	57T2A14200-xxxx
Conductive Rip-Stop	Cu-Ni	76.0	0.1	40.0	0.08	67	57T2A34200-xxxx
Conductive Rip-Stop	Cu-Ni	76.0	0.1	40.0	0.08	67	57T2A64200-xxxx
Conductive Rip-Stop	Cu-Ni	76.0	0.1	40.0	0.08	67	57T2A44200-xxxx
Conductive Non-woven	Cu-Ni	76.0	0.1	40.0	0.08	67	57T0A14206-xxxx
Conductive Non-woven	Cu-Ni	76.0	0.1	40.0	0.08	67	57T0A14201-xxxx
Conductive Non-woven	Cu-Ni	76.0	0.1	40.0	0.08	67	57T0A14201-xxxx
Conductive Non-woven	Cu-Ni	76.0	0.1	40.0	0.08	67	57T0A14202-xxxx
Conductive Mesh	Cu-Ni	76.0	0.1	40.0	0.08	67	57T4014200-xxxx
Conductive Mesh	Cu-Ni	76.0	0.1	40.0	0.08	67	57T4044200-xxxx
Conductive Mesh	Cu-Ni	76.0	0.1	40.0	0.08	67	57T4034200-xxxx
Aluminum	Cu-Ni	76.0	0.1	40.0	0.08	67	57T7A-4200-xxxx
Aluminum	Cu-Ni	76.0	0.1	40.0	0.08	67	57T7C-4200-xxxx
Copper	Cu-Ni	76.0	0.1	40.0	0.08	67	57T8A-4200-xxxx

Wire Mesh Gaskets

Spectrum Control's mesh gaskets include all mesh gaskets and elastomer core mesh gaskets.

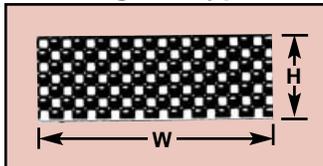
Layers of knitted wire are covered over the wire core in Spectrum Control's all mesh gaskets. Using its electrical conductivity, they are used between two surfaces to maintain electrical continuity while shielding electromagnetic waves. They offer good resilience and excellent heat and corrosion resistance. Any types of metal can be used to produce mesh gaskets but common materials used are aluminum, stainless steel and monel.



Spectrum Control's elastomer core mesh gaskets are composed of wire mesh over elastomer core. Both these materials provide excellent shielding effects creating the maximum outcome. Both All mesh gaskets and Elastomer core mesh gaskets can be produced with different types of materials and also in many different forms.

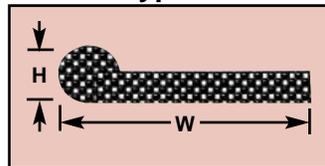
All Mesh Gaskets - Structure

Rectangular Type "R"



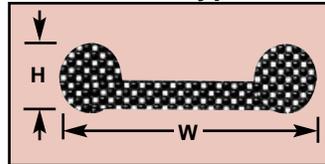
W	H	Part Number
3.5	1.5	57R40-1406-xxxx
3.6	2.5	57R40-1410-xxxx
4.6	2.6	57R40-1810-xxxx
5.0	3.0	57R40-2012-xxxx
4.8	4.8	57R40-2020-xxxx
6.0	3.0	57R40-2412-xxxx
6.4	1.6	57R40-2506-xxxx
6.5	4.5	57R40-2618-xxxx
9.0	3.0	57R40-3512-xxxx
6.5	4.0	57R40-2616-xxxx

P-Type "P"



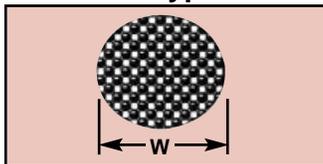
W	H	Part Number
3.5	13.0	57P40-1451-xxxx
3.5	16.2	57P40-1464-xxxx
3.5	20.2	57P40-1478-xxxx
5.2	13.1	57P40-2152-xxxx
5.2	19.5	57P40-2177-xxxx
6.7	19.4	57P40-2626-xxxx

Double P-Type "V"



W	H	Part Number
3.5	9.8	57V40-1439-xxxx
3.5	13.0	57V40-1451-xxxx
3.5	16.2	57V40-1464-xxxx
5.2	16.3	57V40-2164-xxxx
5.2	19.5	57V40-2177-xxxx
5.2	25.8	57V40-2100-xxxx
6.7	16.2	57V40-2669-xxxx
6.7	19.4	57V40-2676-xxxx
6.7	25.7	57V40-2600-xxxx

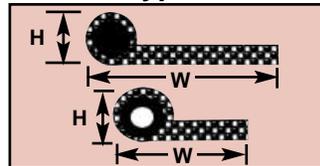
Round Type "O"



W	Part Number
1.0	57O40-0404-xxxx
1.5	57O40-0606-xxxx
2.0	57O40-0808-xxxx
2.6	57O40-1010-xxxx
3.5	57O40-1414-xxxx
4.0	57O40-1616-xxxx
4.7	57O40-1919-xxxx
5.5	57O40-2222-xxxx
7.8	57O40-3131-xxxx
9.2	57O40-3636-xxxx

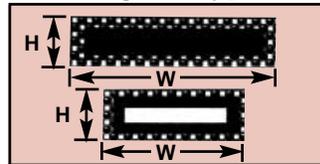
Elastomer Core Mesh Gaskets

P-Type "P"



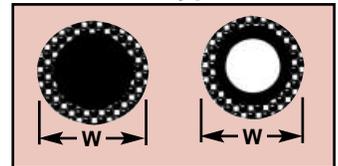
W	H	Part Number
3.5	13.0	57P48-1451-xxxx
3.5	16.2	57P48-1464-xxxx
3.5	20.2	57P48-1480-xxxx
5.2	13.1	57P48-2152-xxxx
5.2	19.5	57P48-2177-xxxx
6.7	19.4	57P48-2676-xxxx

Rectangular Type "R"



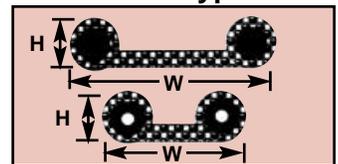
W	H	Part Number
3.5	1.5	57R48-1406-xxxx
3.6	2.5	57R48-1410-xxxx
4.6	2.6	57R48-1810-xxxx
5.0	3.0	57R48-2012-xxxx
4.8	4.8	57R48-1919-xxxx
6.0	3.0	57R48-2412-xxxx
6.4	1.6	57R48-2506-xxxx
6.5	4.5	57R48-2618-xxxx
9.0	3.0	57R48-3512-xxxx
6.5	4.0	57R48-2616-xxxx

Round Type "O"



W	Part Number
1.0	57O48-0404-xxxx
1.5	57O48-0606-xxxx
2.0	57O48-0808-xxxx
2.6	57O48-1010-xxxx
3.5	57O48-1414-xxxx
4.0	57O48-1616-xxxx
4.7	57O48-1919-xxxx
5.5	57O48-2222-xxxx
7.8	57O48-3131-xxxx
9.2	57O48-3636-xxxx

Double P-Type "V"



W	H	Part Number
3.5	9.8	57V48-1439-xxxx
3.5	13.0	57V48-1451-xxxx
3.5	16.2	57V48-1464-xxxx
5.2	16.3	57V48-2164-xxxx
5.2	19.5	57V48-2177-xxxx
5.2	25.8	57V48-2100-xxxx
6.7	16.2	57V48-2669-xxxx
6.7	19.4	57V48-2676-xxxx
6.7	25.7	57V48-2600-xxxx

Conductive Elastomers

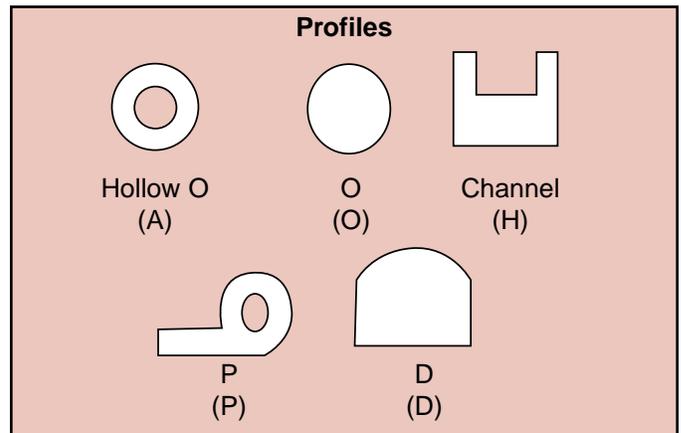


Spectrum Control's conductive elastomers are composed of silicon rubber using its heat resistant property. Unique features of conductive elastomers include water resistance and elimination of static electricity, which is different from general foam gaskets. It also acts as an absorber at high frequency showing 60dB shielding at 30MHz ~ 10GHz.

Excellent electrical conductivity, grounding and shielding are provided. Due to its superior properties conductive elastomers are often used in military equipment. They can be produced in many forms such as sheets, molded parts, die-cuts or strips.

Typical Properties of Silicone Gaskets

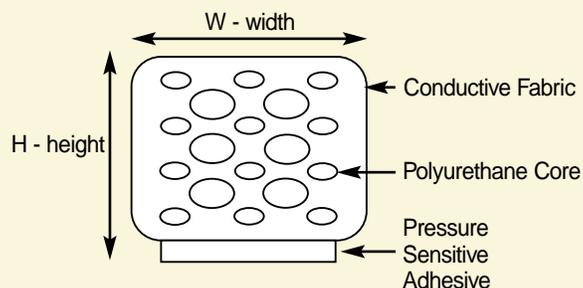
Material	Conductive Silicone (Rubber) Gasket
Hardness Shore Micro	97-5
Volume Resistivity ohms	5-10
Elongation %	240
Tensile Strength Mpa	4.43
Tear Resistance KN/m	10.4
Texture and Color	Black or Beige
Specific Gravity	1.39
Temperature Range	-55 to +200



Part Number	ID Size	OD Size	Type	Profile
57A99-0909-xxxx	1.0	2.3	Hollow	A
57A99-0606xxxx	0.5	1.5	Hollow	A
57A99-2828-xxxx	5.0	7.0	Hollow	A
57O98-1414-xxxx		3.5	O-Profile	O
57H98-3022-xxxx	W:7.5	H:5.5	Channel	H
57P98-9830-xxxx	W:25.0	H:7.5	P-Shape	P
57D98-2525-xxxx	W:6.35	H:6.35	D-Tubing	D

Quietshield™ Gaskets Part Numbers

Typical Fabric-over-Foam Cross-section



5 7 D 1 2 - 1 2 0 5 - 7 2 0 0

Gaskets

Shapes/Styles

D, R, L, P, C, K, O, V, U —
Fabric-over-foam
R, P, O, V — Mesh
A, D, H, J, P, O, P, Z —
Conductive Elastomer
F — Formed/Stamped
T — Tape/Foil/Fabric
S — Special

Fabric/Foil

0 — Non-woven
1 — Woven
2 — Woven ripstop
3 — Woven DTY Filament
4 — Mesh
5 — Net
6 — Knit
7 — Aluminum
8 — Copper
9 — None

Material

0 — None
1 — Foam neoprene,
no PSA
2 — Foam neoprene,
conductive PSA
3 — Foam neoprene,
non-conductive PSA
4 — Solid
5 — Sponge
6 — Silicone
7 — Hollow silicone
8 — Conductive elastomer
9 — Hollow conductive elastomer
A — No core,
conductive PSA one side
B — No core, non-conductive
PSA one side
C — No core, conductive
PSA double side
D — No core, non-conductive
PSA double side

Note: PSA = pressure sensitive adhesive

Plating

- — Nickel - silver
1 — Copper - Nickel (std)
2 — Copper - Nickel - Gold
3 — Copper - Nickel - Silver
4 — Copper - Nickel - Resin
5 — Copper - Nickel - P.S. Coating
6 — Iron - Copper - Nickel
7 — Copper - Nickel - Carbon

Length

Length (ex: -1205 = 12.05)
[Standard is 36 (-3600)]

Custom part number for
special application (-X001)
X must be the first character

Height/Thickness

Profiles — thickness in inches
I/O — height in inches

Width or Type & Size

Profiles — width in inches
I/O — first digit is I/O Type
(D, d-sub)
second digit is shell size
(1, 2, 3, 4, or 5)

Ordering Information

Example: 57D12 - 1205 - 7200

The part number shown represents a foam-over-fabric gasket with woven foam made of neoprene, conductive PSA. The gasket has silver-nickel plating that is 0.120" wide x 0.050" thick x 72" long.

Sample Kit

Quietshield sample kits are available from Spectrum Control Inc. Order number KIT-QSHIELD-57.

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www.spectrumcontrol.com



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signal and power integrity

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