

Conductive Elastomer Selection Guide

The chart on these pages provides selection guidelines for Chomerics' most general-purpose elastomer EMI gasket materials. With the exception of certain limitations noted under "Remarks", all of these materials are electrically stable over time and provide excellent moisture and pressure sealing. They are all medium-durometer materials and differ mainly in shielding performance and corrosion resistance. (Silver-plated-aluminum

filled materials are significantly more corrosion-resistant than silver-plated-copper and silver-plated-nickel filled materials. Refer to the discussion of CHO-SEAL 1298 Corrosion-Resistant EMI Shielding Gasket on page 32.)

Note on Gasket Deflection and Closure Force: We do NOT recommend that material selection be based primarily on hardness. Unlike unfilled elastomers, hardness is not always a good indicator of deflection properties. Gasket shape is generally the most important determinant of deflection under load.

For applications requiring large gasket deflection with minimum closure force, select a hollow strip configuration and/or evaluate the use of Chomerics' SOFT-SHIELD® Low Closure Force Gaskets described in the section starting on page 91.

Refer to pages 80-86 for Performance Data and discussion of the following topics: Compression-Deflection, Stress Relaxation, Compression Set, EMP Survivability, Vibration Resistance, Heat Aging, Outgassing, and Volume Resistivity Measurement.

Table 2

ELASTOMERS FOR TYPICAL COMMERCIAL APPLICATIONS			
Material	Filler and Binder	Equipment Shielding Requirements (Typ.)	Remarks
CHO-SEAL 1291 (molded) CHO-SEAL 1273	silver-plated copper in silicone	80-105 dB	Material of choice for high-end commercial applications; highest performance material in non-corrosive environments; tear trim compression and injection molding.
CHO-SEAL S6304, S6305, 6370 CHO-SEAL L6303	nickel-coated graphite in silicone fluorosilicone version	100 dB	Good performance in moderately corrosive environments; material of choice for flange finishes needing "bite-through" for good electrical contact; flame retardant 6370 is UL 94V-0 rated.
CHO-SEAL 1350	silver-plated glass in silicone	80-105 dB	Standard material for high volume injection and compression molding and small extrusions; high performance in non-corrosive environments; moderate physical properties.
CHO-SEAL 1310 (molded) CHO-SIL 1356 (extruded)	silver-plated glass in silicone silver-plated glass in reticulate silicone	80-100 dB	Moderate performance in non-corrosive environments; no corrosion or fluid resistance; material of choice for small, delicate injection-molded parts or larger extrusions.
ELASTOMERS FOR TYPICAL MILITARY/AEROSPACE APPLICATIONS			
Material	Filler and Binder	Equipment Shielding Requirements (Typ.)	Remarks
CHO-SEAL 1224 CHO-SEAL 1221	silver in silicone fluorosilicone version	>120 dB	Highest shielding and through conductivity; higher physical properties; excellent processing for molding and extrusion; reinforced form available.
CHO-SEAL 1298	silver-plated aluminum in fluorosilicone	90-110 dB	High performance in harshest corrosive environments; material of choice for aircraft and marine military applications (see feature on page 32); good physical properties; molded, extruded or reinforced. Best corrosion resistance among Chomerics' conductive elastomers.
CHO-SEAL 1215 CHO-SEAL 1217	silver-plated copper in silicone fluorosilicone version	105-120 dB	Resists highest level of EMP induced current; military gasket of choice in non-corrosive environment; excellent processing for molding and extrusion.

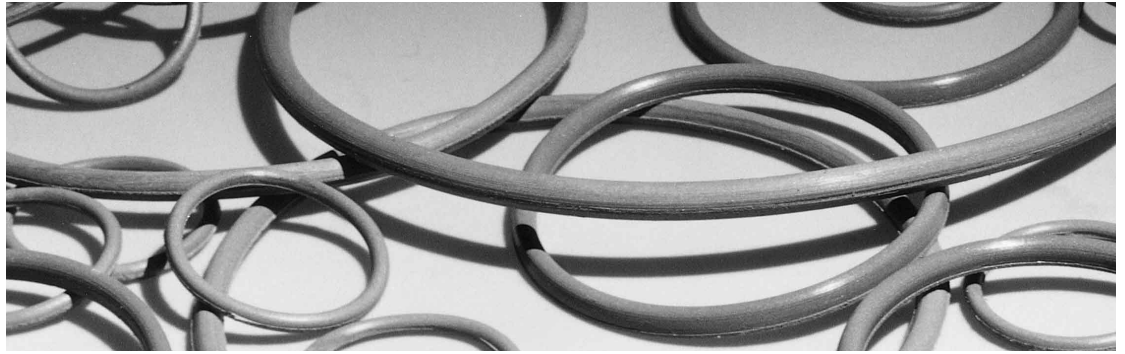
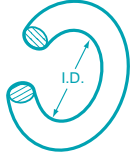


Table 3

O-RINGS			
Chomerics P/N* MIL P/N: M83528/ 00 [X†-()	MS 29513 MS 9021 Dash No.	Dimensions	
		Cross Section (Diameter)	I.D.
10-00-2231-XXXX [5] (001)	—	0.030 (0.76)	0.442 (11.23)
10-00-2232-XXXX [5] (002)	—	0.030 (0.76)	0.577 (14.66)
10-00-2259-XXXX [5] (003)	—	0.030 (0.76)	0.692 (17.58)
10-00-2233-XXXX [5] (004)	—	0.030 (0.76)	0.817 (20.75)
10-00-1413-XXXX [5] (005)	—	0.039 (0.99)	0.425 (10.80)
10-00-2777-XXXX [5] (006)	—	0.048 (1.22)	0.295 (7.49)
10-00-1406-XXXX [5] (007)	—	0.050 (1.27)	0.533 (13.54)
10-00-1405-XXXX [5] (008)	—	0.051 (1.30)	0.446 (11.33)
10-00-1407-XXXX [5] (009)	—	0.057 (1.45)	0.415 (10.54)
10-00-1376-XXXX [5] (010)	—	0.063 (1.60)	0.541 (13.74)
10-00-1342-XXXX [5] (011)	—	0.063 (1.60)	0.648 (16.46)
10-00-1631-XXXX [5] (012)	—	0.068 (1.73)	0.847 (21.51)
10-00-1770-XXXX [5] (013)	—	0.068 (1.73)	1.182 (30.02)
10-00-1478-XXXX [5] (014)	—	0.068 (1.73)	3.165 (80.39)
10-00-3811-XXXX [2] (007)	007	0.070 (1.78)	0.145 (3.68)
10-00-2226-XXXX [2] (011)	011	0.070 (1.78)	0.301 (7.65)
10-00-5983-XXXX [2] (012)	012	0.070 (1.78)	0.364 (9.25)
10-00-2227-XXXX [2] (013)	013	0.070 (1.78)	0.426 (10.82)
10-00-1980-XXXX [2] (014)	014	0.070 (1.78)	0.489 (12.42)
10-00-0008-XXXX [5] (015)	—	0.070 (1.78)	0.495 (12.57)
10-00-2065-XXXX [2] (015)	015	0.070 (1.78)	0.551 (14.00)
10-00-0010-XXXX [5] (016)	—	0.070 (1.78)	0.610 (15.49)

Table 3 *continued*

O-RINGS			
Chomerics P/N* MIL P/N: M83528/ 00 [X†-()	MS 29513 MS 9021 Dash No.	Dimensions	
		Cross Section (Diameter)	I.D.
10-00-2085-XXXX [5] (017)	—	0.070 (1.78)	0.635 (16.13)
10-00-1689-XXXX [5] (018)	—	0.070 (1.78)	0.667 (16.94)
10-00-2066-XXXX [2] (017)	017	0.070 (1.78)	0.676 (17.17)
10-00-1690-XXXX (NA)	—	0.070 (1.78)	0.738 (18.75)
10-00-0012-XXXX (NA)	—	0.070 (1.78)	0.735 (18.67)
10-00-2075-XXXX [2] (018)	108	0.070 (1.78)	0.739 (18.77)
10-00-1981-XXXX [2] (019)	019	0.070 (1.78)	0.801 (20.35)
10-00-0014-XXXX [5] (019)	—	0.070 (1.78)	0.860 (21.85)
10-00-2076-XXXX [2] (020)	020	0.070 (1.78)	0.864 (21.95)
10-00-1843-XXXX [2] (021)	021	0.070 (1.78)	0.926 (23.52)
10-00-2068-XXXX [2] (022)	022	0.070 (1.78)	0.989 (25.12)
10-00-2536-XXXX (NA)	—	0.070 (1.78)	1.046 (26.57)
10-00-2029-XXXX (NA)	—	0.070 (1.78)	1.110 (28.19)
10-00-2069-XXXX [2] (024)	024	0.070 (1.78)	1.114 (28.30)
10-00-1844-XXXX NA	—	0.070 (1.78)	1.176 (29.87)
10-00-2084-XXXX [5] (020)	—	0.070 (1.78)	1.230 (31.24)
10-00-2070-XXXX [2] (026)	026	0.070 (1.78)	1.239 (31.47)
10-00-2535-XXXX (NA)	—	0.070 (1.78)	1.296 (32.92)
10-00-2228-XXXX (NA)	—	0.070 (1.78)	1.362 (34.59)
10-00-2071-XXXX [2] (028)	028	0.070 (1.78)	1.364 (34.65)

* Last four digits should be used to designate material (1215, 1285, etc.). For certain materials and configurations, a minimum order requirement may apply.

† “X” should be replaced by applicable MIL-G-83528B material type (e.g., A, B, C, etc.). Number in bracket is MIL-G-83528B slash sheet. Number in parentheses is MIL-G-83528B dash number. Insert them (without brackets or parentheses) to complete MIL P/N.

(mm dimensions in parentheses)

Table 3 continued

O-RINGS			
Chomerics P/N* MIL P/N: M83528/ 00[]X [†] -()	MS 29513 MS 9021 Dash No.	Dimensions	
		Cross Section (Diameter)	I.D.
10-00-0024-XXXX (NA)	—	0.070 (1.78)	1.485 (37.72)
10-00-2677-XXXX (NA)	—	0.070 (1.78)	1.609 (40.87)
10-00-4123-XXXX (NA)	030	0.070 (1.78)	1.614 (41.00)
10-00-2229-XXXX (NA)	—	0.070 (1.78)	1.674 (42.52)
10-00-0028-XXXX (NA)	—	0.070 (1.78)	1.735 (44.07)
10-00-4124-XXXX (NA)	032	0.070 (1.78)	1.864 (47.35)
10-00-0032-XXXX (NA)	—	0.070 (1.78)	1.980 (50.29)
10-00-2230-XXXX (NA)	—	0.070 (1.78)	3.009 (76.43)
10-00-0052-XXXX (NA)	—	0.070 (1.78)	3.170 (80.52)
10-00-2040-XXXX (NA)	043	0.070 (1.78)	3.489 (88.62)
10-00-2320-XXXX (NA)	—	0.076 (1.93)	0.656 (16.66)
10-00-2321-XXXX (NA)	—	0.076 (1.93)	0.779 (19.79)
10-00-1827-XXXX (NA)	—	0.084 (2.13)	0.852 (21.64)
10-00-0044-XXXX (NA)	—	0.084 (2.13)	2.678 (68.02)
10-00-0020-XXXX (NA)	—	0.087 (2.21)	1.250 (31.75)
10-00-0038-XXXX (NA)	—	0.087 (2.21)	2.360 (59.94)
10-00-3550-XXXX (NA)	—	0.094 (2.39)	0.750 (19.05)
10-00-1459-XXXX (NA)	—	0.095 (2.41)	0.897 (22.78)
10-00-1378-XXXX (NA)	—	0.095 (2.41)	1.074 (27.28)
10-00-4452-XXXX (NA)	—	0.100 (2.54)	1.005 (25.53)

Table 4

DIMENSIONS	TOLERANCES
<i>Cross Sections</i>	
0.040 to 0.069 (1.02-1.75)	±0.003 (±0.08)
0.070 to 0.100 (1.78-2.54)	±0.004 (±0.10)
0.101 to 0.200 (2.57-5.08)	±0.005 (±0.13)
0.201 to 0.350 (5.11-8.89)	±0.008 (±0.20)
<i>Inside Diameters</i>	
0.100 to 1.500 (2.54 to 38.10)	±0.010 (±0.25)
1.501 to 2.500 (38.13 to 63.50)	±0.015 (±0.38)
2.501 to 4.500 (63.53 to 114.30)	±0.020 (±0.51)
4.501 to 7.000 (114.33 to 177.80)	±0.025 (±0.64)
>7.000 (>177.80)	±0.35% of nom. dim.

Table 3 continued

O-RINGS			
Chomerics P/N* MIL P/N: M83528/ 00[]X [†] -()	MS 29513 MS 9021 Dash No.	Dimensions	
		Cross Section (Diameter)	I.D.
10-00-1754-XXXX (NA)	—	0.101 (2.57)	2.805 (71.25)
10-00-1359-XXXX (NA)	—	0.101 (2.57)	3.153 (80.87)
10-00-1360-XXXX (NA)	—	0.101 (2.57)	3.613 (80.87)
10-00-1921-XXXX [2] (114)	—	0.103 (2.62)	0.612 (15.54)
10-00-1847-XXXX [2] (117)	—	0.103 (2.62)	0.799 (20.29)
10-00-4685-XXXX [5] (021)	—	0.103 (2.62)	1.040 (26.42)
10-00-2086-XXXX (NA)	—	0.103 (2.62)	1.240 (31.50)
10-00-1845-XXXX [2] (126)	—	0.103 (2.62)	1.362 (34.59)
10-00-2072-XXXX [2] (128)	128	0.103 (2.62)	1.487 (37.77)
10-00-1846-XXXX [5] (022)	130	0.103 (2.62)	1.612 (40.94)
10-00-2031-XXXX [2] (132)	132	0.103 (2.62)	1.737 (44.12)
10-00-2087-XXXX [5] (023)	—	0.103 (2.62)	1.790 (45.47)
10-00-2030-XXXX [2] (142)	142	0.103 (2.62)	2.362 (59.99)
10-00-1691-XXXX [2] (155)	—	0.103 (2.62)	3.987 (101.27)
10-00-1573-XXXX (NA)	—	0.115 (2.92)	2.876 (73.05)
10-00-1607-XXXX (NA)	—	0.147 (3.73)	2.265 (57.53)
10-00-1608-XXXX (NA)	—	0.147 (3.73)	3.690 (93.73)
10-00-1782-XXXX (NA)	—	0.188 (4.78)	0.673 (17.09)
10-00-1746-XXXX (NA)	—	0.210 (5.33)	3.475 (12.07)
10-00-1354-XXXX (NA)	—	0.243 (6.17)	3.409 (86.59)
10-00-1747-XXXX (NA)	—	0.394 (10.01)	3.464 (87.99)

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(mm dimensions in parentheses)