

## EMI /RFI Gaskets for Connectors (2000 Series)

### Product Summary

Grounding of AN Series, Bendix and RF-Type Connectors to an enclosure bulkhead in a manner that will reduce the ingress or egress of EMI/RFI interference can be accomplished through the use of these connector gaskets. Table 4 depicts the gasket dimensions for the various connector shell sizes. This table also gives the ordering part numbers for the four materials offered in Table 1. The material and physical parameters listed in Table 1 are intended as a guide in determining which product is best suited for the application for which the connector is being used. The choice of elastomer and metal combination used for grounding is dependent upon the environment in which the equipment will be operating. Hundreds of different sizes of connector gaskets have been manufactured by MAJR and are available upon request. We can also custom make a connector gasket to your specifications.

### Product Application

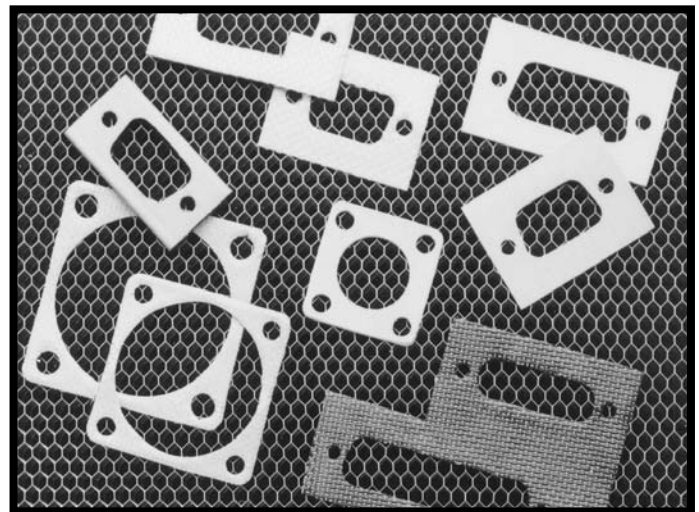
**Material Choice:** Connector gaskets materials can be selected to meet environmental and mechanical requirements of the package to be shielded.

**Standardization:** Die-cut connector gaskets are available for the standard AN series, Bendix and RF-Type connectors.

**Low Cost:** MAJR's connector gaskets offer optimum RF grounding of connectors at minimal cost.

### EMI Shield and Moisture Seal:

The elastomer embedded product both an EMI shield and moisture seal in a minimum thickness, thus not requiring extended protrusion from surface of enclosures.



### Product Technical Data

#### EMI/RFI Shielding Connector Gasket — Figure 1

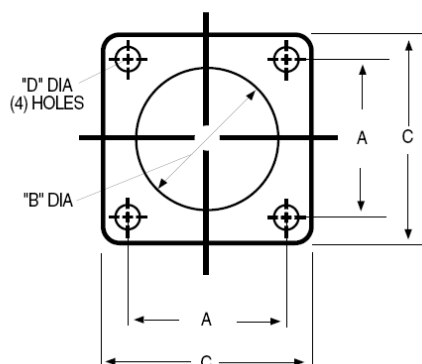


Figure 1 shows an outline drawing of the typical connector gasket. The tabular dimensions for each of the standard connector gasket sizes are in Table 4.

For Connector Gaskets (D-Sub), see page 8 and substitute -03 for Multicon; -05 for Radthin.

# EMI /RFI Gaskets for Connectors (2000 Series) (Cont.)

## Materials Selection

Connector gaskets can be supplied with a woven and ground aluminum wire impregnated with either neoprene or silicone. Operating environmental conditions will determine the choice between neoprene or silicone. Silicone can be used over a temperature range of -60°F to 500°F (-51°C to 260°C) see table 2. Both products are .020 inches thick (.51 mm). For applications where joint unevenness is in excess of .002 inches, the multicon embedded wire gasket is recommended (see Table 1).

Connector Gasket Material Selection — Table 1

Material Designation	Elastomer Material	Shield Material	Thickness	Max. Joint Unevenness
Radthin W05	Neoprene	Aluminum Woven	.020	.002
Radthin W07	Silicone	Aluminum Woven	.020	.002
Multicon 03	Silicone	Monel Imbedded	.062	.010
Multicon 04	Silicone Sponge	Monel Imbedded	.062	.015

## Construction

Connector Gaskets are all one-piece construction. However, holes closer than .090 in. from edge will be slotted.

## EMI/RFI Shielding

The data in Table 3 represent shielding effectiveness of connector gasket material based on laboratory tests of a specimen whose inside dimensions are 12.00 x 12.00 inches (304.8 x 304.8 mm).

Temperature Ranges — Table 2

Material			
Neoprene	Solid	-67°F to 200°F	-55°C to 93°C
Silicone	Solid	-60°F to 500°F	-51°C to 260°C

Shielding Effectiveness vs Frequency — Table 3

Field	Mat'l Code	Frequency							
		10 kHz	100 kHz	1 MHz	18 MHz	100 MHz	400 MHz	1 GHz	10 GHz
H	W05-07	70	95	65					
	03-04	60	75	100					
E	W05-07				87				
	03-04				100				
PW	W05-07					78	70	29	25
	03-04					100	100	100	90

Connector Gasket Dimensions — Table 4

Shell Size	Dimensions (See Figure 1)				Material Part Number		
	A	B	C	D	Multicon - 03	Radthin - W05	Radthin - W07
<b>AN CONNECTOR GASKETS</b>							
8	.594 (15.09)	.500 (12.07)	.875 (22.23)	.172 (4.37)	2047-40213-03	2040-20381-05	2040-20381-07
10	.719 (18.26)	.625 (15.88)	1.000 (25.40)	.172 (4.37)	2047-40214-03	2040-20382-05	2040-20382-07
12	.813 (20.65)	.750 (19.05)	1.094 (27.79)	.172 (4.37)	2047-40215-03	2040-20383-05	2040-20383-07
14	.906 (23.01)	.875 (22.23)	1.188 (30.16)	.172 (4.37)	2047-40216-03	2040-20384-05	2040-20384-07
16	.969 (24.61)	1.000 (25.40)	1.281 (32.54)	.172 (4.37)	2047-40217-03	2040-20385-05	2040-20385-07
18	1.063 (27.00)	1.125 (28.56)	1.375 (34.93)	.203 (5.15)	2047-40218-03	2040-20386-05	2040-20386-07
20	1.156 (29.36)	1.250 (31.75)	1.500 (38.10)	.203 (5.15)	2047-40219-03	2040-20387-05	2040-20387-07
22	1.250 (31.75)	1.375 (34.93)	1.635 (41.28)	.203 (5.15)	2047-40220-03	2040-20388-05	2040-20388-07
24	1.375 (34.93)	1.500 (38.10)	1.750 (44.45)	.203 (5.15)	2047-40221-03	2040-20389-05	2040-20389-07
28	1.563 (39.70)	1.750 (44.45)	2.000 (50.80)	.203 (5.15)	2047-40222-03	2040-20390-05	2040-20390-07
32	1.750 (44.45)	2.000 (50.80)	2.250 (57.15)	.219 (5.56)	2047-40223-03	2040-20391-05	2040-20391-07
36	1.938 (49.23)	2.188 (55.58)	2.500 (63.50)	.219 (5.56)	2047-40224-03	2040-20392-05	2040-20392-07
40	2.188 (55.58)	2.438 (61.93)	2.750 (69.85)	.219 (5.56)	2047-40225-03	2040-20393-05	2040-20393-07
44	2.375 (60.33)	2.781 (70.64)	3.000 (76.20)	.219 (5.56)	2047-40226-03	2040-20394-05	2040-20394-07
48	2.625 (66.62)	3.031 (76.99)	3.250 (82.55)	.219 (5.56)	2047-40227-03	2040-20395-05	2040-20395-07

## EMI /RFI Gaskets for Connectors (2000 Series) (Cont.)

Shell Size	Dimensions (See Figure 1)				Material Part Number		
	A	B	C	D	Multicon - 03	Radthin - W05	Radthin - W07
<b>PT and PC CONNECTOR GASKETS</b>							
6	.469 (11.91)	.375 (9.53)	.688 (17.48)	.130 (3.30)	2047-40348-03	2040-20396-05	2040-20396-07
8	.594 (15.09)	.500 (12.70)	.812 (20.62)	.130 (3.30)	2047-40204-03	2040-20397-05	2040-20397-07
10	.719 (18.26)	.625 (15.88)	.938 (23.83)	.130 (3.30)	2047-40205-03	2040-20398-05	2040-20398-07
12	.813 (20.65)	.750 (19.05)	1.031 (26.19)	.130 (3.30)	2047-40206-03	2040-20399-05	2040-20399-07
14	.906 (23.01)	.875 (22.23)	1.125 (28.56)	.130 (3.30)	2047-40207-03	2040-20400-05	2040-20400-07
16	.969 (24.61)	1.000 (25.40)	1.219 (30.96)	.130 (3.30)	2047-40208-03	2040-20401-05	2040-20401-07
18	1.063 (27.00)	1.125 (28.56)	1.312 (33.32)	.130 (3.30)	2047-40209-03	2040-20402-05	2040-20402-07
20	1.156 (29.36)	1.250 (31.75)	1.438 (36.53)	.130 (3.30)	2047-40210-03	2040-20403-05	2040-20403-07
22	1.250 (31.75)	1.375 (34.93)	1.563 (39.70)	.130 (3.30)	2047-40211-03	2040-20404-05	2040-20404-07
24	1.375 (34.93)	1.500 (38.10)	1.688 (42.88)	.130 (3.30)	2047-40212-03	2040-20405-05	2040-20405-07
<b>SP CONNECTOR GASKETS</b>							
6	.641 (16.28)	.375 (9.53)	.953 (24.21)	.160 (4.06)	2047-40355-03	2040-20406-05	2040-20406-07
8	.734 (18.64)	.500 (12.70)	1.047 (26.59)	.160 (4.06)	2047-40356-03	2040-20407-05	2040-20407-07
10	.812 (20.62)	.625 (15.88)	1.125 (28.56)	.160 (4.06)	2047-40357-03	2040-20408-05	2040-20408-07
12	.938 (23.83)	.750 (19.05)	1.250 (31.75)	.160 (4.06)	2047-40358-03	2040-20409-05	2040-20409-07
14	1.031 (26.19)	.875 (22.23)	1.344 (34.93)	.160 (4.06)	2047-40359-03	2040-20410-05	2040-20410-07
16	1.125 (28.56)	1.000 (25.40)	1.437 (36.50)	.160 (4.06)	2047-40360-03	2040-20411-05	2040-20411-07
18	1.203 (30.56)	1.125 (28.56)	1.516 (38.51)	.160 (4.06)	2047-40361-03	2040-20412-05	2040-20412-07
20	1.297 (32.94)	1.250 (31.75)	1.672 (42.47)	.160 (4.06)	2047-40362-03	2040-20413-05	2040-20413-07
22	1.375 (34.93)	1.375 (34.93)	1.750 (44.45)	.160 (4.06)	2047-40363-03	2040-20414-05	2040-20414-07
<b>RF CONNECTOR GASKETS</b>							
BN	.500 (12.70)	.437 (11.10)	.687 (17.54)	.109 (2.77)	2047-40364-03	2040-20415-05	2040-20415-07
BNC	.500 (12.70)	.437 (11.10)	.687 (17.54)	.109 (2.77)	2047-40365-03	2040-20416-05	2040-20416-07
C	.719 (18.26)	.625 (15.88)	1.000 (25.40)	.172 (4.37)	2047-40366-03	2040-20417-05	2040-20417-07
HN	.906 (23.01)	.750 (19.05)	1.188 (30.18)	.140 (3.56)	2047-40367-03	2040-20418-05	2040-20418-07
LC	1.437 (36.50)	1.250 (31.75)	2.000 (50.80)	.257 (6.53)	2047-40368-03	2040-20419-05	2040-20419-07
N	.719 (18.26)	.625 (15.88)	1.000 (25.40)	.172 (4.37)	2047-40369-03	2040-20420-05	2040-20420-07
UHF	.969 (24.61)	1.000 (25.40)	1.282 (32.54)	.172 (4.37)	2047-40370-03	2040-20421-05	2040-20421-07

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