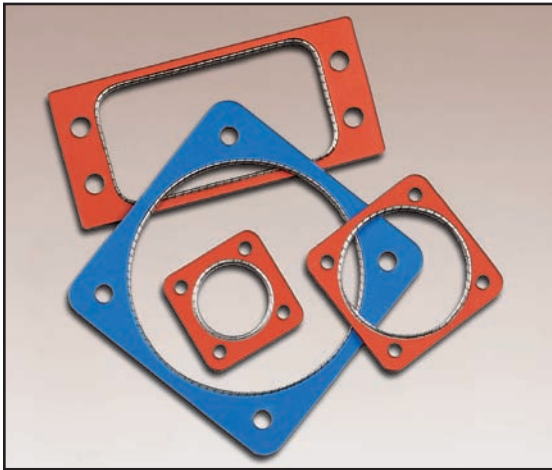
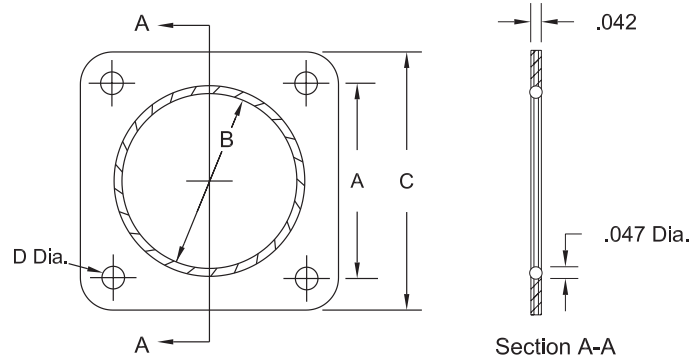


EMI & Environmental Connector-Seal (Standard-Mount)



Spira's EMI/Environmental Connector-Seal gaskets are designed to provide an EMI and Environmental seal in flange-mounted connectors for the life of a system. They provide superior shielding quality and an excellent & durable environmental seal. (Also see *Front-Mount* version.)



Application Information

These gaskets are made by attaching a Spira-Shield O-Ring to an environmental sealing retaining frame. The retaining frame consists of a stainless steel plate with vulcanized silicone or fluorosilicone sheeting on both sides of the plate. The stainless steel plate eliminates cold flow of the environmental sealing elastomer.

The "ECS" EMI & Environmental Connector-Seal is designed primarily for back mounting. The shell sizes noted with an asterisk (*) can be used for both front and back mounting. See the "FMECS" front-mount version on the following pages.

Materials

See page 55 for material specifications.

Frame: Corrosion resistant Stainless steel, between silicone or fluorosilicone elastomeric sheeting material.

Spiral: Spira-Shield standard force tin/lead plated beryllium copper gasket. Compression force is ~ 30 lbs/linear inch. (See *Options* for RoHS compliance).

Note: this gasket can be ordered as "Environmental only", with no spiral if desired.

Shielding Quality

Connector-Seal gaskets offer shielding quality from 116 to 152 dB. The level is dependent on contact surfaces and may vary depending on your specific application. Refer to Shielding Quality for more complete performance data.

Available Options

Plating

See page 56 for material compatibility information.

See table below for spiral plating options.

The gasket is electroplated, 90% tin, 10% lead per AMS-P-81728 (edges unplated). Plating options can be specified by changing the prefix in the part number:

E: Edge tin/lead plating (includes edges) for high humidity or salt-fog environments

IW: RoHS compliant tin plating (Example: **ECS-IW-21 /S**)

EIW: RoHS compliant edge tin plating for high humidity or salt-fog

Frame

The frame is stainless steel sealed on both sides by silicone or fluorosilicone elastomeric material. Specify "/S" for Silicone or "/F" for Fluorosilicone.

The frame can also be ordered with the same dimensions but without a shielding gasket by removing the "-T" from the part number as shown in the table below.

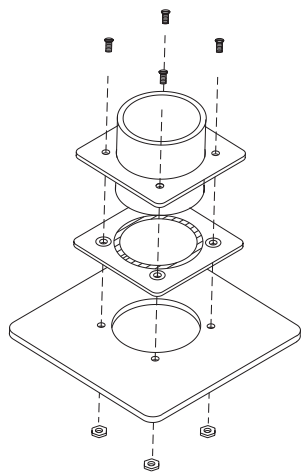
Specify frame and plating options by choosing the desired prefix from the table.

Sealing	Environmental Only (No Gasket)	Tin/Lead Plated Gasket	RoHS Tin Plated Gasket	Edge Tin/Lead Plated Gasket	RoHS Edge Tin Plated Gasket
Silicone	EOCS-__ /S	ECS-T-__ /S	ECS-IW-__ /S	ECS-E-__ /S	ECS-EIW-__ /S
Fluorosilicone	EOCS-__ /F	ECS-T-__ /F	ECS-IW-__ /F	ECS-E-__ /F	ECS-EIW-__ /F



Ordering Information

Connector-Seal gaskets are ordered by the piece.



Back Mount



Front Mount

Environmental Silicone or Fluorosilicone Seal:

ECS - T - / -

Gasket Plating
T: Tin
E: Edge Tin
IW: RoHS Tin
EIW: RoHS Edge Tin
NI: Stainless Steel
TNI: Tin Stainless St.
IWNI: RoHS Stainless St.

Elastomer Sealing
/S: Silicone
/F: Fluorosilicone

Dash No.
From Table

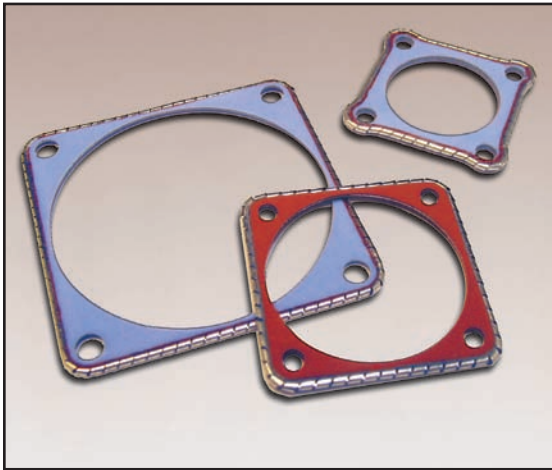
Dash No.	MIL-C-38999		MIL-C-38999 Series II, MIL-E-26482, MS27472, MS27497	M83723	MS27613	A	B	C	D
	Series I MS27656	Series III							
01			8			0.594	0.448	0.828	0.125
02				8		0.594	0.510	0.828	0.125
03	9*					0.719	0.672	0.958	0.125
04		9				0.719	0.482	0.938	0.125
05			10*	10*		0.719	0.695	0.954	0.125
06	11	11				0.812	0.601	1.031	0.125
07			12	12	12	0.812	0.790	1.031	0.125
08	13	13				0.906	0.719	1.125	0.125
09			14	14	14	0.906	0.885	1.125	0.125
10	15	15				0.969	0.876	1.219	0.125
11			16	16	16	0.969	1.010	1.234	0.125
12	17	17				1.062	0.994	1.312	0.125
13			18	18	18	1.062	1.082	1.328	0.125
14	19	19				1.156	1.112	1.438	0.125
15			20	20		1.156	1.198	1.453	0.125
16	21	21				1.250	1.230	1.562	0.125
17			22	22	22	1.250	1.332	1.562	0.125
18	23	23				1.375	1.349	1.688	0.152
19			24	24	24	1.375	1.452	1.703	0.152
20	25	25				1.500	1.467	1.812	0.152
21					28	1.562	1.710	2.000	0.152
				MS-3412, MIL-DTL 5015 Series II	MIL-C-28840	A	B	C	D
22				8*		0.594	0.510	0.875	0.125
23				10*		0.719	0.635	1.000	0.125
24					11*	0.750	0.760	1.023	0.125
25				12*		0.812	0.760	1.094	0.125
26					13*	0.843	0.885	1.138	0.125
27				14*		0.906	0.885	1.188	0.125
28					15*	0.968	1.072	1.258	0.125
29				16*		0.969	1.010	1.281	0.125
30					17*	1.015	1.135	1.383	0.125
31				18*		1.062	1.135	1.375	0.125
32					19*	1.140	1.322	1.508	0.125
33				20*		1.156	1.260	1.500	0.125
34				22*		1.250	1.385	1.625	0.125
35					23*	1.281	1.510	1.718	0.125
36				24*		1.375	1.510	1.750	0.152
37					25*	1.392	1.635	1.818	0.152
38				28*		1.562	1.760	2.000	0.152
39					29*	1.568	1.885	2.138	0.152
40				32*		1.750	2.010	2.250	0.172
41					33*	1.734	2.073	2.328	0.172
42				36*		1.938	2.260	2.500	0.172
43				40*		2.188	2.510	2.750	0.172
44				44*		2.375	2.760	3.000	0.172
45				48*		2.625	3.010	3.250	0.172

* The ECS gaskets are designed for back mounting of the connectors. Shell sizes noted with an asterisk (*) can be used for both front or back mounting. See the FMECS on the following pages for the Front-Mount Connector-Seal gasket.

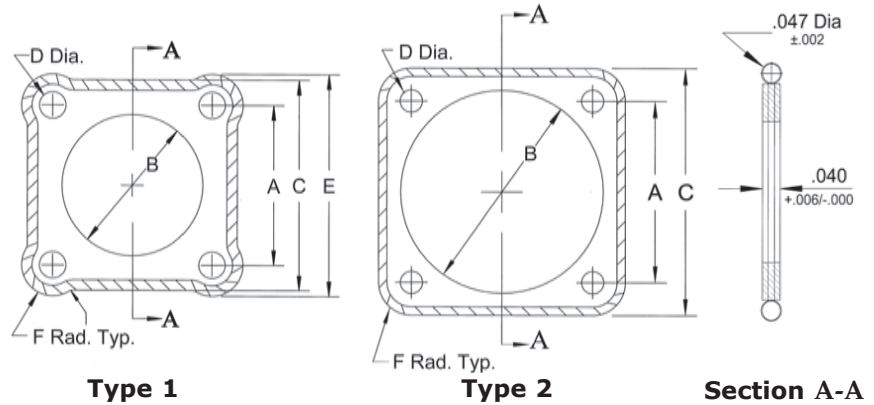
Custom sizes are also available. Contact us for more information.

Note that the dash numbers and sizes are different for each Connector-Seal gasket: the Environmental Connector-Seal Standard-Mount (ECS), the EMI-Only version (SSCG or CS) and the Front-Mount Environmental Connector-Seal (FMECS).

NEW Front-Mount EMI & Environmental Connector-Seal



Spira's *Front-Mount* EMI & Environmental Connector-Seal gaskets are designed to provide an EMI & Environmental seal in flange-mounted connectors for the life of a system. They provide superior shielding quality and an excellent and durable environmental seal.



Application Information

These gaskets are made by attaching a Spira-Shield O-Ring to an environmental sealing retaining frame. The retaining frame consists of a stainless steel plate with vulcanized silicone or fluorosilicone sheeting on both sides of the plate. The stainless steel plate eliminates cold flow of the environmental sealing elastomer.

The "FMECS" *Front-Mount* EMI & Environmental Connector-Seal has the EMI gasket on the *outside* of the frame to provide an environmental seal when front mounting the connector. (As shown in the figures.) Please see the previous pages for our standard or back-mount "ECS" EMI & Environmental Connector-Seal.

Materials

See page 55 for material specifications.

Frame: Corrosion resistant Stainless steel, between silicone or fluorosilicone elastomeric sheeting material.

Spiral: Spira-Shield standard force tin/lead plated beryllium copper gasket. Compression force is ~ 30 lbs/linear inch. (See *Options* for RoHS compliance).

Shielding Quality

Connector-Seal gaskets offer shielding quality from 116 to 152 dB. The level is dependent on contact surfaces and may vary depending on your specific application. Refer to Shielding Quality for more complete performance data.

Available Options

Plating

See page 56 for material compatibility information.

See table below for spiral plating options.

The gasket is electroplated, 90% tin, 10% lead per AMS-P-81728 (edges unplated). Plating options can be specified by changing the prefix in the part number:

E: Edge tin/lead plating (includes edges) for high humidity or salt-fog environments

IW: RoHS compliant tin plating (Example: FMECS-IW-11S2 /S)

EIW: RoHS compliant edge tin plating for high humidity or salt-fog

Frame

The frame is stainless steel sealed on both sides by silicone or fluorosilicone elastomeric material. Specify "/S" for Silicone or "/F" for Fluorosilicone.

Specify frame and plating options by choosing the desired prefix from the table.

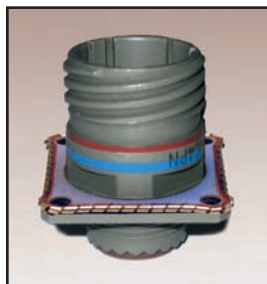
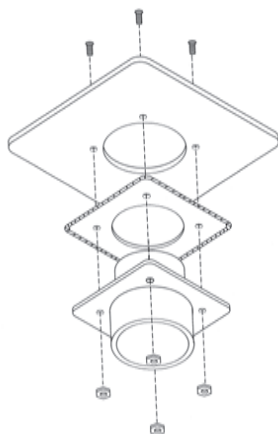
Sealing	Tin/Lead Plated Gasket	RoHS Tin Plated Gasket	Edge Tin/Lead Plated Gasket	RoHS Edge Tin Plated Gasket
Silicone	FMECS-T-___ /S	FMECS-IW-___ /S	FMECS-E-___ /S	FMECS-EIW-___ /S
Fluorosilicone	FMECS-T-___ /F	FMECS-IW-___ /F	FMECS-E-___ /F	FMECS-EIW-___ /F

Specify dash number from table on page FM-24.

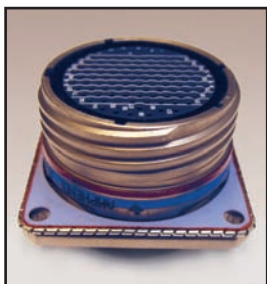


Ordering Information

Front Mount EMI/Environmental Connector-Seal gaskets are ordered by the piece.



**Front Mount
Type 1***



**Front Mount
Type 2**

**Environmental Silicone
or Fluorosilicone Seal:**

FMECS - T - /

Gasket Plating Elastomer Sealing
T: Tin **/S:** Silicone
E: Edge Tin **/F:** Fluorosilicone
IW: RoHS Tin
EIW: RoHS Edge Tin
NI: Stainless Steel
TNI: Tin Stainless St.
IWNI: RoHS Stainless St.

Dash No.	MIL-C-38999					A	B	C	D	E	F
	Series I	Series II	Series III								
03S1	9					0.719	0.666	0.958	0.120	0.999*	0.140
06S1	11					0.812	0.806	1.051	0.120	1.092*	0.140
08S1	13					0.906	0.932	1.145	0.120	1.186*	0.140
10S1	15					0.969	1.057	1.243	0.120		0.137
12S1	17					1.062	1.170	1.336	0.120		0.137
14S1	19					1.156	1.307	1.460	0.120		0.152
16S1	21					1.250	1.432	1.585	0.120		0.168
18S1	23					1.375	1.557	1.710	0.152		0.168
20S1	25					1.500	1.682	1.835	0.152		0.168
01S2		8				0.594	0.563	0.828	0.120	0.874*	0.140
05S2		10				0.719	0.680	0.954	0.120	0.999*	0.140
07S2		12				0.812	0.859	1.047	0.120	1.092*	0.140
09S2		14				0.906	0.984	1.141	0.120	1.186*	0.140
11S2		16				0.969	1.068	1.243	0.120		0.137
13S2		18				1.062	1.193	1.346	0.120		0.142
15S2		20				1.156	1.318	1.471	0.120		0.158
17S2		22				1.250	1.443	1.596	0.120		0.173
19S2		24				1.375	1.570	1.723	0.152		0.174
04S3			9			0.719	0.635	0.948	0.120	1.000*	0.141
06S3			11			0.812	0.760	1.042	0.120	1.094*	0.141
08S3			13			0.906	0.885	1.136	0.120	1.188*	0.141
10S3			15			0.969	1.010	1.254	0.120		0.143
12S3			17			1.062	1.185	1.348	0.120		0.143
14S3			19			1.156	1.260	1.449	0.120		0.147
16S3			21			1.250	1.385	1.575	0.120		0.163
18S3			23			1.375	1.510	1.701	0.150		0.163
20S3			25			1.500	1.635	1.823	0.150		0.162
				MS-3412, MIL- DTL 5015 Series II	MIL-C-28840	A	B	C	D		F
22				8		0.594	0.510	0.875	0.120		0.141
23				10		0.719	0.635	1.000	0.120		0.141
24					11	0.750	0.760	1.023	0.120		0.137
25				12		0.812	0.760	1.094	0.120		0.141
26				14	13	0.843	0.885	1.138	0.120		0.148
27				14		0.906	0.885	1.188	0.120		0.141
28				16	15	0.968	1.072	1.258	0.120		0.145
29				16		0.969	1.010	1.281	0.120		0.156
30				18	17	1.015	1.135	1.383	0.120		0.184
31				18		1.062	1.135	1.375	0.120		0.157
32				20	19	1.140	1.322	1.508	0.120		0.184
33				20		1.156	1.260	1.500	0.120		0.172
34				22		1.250	1.385	1.625	0.120		0.188
35				24	23	1.281	1.510	1.718	0.120		0.219
36				24		1.375	1.510	1.750	0.150		0.188
37				28	25	1.392	1.635	1.818	0.150		0.213
38				28		1.562	1.760	2.000	0.150		0.219
39				32	29	1.568	1.885	2.138	0.150		0.285
40				32		1.750	2.010	2.250	0.170		0.250
41				36	33	1.734	2.073	2.328	0.170		0.297
42				36		1.938	2.260	2.500	0.170		0.281
43				40		2.188	2.510	2.750	0.170		0.281
44				44		2.375	2.760	3.000	0.170		0.313
45				48		2.625	3.010	3.250	0.170		0.313

* Type 1 gaskets have an E dimension to provide sufficient environmental sealing on smaller sizes. See drawing on page FM-23.
Custom sizes are also available. Contact us for more information.