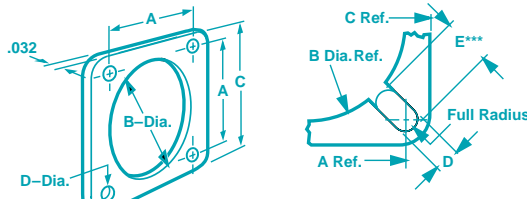


Connector Gaskets

MIL-C-38999 Series III and MIL-C-28840



Note: The radius of each corner is equal to $\frac{C-A}{2}$

Mounting Flange EMI Gaskets

Chomerics' die-cut CHO-SEAL gaskets provide EMI shielding and environmental sealing when inserted between a connector flange and a mounting bulkhead. The gaskets described in this section are designed for use with MIL-C-83723, MIL-C-5015, MIL-C-26482, MIL-C-38999 and MIL-C-81511 connectors. They are interchangeable with non-conductive gaskets.

Standard mounting flange gaskets are available in CHO-SEAL 1212 material, for continuous-use

Table 1

MOUNTING FLANGE EMI GASKETS														
Shell Size		Configuration Drawing No. (See Ordering Procedure on Next Page)							Dimensions					
No.	Letter	MIL-C-38999 Series				MIL-C-81511 MS90484	MIL-C-28840	MIL-C-5015 C-83723 NAS-1599 MIL-C-26482	MIL P/N: M83528/004X† - ()	A	B	C	D	E***
		I	II	III	IV					±0.010 (0.25)	+0.020 (0.51) -0.000	±0.015 (0.38)	±0.010 (0.25)	±0.010 (0.25)
6							1946*	(001)	0.469 (11.91)	0.375 (9.53)	0.738 (18.75)	0.141 (3.58)	0.141 (3.58)	
8		1947	—	✓	—	—	4690	(002) (003) (004)	0.594 (15.09) 0.594 (15.09) 0.594 (15.09)	0.630 (16.00) 0.568 (14.43) 0.500 (12.70)	0.840 (21.34) 0.812 (20.62) 0.875 (22.23)	0.135 (3.43) 0.125 (3.18) 0.156 (3.96)		
9	A	1949 C646	✓	—	—	—		(005) (NA)	0.719 (18.26) 0.719 (18.26)	0.750 (19.05) 0.750 (19.05)	0.965 (24.51) 0.965 (24.51)	0.135 (3.43) 0.135 (3.43)	0.222 (5.64)	
10	(S/SL)	1949	—	✓	—	—	4691	(005) (006) (007)	0.719 (18.26) 0.719 (18.26) 0.719 (18.26)	0.750 (19.05) 0.680 (17.27) 0.625 (15.88)	0.965 (24.51) 0.937 (23.80) 1.000 (25.40)	0.135 (3.43) 0.125 (3.18) 0.156 (3.96)		
11	B A	6961 C647	✓	—	—	✓		(008) (NA) (NA)	0.812 (20.62) 0.812 (20.62) 0.750 (19.05)	0.875 (22.23) 0.875 (22.23) 0.875 (22.23)	1.060 (26.92) 1.060 (26.92) 1.046 (26.57)	0.141 (3.58) 0.141 (3.58) 0.141 (3.58)	0.206 (5.23) 0.163 (4.14)	
12	(S/SL)	6961	—	✓	—	—		(008) (009)	0.812 (20.62) 0.813 (20.65)	0.875 (22.23) 0.750 (19.05)	1.060 (26.92) 1.094 (27.79)	0.141 (3.58) 0.156 (3.96)		
13	C B	1953 C648	✓	—	—	✓		(010) (NA) (NA)	0.906 (23.01) 0.906 (23.01) 0.843 (21.41)	1.005 (25.53) 1.000 (25.40) 1.000 (25.40)	1.153 (29.29) 1.156 (29.36) 1.156 (29.36)	0.135 (3.43) 0.141 (3.58) 0.141 (3.58)	0.206 (5.23) 0.167 (4.24)	
14	(S)	1953	—	✓	—	—	4692	(010) (011) (012)	0.906 (23.01) 0.906 (23.01) 0.906 (23.01)	1.005 (25.53) 0.938 (23.83) 0.875 (22.23)	1.153 (29.29) 1.125 (28.58) 1.188 (30.18)	0.135 (3.43) 0.125 (3.18) 0.156 (3.96)		
15	D C	1955 C649	✓	—	—	✓		(013) (NA) (NA)	0.969 (24.61) 0.969 (24.61) 0.968 (24.59)	1.135 (28.83) 1.135 (28.83) 1.187 (30.15)	1.258 (31.95) 1.258 (31.95) 1.281 (32.54)	0.156 (3.96) 0.156 (3.96) 0.141 (3.58)	0.206 (5.23) 0.161 (4.09)	
16	(S)	1955	—	✓	—	—	4693	(013) (014) (015)	0.969 (24.61) 0.969 (24.61) 0.969 (24.61)	1.135 (28.83) 1.063 (27.00) 1.000 (25.40)	1.258 (31.95) 1.250 (31.75) 1.281 (32.54)	0.156 (3.96) 0.125 (3.18) 0.156 (3.96)		
17	E D	1957 C650	✓	—	—	✓		(016) (NA) (NA)	1.062 (26.97) 1.062 (26.97) 1.015 (25.78)	1.260 (32.00) 1.260 (32.00) 1.250 (31.75)	1.351 (34.32) 1.351 (34.32) 1.406 (35.71)	0.156 (3.96) 0.156 (3.96) 0.141 (3.58)	0.222 (5.64) 0.163 (4.14)	
18	(S)	1957	—	✓	—	—	4694	(016) (017) (018)	1.062 (26.97) 1.062 (26.97) 1.062 (26.97)	1.260 (32.00) 1.189 (30.20) 1.135 (28.83)	1.351 (34.32) 1.343 (34.11) 1.375 (34.93)	0.156 (3.96) 0.125 (3.18) 0.156 (3.96)		

✓ Available in series designated.
 — Not applicable in series designated.
 * Shell size 6 not specified in MIL-C-5015.
 *** For dimension E, hole is slotted through to B diameter, when $\frac{(1.41 \times A) - D - B}{2} \leq .032$ in.

† "X" should be replaced by applicable MIL-G-83528B material type (e.g. A, B, C, etc.). Number in parentheses is MIL-G-83528B dash number, which should be inserted (without parentheses) at end of MIL P/N.

(mm dimensions in parentheses)

temperatures to 125°C, and CHO-SEAL 1285 and 1224 materials, for temperatures to 200°C. Because CHO-SEAL 1224 material is filled with pure silver particles, prices are substantially higher than for CHO-SEAL 1212 or 1285 gaskets. In addition to the standard sizes and configurations listed here, connector gaskets and ground planes can be custom designed.

Connector gaskets should be used in conjunction with conductive interfacial EMI seals (see next page).

Ordering Procedure

Standard Sizes: Using Table 1, construct the appropriate part number as illustrated below.

For Custom Gaskets: Drawings must be supplied. Part numbers will be assigned by Chomerics.

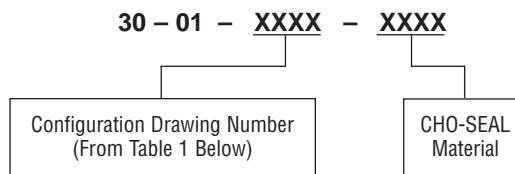


Table 1 continued

MOUNTING FLANGE EMI GASKETS																	
Shell Size		Configuration Drawing No. (See Ordering Procedure above)							Dimensions								
No.	Letter	MIL-C-38999 Series I II III IV	MIL-C-81511 MS90484	MIL-C-28840	MIL-C-5015 C-83723 NAS-1599 MIL-C-26482	MIL P/N: M83528/ 004X† -()	A		B		C		D		E***		
							±0.010 (0.25)	+0.020 (0.51) -0.000	±0.015 (0.38)	±0.010 (0.25)	±0.010 (0.25)	±0.010 (0.25)					
19	F E	6962 C651	✓	—	—	✓	C641	1958	(019)	1.156 (29.36)	1.375 (34.93)	1.500 (38.10)	0.141 (3.58)	0.206 (5.23)	0.158 (4.01)		
			—	—	✓	—			(NA)	1.156 (29.36)	1.375 (34.93)	1.500 (38.10)	0.141 (3.58)				
			—	—	—	—			(NA)	1.140 (28.96)	1.437 (36.50)	1.531 (38.89)	0.141 (3.58)				
20		6962	—	✓	—	—	C641	1958	(019)	1.156 (29.36)	1.375 (34.93)	1.500 (38.10)	0.141 (3.58)				
			—	—	—	—			(020)	1.156 (29.36)	1.312 (33.32)	1.467 (37.26)	0.125 (3.18)				
			—	—	—	—			(021)	1.156 (29.36)	1.250 (31.75)	1.500 (38.10)	0.172 (4.37)				
21	G	6963 C652	✓	—	—	✓	C642	1959	(022)	1.250 (31.75)	1.500 (38.10)	1.625 (41.28)	0.141 (3.58)	0.206 (5.23)			
			—	—	✓	—			(NA)	1.250 (31.75)	1.500 (38.10)	1.625 (41.28)	0.141 (3.58)				
			—	—	—	—			(022)	1.250 (31.75)	1.500 (38.10)	1.625 (41.28)	0.141 (3.58)				
22		6963	—	✓	—	—	C642	1959	(023)	1.250 (31.75)	1.437 (36.50)	1.562 (39.67)	0.125 (3.18)				
			—	—	—	—			(024)	1.250 (31.75)	1.375 (34.93)	1.625 (41.28)	0.172 (4.37)				
			—	—	—	—			(025)	1.375 (34.93)	1.625 (41.28)	1.750 (44.45)	0.172 (4.37)				
23	H F	6964 C653	✓	—	—	✓	C642	1960	(025)	1.375 (34.93)	1.625 (41.28)	1.750 (44.45)	0.172 (4.37)	0.259 (6.58)	0.164 (4.17)		
			—	—	✓	—			(NA)	1.375 (34.93)	1.625 (41.28)	1.750 (44.45)	0.172 (4.37)				
			—	—	—	—			(NA)	1.281 (32.54)	1.625 (41.28)	1.750 (44.45)	0.141 (3.58)				
24		6964	—	✓	—	—	C643	1960	(025)	1.375 (34.93)	1.625 (41.28)	1.750 (44.45)	0.172 (4.37)				
			—	—	—	—			(026)	1.375 (34.93)	1.563 (39.70)	1.703 (43.26)	0.152 (3.86)				
			—	—	—	—			(027)	1.375 (34.93)	1.500 (38.10)	1.750 (44.45)	0.203 (5.16)				
25	J G	6965 C654	✓	—	—	✓	C643	1961	(028)	1.500 (38.10)	1.750 (44.45)	1.875 (47.63)	0.172 (4.37)	0.259 (6.58)	0.195 (4.95)		
			—	—	✓	—			(NA)	1.500 (38.10)	1.750 (44.45)	1.875 (47.63)	0.172 (4.37)				
			—	—	—	—			(NA)	1.392 (35.36)	1.750 (44.45)	1.843 (46.81)	0.172 (4.37)				
28**							1961	(029)	1.562 (39.67)	1.750 (44.45)	2.000 (50.80)	0.203 (5.16)					
29	H						C644	(NA)	1.568 (39.83)	2.000 (50.80)	2.171 (55.14)	0.172 (4.37)	0.195 (4.95)				
32**							1962	(030)	1.750 (44.45)	2.000 (50.80)	2.250 (57.15)	0.219 (5.56)					
33	J						C645	(NA)	1.734 (44.04)	2.187 (55.55)	2.356 (59.84)	0.203 (5.16)	0.234 (5.94)				
36**							1963	(031)	1.938 (49.23)	2.250 (57.15)	2.500 (63.50)	0.219 (5.56)					
40**							1964	(032)	2.188 (55.58)	2.500 (63.50)	2.750 (69.85)	0.219 (5.56)					
44**							1965	(033)	2.375 (60.33)	2.781 (70.64)	3.000 (76.20)	0.219 (5.56)					
48**							1966	(034)	2.625 (66.68)	3.031 (76.99)	3.250 (82.55)	0.219 (5.56)					

✓ Available in series designated.

— Not applicable in series designated.

** Shell size 28-48 specified in MIL-C-5015.

*** For dimension E, hole is slotted through to B diameter, when $\frac{(1.41x) - D - B}{2} \leq .032$ in.

† "X" should be replaced by applicable MIL-G-83528B material type (e.g. A, B, C, etc.). Number in parentheses is MIL-G-83528B dash number, which should be inserted (without parentheses) at end of MIL P/N.

continued

(mm dimensions in parentheses)

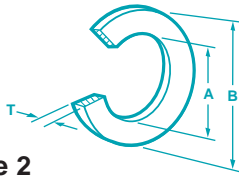


Table 2

INTERFACIAL EMI SEALS					
Shell Size	Part Number*		Nominal Dimensions		
	MIL-C-26482	MIL-C-5015	A(dia.)	B(dia.)	T
8	30-02-2041-XXXX	—	0.319 (8.10)	0.422 (11.23)	0.075 (1.91)
	—	30-02-2050-XXXX	0.328 (8.33)	0.391 (9.93)	0.031 (0.79)
10	30-02-2042-XXXX	—	0.447 (11.35)	0.550 (13.97)	0.075 (1.91)
10S SL	—	30-02-2051-XXXX	0.406 (10.31)	0.469 (11.91)	0.031 (0.79)
12	30-02-2043-XXXX	—	0.547 (13.89)	0.703 (17.86)	0.075 (1.91)
12 12S	—	30-02-2052-XXXX	0.531 (13.49)	0.594 (15.09)	0.031 (0.79)
14	30-02-2044-XXXX	—	0.671 (17.04)	0.828 (21.03)	0.075 (1.91)
14 14S	—	30-02-2053-XXX	0.641 (16.28)	0.703 (17.86)	0.031 (0.79)
16	30-02-2045-XXXX	—	0.797 (20.24)	0.953 (24.21)	0.075 (1.91)
16 16S	—	30-02-2054-XXXX	0.781 (19.84)	0.844 (21.44)	0.031 (0.79)
18	30-02-2046-XXXX	—	0.891 (22.63)	1.047 (2.59)	0.075 (1.91)
	—	30-02-2055-XXXX	0.891 (22.63)	0.953 (24.21)	0.031 (0.79)
20	30-02-2047-XXXX	—	1.039 (26.39)	1.172 (29.77)	0.075 (1.91)
	—	30-02-2056-XXXX	0.984 (24.99)	1.047 (26.59)	0.031 (0.79)
22	30-02-2048-XXXX	—	1.141 (28.98)	1.297 (32.94)	0.075 (1.91)
	—	30-02-2057-XXXX	1.109 (28.17)	1.172 (29.77)	0.031 (0.79)
24	30-02-2049-XXXX	—	1.266 (32.16)	1.422 (36.12)	0.075 (1.91)
	—	30-02-2058-XXXX	1.219 (30.96)	1.281 (32.54)	0.031 (0.79)
28	—	30-02-2059-XXXX	1.455 (36.96)	1.547 (39.29)	0.045 (1.14)
32	—	30-02-2060-XXXX	1.672 (42.47)	1.766 (44.86)	0.045 (1.14)
36	—	30-02-2061-XXXX	1.891 (48.03)	1.984 (50.39)	0.045 (1.14)

*Last four digits should be used to designate material (e.g. 1215, 1217).

Interfacial EMI Seals

The main mating joint of environment-resisting MS connectors is normally provided with a rubber packing ring (MIL-C-26482) or O-ring (MIL-C-5015) to seal moisture from the pin area. CHO-SEAL gaskets are interchangeable with these packing/O-rings and provide EMI shielding in addition to sealing.

Table 3

DIMENSIONS	TOLERANCES
<i>Diameters (A,B)</i>	
<0.500 (12.70)	±0.005 (0.13)
0.501-1.00 (12.70-25.40)	±0.007 (0.18)
1.01-1.500 (25.40-38.10)	±0.010 (0.25)
1.501-2.000 (38.10-50.80)	±0.015 (0.38)
<i>Cross Sections (T)</i>	
<0.060 (1.52)	±0.004 (0.10)
≥0.060 (1.52)	±0.007 (0.18)

Ordering Procedure

Select the part numbers from Table 2. The last four digits designate the material (1215, 1217, etc.). Available in all materials except CHO-SEAL 1239.

(mm dimensions in parentheses)

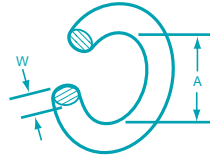


Table 5

Note: Shell sizes shown on this table may be misleading, because slight size variations exist between several series within a given MIL-SPEC. It is recommended that gasket(s) be selected on the basis of gasket dimensions which match groove dimensions.

Jam Nut EMI Seals

MIL-C-38999, MIL-C-26482, and MIL-C-81511 rear-mounting jam nut receptacles require an MS O-ring as a moisture-pressure seal. When EMI attenuation is also required, CHO-SEAL O-rings should be used. Each is interchangeable with the corresponding MS O-ring. The O-rings are available in CHO-SEAL 1215, 1217, etc.

Table 4

DIMENSIONS		TOLERANCES	
<i>Inside Diameter (A)</i>			
<1.000 (25.40)		±0.010 (0.25)	
1.01-1.500 (25.40-38.10)		±0.010 (0.25)	
1.501-2.000 (38.10-50.80)		±0.015 (0.38)	
<i>Cross Section Diameter (W)</i>			
<0.100 (2.54)		±0.004 (0.10)	
≥0.100 (2.54)		±0.005 (0.13)	

Ordering Procedure

Select the part numbers from Table 5. The last four digits designate the material (1215, 1217, etc.).

D-Subminiature Rectangular Gaskets

Subminiature D-style gaskets are used to provide EMI shielding and environmental sealing between connector flanges and their mating surfaces. Chomerics offers these gaskets in a complement of shell sizes from 9 to 50 pin, in a range of CHO-SEAL materials. Table 6 includes dimensions and tolerances.

Ordering Procedure

Select the Chomerics part number from Table 6. The last four digits designate the material (1215, 1217, etc.).

JAM NUT EMI SEALS					
Shell Size	Chomerics P/N* MIL P/N: M83528/002X [†] ()	MIL-C-38999JS1N1 MIL-C-26482GS1A5	Reference MIL-C-81511FS1	Nominal Dimensions	
				A	W
6	30-03-2065-XXXX (015)	✓	—	0.551 (14.00)	0.070 (1.78)
8	30-03-2066-XXXX (017)	✓	—	0.676 (17.17)	0.070 (1.78)
	30-03-2075-XXXX (018)	—	✓	0.739 (18.77)	0.070 (1.78)
9, 10	30-03-1981-XXXX (019)	✓	—	0.801 (20.35)	0.070 (1.78)
	30-03-2076-XXXX (020)	—	✓	0.864 (21.95)	0.070 (1.78)
11, 12	30-03-2068-XXXX (022)	✓	—	0.989 (25.12)	0.070 (1.78)
13, 14	30-03-2069-XXXX (024)	✓	✓	1.114 (28.30)	0.070 (1.78)
15, 16	30-03-2070-XXXX (026)	✓	✓	1.239 (31.47)	0.070 (1.78)
17, 18	30-03-2071-XXXX (028)	✓	✓	1.364 (34.65)	0.070 (1.78)
19, 20	30-03-2072-XXXX (128)	✓	—	1.487 (37.77)	0.103 (2.62)
21, 22	30-03-1846-XXXX (/005X [†] -022)	✓	—	1.612 (40.94)	0.103 (2.62)
23, 24	30-03-2031-XXXX (132)	✓	—	1.737 (44.12)	0.103 (2.62)
25	30-03-8800-XXXX (134)	—	—	1.862 (47.30)	0.103 (2.62)

Note: Slight size variations exist between several series within a given MIL-SPEC. It is recommended that gasket(s) be selected on the basis of gasket dimensions which match groove dimensions.

* Last four digits should be used to designate material (1215, 1217, etc.).

[†] "X" should be replaced by applicable MIL-G-83528B material type (A, B, C, etc.). Number in parentheses is MIL-G-83258B dash number, which should be inserted (without parentheses) at end of MIL P/N.

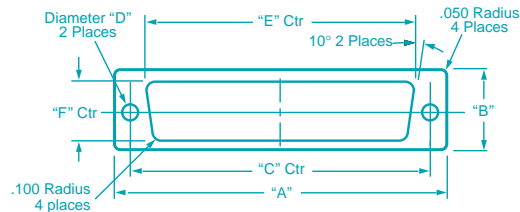


Table 6

Dimension Tolerances	Shell Size				
	9 PIN	15 PIN	25 PIN	37 PIN	50 PIN
"A" Overall Length ±.015 (0.38)	1.213 (30.81)	1.556 (39.52)	2.087 (53.01)	2.729 (69.32)	2.635 (66.93)
"B" Overall Width ±.015 (0.38)	0.594 (15.09)	0.600 (15.24)	0.594 (15.09)	0.594 (15.09)	0.605 (15.37)
"C" Hole to Hole ±.010 (0.25)	0.984 (25.0)	1.312 (33.32)	1.852 (47.04)	2.500 (63.50)	2.406 (61.11)
"D" Hole Diameter ±.010 (0.25)	0.120 (3.05)	0.130 (3.30)	0.120 (3.05)	0.120 (3.05)	0.120 (3.05)
"E" Major Cutout Length ±.015 (0.38)	0.697 (17.70)	1.080 (27.43)	1.583 (40.21)	2.231 (56.67)	2.109 (53.57)
"F" Cutout Width ±.010 (0.25)	0.360 (9.14)	0.370 (9.40)	0.378 (9.60)	0.378 (9.60)	0.466 (11.84)
Cutout Angle Typical	10°	10°	10°	10°	10°
Chomerics Part Number*	30-XX-A779-XXXX	30-XX-A959-XXXX	30-XX-A780-XXXX	30-XX-A781-XXXX	30-XX-LF19-XXXX

* Replace "XX" with "01" [0.032 ±0.005 in. (0.81 ±0.127 mm) thick]; or "06" [0.062 ±0.007 in. (1.57 ±0.178 mm) thick]. Last four digits, "XXXX", should be used to designate material (1215, 1217, etc.).

(mm dimensions in parentheses)