

COMPRESSION LOADS FOR BERYLLIUM COPPER FINGERSTOCK

When designing electronic enclosures with fingerstock shielding gaskets, compression loads must be considered in order to approximate enclosure deflection and door closure forces. Compression loads occur because gaskets must be compressed to assure good electrical contact on each of the fingers. Instrument Specialties recommends compressing fingerstock at least 20% of free height to achieve full shielding effectiveness. Note that this 20% minimum compression must be maintained despite dimensional variations and/or deflection of the enclosure. Instrument Specialties' UltraSoft® feature provides the lowest compression forces for BeCu finger stock in the industry. This offers the designer greater flexibility and versatility, permitting more extensive use of lighter, thinner construction materials to help cut costs and/or enhance system performance. UltraSoft® (98 Series) products are offered in a wide selection of sizes and configurations and available for virtually every standard (97 Series) product with comparable shielding performance values.

The following tables show compression forces at several deflections for popular finger stock shielding gaskets. Loads are expressed as pounds of compression force per linear foot of gasket. All deflection curves are approximately linear, so linear interpolation can be used to calculate loads at heights not shown in the tables.

Slot Mount Series

Part Number	LARGEST OPENING				DESIGN HEIGHT				SMALLEST OPENING	
	Height	Load	Height	Load	Height	Load	Height	Load	Height	Load
	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)
0077-0010	0.055 (1,40)	10 (15,0)	0.045 (1,14)	21 (31,0)	0.035 (0,89)	34 (51,0)	0.025 (0,64)	47 (70,0)	0.015 (0,38)	62 (92,0)
0077-0011	0.120 (3,05)	12 (18)	0.095 (2,41)	29 (43,0)	0.070 (1,78)	48 (71,0)	0.045 (1,14)	74 (110,0)	0.020 (0,51)	121 (180,0)
0078-0010	0.056 (1,42)	3.4 (5,1)	0.044 (1,12)	7.5 (11,2)	0.033 (0,84)	11.5 (17,1)	0.021 (0,53)	16.7 (24,8)	0.010 (0,25)	22.0 (32,7)
0078-0011	0.120 (3,05)	2.3 (3,4)	0.090 (2,29)	5.7 (8,5)	0.065 (1,65)	9.2 (13,7)	0.040 (1,02)	15.0 (22,3)	0.015 (0,38)	25.5 (37,9)

Large Enclosure Strips

Part Number	LARGEST OPENING				DESIGN HEIGHT				SMALLEST OPENING	
	Height	Load	Height	Load	Height	Load	Height	Load	Height	Load
	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)
0097-0438	0.215 (5,46)	10 (15,0)	0.180 (4,57)	22 (33,0)	0.145 (3,68)	32 (48,0)	0.110 (2,79)	42 (62,0)	0.075 (1,91)	60 (89,0)
0097-0440	0.35 (8,9)	17 (25,0)	0.29 (7,2)	31 (46,0)	0.23 (5,7)	41 (61)	0.16 (4,1)	51 (75,0)	0.10 (2,5)	64 (95,0)
0098-0438	0.210 (5,33)	3.2 (4,8)	0.175 (4,45)	6.4 (9,5)	0.135 (3,43)	9.4 (14,0)	0.100 (2,54)	12.4 (18,5)	0.060 (1,52)	17.8 (26,5)
0098-0440	0.34 (8,6)	5.0 (7,4)	0.28 (7,1)	7.3 (10,9)	0.21 (5,3)	9.7 (14,4)	0.15 (3,8)	12.2 (18,2)	0.08 (2,0)	16.3 (24,3)

All Purpose Series

Part Number	LARGEST OPENING				DESIGN HEIGHT				SMALLEST OPENING	
	Height	Load	Height	Load	Height	Load	Height	Load	Height	Load
	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)
0097-0537	0.35 (8,9)	27 (40,0)	0.29 (7,2)	47 (69,0)	0.23 (5,7)	62 (92,0)	0.16 (4,1)	72 (107,0)	0.10 (2,5)	87 (129,0)
0097-0538	0.215 (5,46)	14 (20,0)	0.180 (4,57)	27 (40,0)	0.150 (3,81)	36 (54,0)	0.115 (2,92)	47 (69,0)	0.080 (2,03)	65 (97,0)
0097-0500	0.190 (4,83)	16 (24,0)	0.155 (3,94)	26 (39,0)	0.115 (2,92)	35 (52,0)	0.080 (2,03)	44 (65,0)	0.040 (1,02)	53 (78,0)
0097-0520		18 (27,0)	0.110 (2,79)	32 (48,0)	0.100 (2,54)	39 (58,0)	0.085 (2,16)	49 (73,0)	0.070 (1,78)	59 (88,0)
0097-0540		18 (27,0)	0.090 (2,29)	20 (30,0)	0.080 (2,03)	45 (66,0)	0.075 (1,91)	52 (77,0)	0.065 (1,65)	62 (92,0)
0098-0537	0.350 (8,89)	6.0 (8,9)	0.285 (7,24)	10.0 (14,9)	0.225 (5,72)	12.8 (19,0)	0.160 (4,06)	15.7 (23,4)	0.100 (2,54)	19.0 (28,3)
0098-0538	0.210 (5,33)	9.0 (13,4)	0.175 (4,45)	15.0 (22,3)	0.135 (3,43)	23.0 (34,2)	0.100 (2,54)	31.5 (46,9)	0.060 (1,52)	53.0 (78,9)
0098-0500	0.195 (4,95)	3.8 (5,7)	0.160 (4,06)	5.8 (8,6)	0.130 (3,30)	7.1 (10,6)	0.095 (2,41)	8.4 (12,5)	0.060 (1,52)	10.2 (15,2)
0098-0520	0.120 (3,05)	8 (11,0)	0.100 (2,54)	12 (18,0)	0.080 (2,03)	16 (23,0)	0.060 (1,52)	19 (28,0)	0.040 (1,02)	23 (34,0)
0098-0540	0.096 (2,44)	12 (18,0)	0.082 (2,08)	22 (33,0)	0.068 (1,73)	30 (45,0)	0.054 (1,37)	38 (57,0)	0.040 (1,02)	43 (63,0)

Foldover Series

Part Number	LARGEST OPENING				DESIGN HEIGHT				SMALLEST OPENING	
	Height	Load	Height	Load	Height	Load	Height	Load	Height	Load
	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)
0097-0515	0.195 (4,95)	16 (23,0)	0.160 (4,06)	27 (40,0)	0.130 (3,30)	34 (50,0)	0.095 (2,41)	40 (60,0)	0.060 (1,52)	52 (77,0)
0097-0521	0.125 (3,18)	16 (24)	0.110 (2,79)	28 (42,0)	0.100 (2,54)	36 (54,0)	0.085 (2,16)	47 (70,0)	0.070 (1,78)	59 (88,0)
0097-0541	0.106 (2,69)	23 (34,0)	0.092 (2,34)	42 (62,0)	0.078 (1,98)	56 (83,0)	0.064 (1,63)	67 (100,0)	0.050 (1,27)	87 (129,0)
0097-0542	0.074 (1,88)	36 (54,0)	0.068 (1,73)	63 (94,0)	0.062 (1,57)	80 (118,0)	0.056 (1,42)	91 (135,0)	0.050 (1,27)	97 (144,0)
0098-0515	0.195 (4,95)	2.8 (4,2)	0.160 (4,06)	4.7 (7,0)	0.130 (3,30)	5.8 (8,6)	0.095 (2,41)	7.3 (10,9)	0.060 (1,52)	11.0 (16,4)
0098-0521	0.125 (3,18)	6 (8,0)	0.110 (2,79)	10 (15,0)	0.090 (2,29)	15 (22,0)	0.075 (1,91)	18 (27,0)	0.060 (1,52)	32 (47,0)
0098-0541	0.106 (2,69)	9 (13,0)	0.092 (2,34)	17 (25,0)	0.078 (1,98)	25 (37,0)	0.064 (1,63)	35 (51,0)	0.050 (1,27)	44 (65,0)
0098-0542	0.074 (1,88)	11 (16,0)	0.068 (1,73)	22 (33,0)	0.062 (1,57)	32 (48,0)	0.056 (1,42)	42 (62,0)	0.050 (1,27)	50 (74,0)

Twist Series

Part Number	LARGEST OPENING				DESIGN HEIGHT				SMALLEST OPENING	
	Height	Load	Height	Load	Height	Load	Height	Load	Height	Load
	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)
0097-0555	0.063 (1,60)	11 (16,0)	0.056 (1,42)	22 (32,0)	0.049 (1,24)	33 (49,0)	0.042 (1,07)	40 (60,0)	0.035 (0,89)	44 (65,0)
0097-0550	0.026 (0,66)	8 (12,0)	0.022 (0,56)	18 (27,0)	0.018 (0,46)	25 (37,0)	0.014 (0,36)	33 (49,0)	0.010 (0,25)	48 (71,0)
0097-0560	0.063 (1,60)	11 (16,0)	0.056 (1,42)	28 (42,0)	0.049 (1,24)	43 (64,0)	0.042 (1,07)	56 (83,0)	0.035 (0,89)	65 (97,0)
0098-0555	0.063 (1,60)	4.0 (6,0)	0.056 (1,42)	7.5 (11,2)	0.049 (1,24)	11.5 (17,1)	0.042 (1,07)	14.0 (20,8)	0.035 (0,89)	16.0 (23,8)
0098-0550	0.026 (0,66)	2.3 (3,4)	0.022 (0,56)	6.5 (9,7)	0.018 (0,46)	9.0 (13,4)	0.014 (0,36)	12.0 (17,9)	0.010 (0,25)	15.4 (22,9)
0098-0560	0.063 (1,60)	6 (8,0)	0.056 (1,42)	12 (18,0)	0.049 (1,24)	18 (27,0)	0.042 (1,07)	24 (35,0)	0.035 (0,89)	27 (41,0)

Clip-On Series

Part Number	LARGEST OPENING				DESIGN HEIGHT				SMALLEST OPENING	
	Height	Load	Height	Load	Height	Load	Height	Load	Height	Load
	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)
0097-0605	0.170 (4,32)	5 (7,0)	0.145 (3,68)	10 (15,0)	0.115 (2,92)	17 (25,0)	0.090 (2,29)	24 (36,0)	0.060 (1,52)	53 (78,0)
0097-0610	0.093 (2,36)	3 (4,0)	0.086 (2,18)	11 (16,0)	0.079 (2,01)	23 (34,0)	0.072 (1,83)	37 (55,0)	0.065 (1,65)	69 (103,0)
0097-0612	0.090 (2,29)	3 (4,0)	0.080 (2,03)	14 (21,0)	0.065 (1,65)	47 (69,0)	0.055 (1,40)	67 (100,0)	0.045 (1,14)	83 (124,0)
0097-0630	0.180 (4,57)	3 (4,0)	0.155 (3,94)	6 (9,0)	0.125 (3,18)	11 (16,0)	0.100 (2,54)	16 (24,0)	0.070 (1,78)	25 (37,0)
0097-0640	0.22 (5,6)	12 (18,0)	0.18 (4,6)	25 (37,0)	0.14 (3,6)	36 (54,0)	0.10 (2,5)	46 (68,0)	0.06 (1,5)	64 (94,0)
0097-0645	0.026 (0,66)	3.0 (4,5)	0.022 (0,56)	6.0 (8,9)	0.018 (0,46)	7.0 (10,4)	0.014 (0,36)	9.5 (14,1)	0.010 (0,25)	15.0 (22,3)
0098-0605	0.170 (4,32)	1.2 (1,8)	0.145 (3,68)	2.2 (3,3)	0.115 (2,92)	3.6 (5,4)	0.090 (2,29)	5.0 (7,4)	0.060 (1,52)	12.0 (17,9)
0098-0610	0.089 (2,26)	3 (4,0)	0.078 (1,98)	15 (22,0)	0.067 (1,70)	30 (45,0)	0.056 (1,42)	42 (62,0)	0.045 (1,14)	53 (78,0)
0098-0612	0.088 (2,24)	2 (3,0)	0.076 (1,93)	4 (5,0)	0.064 (1,63)	9 (13,0)	0.052 (1,32)	30 (44,0)	0.040 (1,02)	41 (60,0)
0098-0630	0.180 (4,57)	0.4 (0,6)	0.155 (3,94)	1.0 (1,5)	0.125 (3,18)	1.8 (2,7)	0.100 (2,54)	2.6 (3,9)	0.070 (1,78)	5.8 (8,6)
0098-0640	0.210 (5,33)	2.5 (3,7)	0.175 (4,45)	5.1 (7,6)	0.135 (3,43)	7.4 (11,0)	0.100 (2,54)	9.5 (14,1)	0.060 (1,52)	12.9 (19,2)

Symmetrical Slotted Shielding

Part Number	LARGEST OPENING				DESIGN HEIGHT				SMALLEST OPENING	
	Height	Load	Height	Load	Height	Load	Height	Load	Height	Load
	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)	Inches (mm)	Lb/Ft. (kg/m)
0097-0951	0.195 (4,95)	20 (3,0)	0.170 (4,32)	36 (53,0)	0.150 (3,81)	44 (65,0)	0.125 (3,18)	62 (92,0)	0.100 (2,54)	92 (137,0)
0097-0952	0.195 (4,95)	16 (24,0)	0.170 (4,32)	25 (37,0)	0.150 (3,81)	33 (49,0)	0.125 (3,18)	47 (70,0)	0.100 (2,54)	74 (110,0)
0097-0954	0.126 (3,20)	9 (13,0)	0.112 (2,84)	18 (26,0)	0.098 (2,49)	24 (36,0)	0.084 (2,13)	31 (46,0)	0.070 (1,78)	46 (68,0)
0097-0955	0.126 (3,20)	11 (16,0)	0.112 (2,84)	21 (31,0)	0.098 (2,49)	28 (42,0)	0.084 (2,13)	37 (55,0)	0.070 (1,78)	62 (92,0)
0097-0957	0.100 (2,54)	13 (19,0)	0.090 (2,29)	26 (39,0)	0.080 (2,03)	37 (55,0)	0.065 (1,65)	65 (97,0)	0.055 (1,40)	102 (152,0)
0097-0958	0.102 (2,59)	8 (12,0)	0.094 (2,39)	17 (25,0)	0.086 (2,18)	26 (39,0)	0.078 (1,98)	40 (60,0)	0.070 (1,78)	57 (84,0)
0097-0974	0.130 (3,30)	0.8 (1,2)	0.110 (2,79)	1.5 (2,2)	0.090 (2,29)	2.5 (3,7)	0.070 (1,78)	3.6 (5,4)	0.050 (1,27)	5.1 (7,6)
0097-0975	0.26 (6,5)	4.2 (6,2)	0.21 (5,3)	7.7 (11,5)	0.16 (4,1)	11.3 (16,8)	0.12 (2,9)	14.0 (20,8)	0.07 (1,8)	18.8 (28,0)
0097-0976	0.145 (3,68)	1.4 (2,1)	0.115 (2,92)	3.1 (4,6)	0.080 (2,03)	5.0 (7,4)	0.050 (1,27)	6.6 (9,8)	0.020 (0,51)	8.9 (13,2)
0098-0951	0.190 (4,83)	6 (8,0)	0.165 (4,19)	10 (14,0)	0.135 (3,43)	15 (22,0)	0.110 (2,79)	24 (36,0)	0.080 (2,03)	51 (75,0)
0098-0952	0.190 (4,83)	5 (7,0)	0.165 (4,19)	7 (10,0)	0.135 (3,43)	10 (14,0)	0.110 (2,79)	14 (21,0)	0.080 (2,03)	26 (39,0)
0098-0955	0.126 (3,20)	5 (7,0)	0.112 (2,84)	10 (14,0)	0.098 (2,49)	15 (22,0)	0.084 (2,13)	21 (31,0)	0.070 (1,78)	32 (48,0)
0098-0957	0.100 (2,54)	9 (13,0)	0.090 (2,29)	18 (27,0)	0.080 (2,03)	24 (36,0)	0.070 (1,78)	33 (49,0)	0.060 (1,52)	53 (79,0)
0098-0958	0.101 (2,57)	3.1 (4,6)	0.092 (2,34)	6.8 (10,1)	0.083 (2,11)	10.4 (15,5)	0.074 (1,88)	15.9 (23,7)	0.065 (1,65)	24.2 (36,0)
0098-0975	0.255 (6,48)	0.5 (0,7)	0.210 (5,33)	0.8 (1,1)	0.160 (4,06)	1.1 (1,6)	0.115 (2,92)	1.3 (1,9)	0.070 (1,78)	1.7 (2,5)
0098-0976	0.145 (3,68)	0.3 (0,4)	0.115 (2,92)	0.6 (0,9)	0.080 (2,03)	1.0 (1,5)	0.050 (1,27)	1.3 (1,9)	0.020 (0,51)	2.8 (4,2)