POLA® SOLID
Oriented Wire in Elastomer

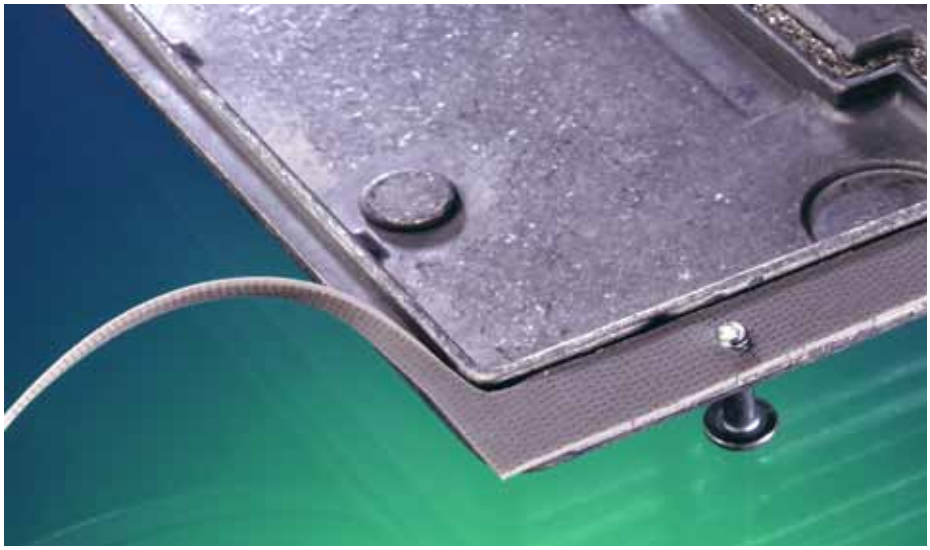


Customer Value Proposition:

POLA SOLID is a composite electromagnetic interface (EMI) shielding and environmental sealing gasket material consisting of hundreds of individual fine wires embedded into the z-axis of solid elastomer.

Available in various flat seal configurations, including sheets, strips and die-cut parts, POLA SOLID is easily integrated into existing application assemblies, making the switch from a non-EMI solution possible.

With comparable performance at a fraction of the cost of alternative solutions that provide both EMI shielding and weather sealing performance, as well as the opportunity to exactly match the galvanic potential of interfacing aluminum surfaces, POLA SOLID provides total cost of ownership savings in excess of 50% through price point and corrosion rework reductions.



Features and Benefits:

- Solid silicone results in increased durability and sealing performance
- A solid silicone binder results in a robust gasketing material that can withstand greater fastener torque values as well as increased pressure and weather sealing requirements.
- Multiple wire alloy options allow for galvanic compatibility to be optimized between the gasketing and mating surfaces
- Galvanic compatibility allows for optimized corrosion mitigation and avoidance of related rework costs.
- Cured in place oriented wires will not dislodge, thereby eliminating foreign object debris concerns
- Elimination of foreign object debris ensures costly application rework due to electrical shorting can be avoided.
- Wire "bite-through" during gasket deflection allows for non-conductive pressure sensitive adhesive to be used rather than the conductive systems more commonly offered with EMI gasketing solutions
- The elimination of conductive pressure sensitive adhesive results in better adhesion and less galvanic corrosion potential for the overall system, thereby reducing both gasket installation labor and rework associated with corrosion.
- Various form factors are offered including strips, sheets and converted gaskets, thereby allowing for easy application and manufacturing integration
- Various form factors reduce secondary operations and capital expenditures commonly associated with gasket conversion.

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POLA SOLID - Product Information

Table 1

MATERIAL SPECIFICATIONS					
Typical Properties	**Solid Silicone**	**Solid Fluorosilicone**	**Wire Alloys**		
			Aluminum[1]	**Monel**	**Phosphor Bronze[2]**
Material Specification	A-A-59588 Class 3A, Grade 30	MIL-R-25988 Class 1, Grade 40, Type II	Alloy 5056, AMS-4182	QQ-N-281, AMS-4730	Alloy 30, ASTM B-105
Wire Diameter	-	-	0.005 in (0.13 mm)	0.0045 in (0.11 mm)	0.002 in (0.05 mm)
Temperature Range	-65 °F to 392 °F (-55 °C to 200 °C)	-65 °F to 392 °F (-55 °C to 200 °C)	See Below[3]		
Recommended Compression	10% - 30%, (considering LMC & MMC)[4]				
Recommended Closure Force	25 PSI to 100 PSI				
Compression Set	25%	25%	-		
Wire Population Density	900 ±15%	900 ±15%	-		

Notes
1. Except maximum tensile strength of 75,000 PSI
2. Non-standard, please inquire
3. Composite material is limited by sponge silicone temperature range
4. LMC: Least Material Condition, MMC: Maximum Material Condition

POLA SOLID SHEETS:

Sheets are available in standard widths up to 9 inches. Sheet larger than 9 inches will be supplied with two or more widths bonded together. Standard sheet lengths are 3 feet. Sheets can be converted with traditional cutting methods including steel rule dies or water jets.

Table 2

STANDARD SHEET TOLERANCES inches (mm)		
Dimensions	**Height (H)**	**Width (W)**
0.062 to 0.092 (1.57 to 2.34)	+0.010 (0.25), -0.005 (0.13)	±0.015(±0.38)
0.093 to 0.125 (3.26 to 3.18)	±0.010 (±0.25)	±0.015(±0.38)
0.126 to 0.250 (3.20 to 6.35)	±0.010 (±0.25)	±0.031(±0.79)
0.251 to 0.750 (6.37 to 19.05)	±0.010 (±0.25)	±0.047(±1.19)
0.751 to 1.000 (19.08 to 25.4)	±0.015 (±0.38)	±0.062(±1.57)

Table 3

POLA SOLID STANDARD SHEET GASKETING inches (mm)			
Thickness	**Width**	**Part Number**	
		Monel Wire	**Aluminum Wire**
0.032 (0.81)	3.000 (76.2)	07-0701-3003	07-0702-3003
0.032 (0.81)	4.500 (114.3)	07-0701-4503	07-0702-4503
0.032 (0.81)	6.000 (152.4)	07-0701-6003	07-0702-6003
0.032 (0.81)	9.000 (228.6)	07-0701-9003	07-0702-9003
0.045 (1.14)	3.000 (76.2)	07-0701-3004	07-0702-3004
0.045 (1.14)	4.500 (114.3)	07-0701-4504	07-0702-4504
0.045 (1.14)	6.000 (152.4)	07-0701-6004	07-0702-6004
0.045 (1.14)	9.000 (228.6)	07-0701-9004	07-0702-9004
0.055 (1.40)	3.000 (76.2)	07-0701-3005	07-0702-3005
0.055 (1.40)	4.500 (114.3)	07-0701-4505	07-0702-4505
0.055 (1.40)	6.000 (152.4)	07-0701-6005	07-0702-6005
0.055 (1.40)	9.000 (228.6)	07-0701-9005	07-0702-9005
0.062 (1.57)	3.000 (76.2)	07-0701-3006	07-0702-3006
0.062 (1.57)	4.500 (114.3)	07-0701-4506	07-0702-4506
0.062 (1.57)	6.000 (152.4)	07-0701-6006	07-0702-6006
0.062 (1.57)	9.000 (228.6)	07-0701-9006	07-0702-9006
0.094 (2.38)	3.000 (76.2)	07-0701-3009	07-0702-3009
0.094 (2.38)	4.500 (114.3)	07-0701-4509	07-0702-4509
0.094 (2.38)	6.000 (152.4)	07-0701-6009	07-0702-6009
0.094 (2.38)	9.000 (228.6)	07-0701-9009	07-0702-9009

Table 3 continued

POLA SOLID STANDARD SHEET GASKETING inches (mm)			
Thickness	**Width**	**Part Number**	
		Monel Wire	**Aluminum Wire**
0.125 (3.18)	3.000 (76.2)	07-0701-3012	07-0702-3012
0.125 (3.18)	4.500 (114.3)	07-0701-4512	07-0702-4512
0.125 (3.18)	6.000 (152.4)	07-0701-6012	07-0702-6012
0.125 (3.18)	9.000 (228.6)	07-0701-9012	07-0702-9012
0.156 (3.96)	3.000 (76.2)	07-0701-3015	07-0702-3015
0.156 (3.96)	4.500 (114.3)	07-0701-4515	07-0702-4515
0.156 (3.96)	6.000 (152.4)	07-0701-6015	07-0702-6015
0.156 (3.96)	9.000 (228.6)	07-0701-9015	07-0702-9015
0.188 (4.78)	3.000 (76.2)	07-0701-3018	07-0702-3018
0.188 (4.78)	4.500 (114.3)	07-0701-4518	07-0702-4518
0.188 (4.78)	6.000 (152.4)	07-0701-6018	07-0702-6018
0.188 (4.78)	9.000 (228.6)	07-0701-9018	07-0702-9018
0.250 (6.35)	3.000 (76.2)	07-0701-3025	07-0702-3025
0.250 (6.35)	4.500 (114.3)	07-0701-4525	07-0702-4525
0.250 (6.35)	6.000 (152.4)	07-0701-6025	07-0702-6025
0.250 (6.35)	9.000 (228.6)	07-0701-9025	07-0702-9025

Notes
1. To specify pressure sensitive adhesive, add -77 to the end of the part number
2. Contact Parker Chomerics for part number assistance with parts requiring non-standard phosphor bronze wire and fluorosilicone binder.
3. Contact Parker Chomerics regarding questions on part numbers formerly generated by Tecknit
4. Custom dimensions available upon request

POLA SOLID STRIPS:
Strips are available in standard widths from .093 to 1.000 inches, with a recommend height to width ratio of no greater than 1:1. Standard strip lengths are 11 feet. Bonded continuous lengths are available upon request.

Twin strips are a variation of standard strips in that the oriented wires occupy only a portion of the total strip width. The unoccupied portion of the gasketing provides improved sealing and corrosion resistance for applications requiring optimized seal performance. Strips are available in widths 0.375" and larger, with the wire-occupied portion having a standard width of 0.250".

Table 2

STANDARD STRIP TOLERANCES inches (mm)		
Dimensions	**Height (H)**	**Width (W)**
0.062 to 0.092 (1.57 to 2.34)	+0.010 (0.25), -0.005 (0.13)	±0.015(±0.38)
0.093 to 0.125 (3.26 to 3.18)	±0.010 (±0.25)	±0.015(±0.38)
0.126 to 0.250 (3.20 to 6.35)	±0.010 (±0.25)	±0.031(±0.79)
0.251 to 0.750 (6.37 to 19.05)	±0.010 (±0.25)	±0.047(±1.19)
0.751 to 1.000 (19.08 to 25.4)	±0.015 (±0.38)	±0.062(±1.57)

Table 4

POLA SOLID STANDARD STRIP GASKETING inches (mm)				
Thickness	**Width**	**Part Number**		
		Monel Wire	**Aluminum Wire**	**Twin Monel Wire**
0.062 (1.57)	0.093 (2.36)	07-0101-0400	07-0102-0599	N/A
0.062 (1.57)	0.125 (3.18)	07-0101-0358	07-0102-0468	N/A
0.062 (1.57)	0.187 (4.78)	07-0101-0364	07-0102-0457	N/A
0.062 (1.57)	0.250 (6.35)	07-0101-0293	07-0102-0600	N/A
0.062 (1.57)	0.312 (7.92)	07-0101-0395	07-0102-0558	N/A
0.062 (1.57)	0.375 (9.53)	07-0101-0300	07-0102-0601	07-0101-0359
0.062 (1.57)	0.500 (12.70)	07-0101-0377	07-0102-0461	07-0101-11163
0.062 (1.57)	0.625 (15.88)	07-0101-0418	07-0102-0391	07-0101-0259
0.062 (1.57)	0.750 (19.05)	07-0101-0289	07-0102-0415	07-0101-0260
0.062 (1.57)	1.000 (25.4)	07-0101-0491	07-0102-0432	07-0101-11164
0.093 (2.36)	0.093 (2.36)	07-0101-0255	07-0102-0480	N/A
0.093 (2.36)	0.125 (3.18)	07-0101-0366	07-0102-11146	N/A
0.093 (2.36)	0.187 (4.78)	07-0101-0312	07-0102-0602	N/A
0.093 (2.36)	0.250 (6.35)	07-0101-0230	07-0102-0603	N/A
0.093 (2.36)	0.312 (7.92)	07-0101-0598	07-0102-0604	N/A
0.093 (2.36)	0.375 (9.53)	07-0101-0426	07-0102-0605	07-0101-0239
0.093 (2.36)	0.500 (12.70)	07-0101-0257	07-0102-0606	07-0101-0298
0.093 (2.36)	0.625 (15.88)	07-0101-0370	07-0102-0393	07-0101-0545
0.093 (2.36)	0.750 (19.05)	07-0101-0315	07-0102-11147	07-0101-0547
0.093 (2.36)	1.000 (25.4)	07-0101-0456	07-0102-11148	07-0101-11165
0.125 (3.18)	0.125 (3.18)	07-0101-0004	07-0102-0048	N/A
0.125 (3.18)	0.187 (4.78)	07-0101-0020	07-0102-0050	N/A
0.125 (3.18)	0.250 (6.35)	07-0101-0010	07-0102-0054	N/A
0.125 (3.18)	0.312 (7.92)	07-0101-0024	07-0102-0059	N/A
0.125 (3.18)	0.375 (9.53)	07-0101-0028	07-0102-0063	07-0101-0176
0.125 (3.18)	0.500 (12.70)	07-0101-0088	07-0102-0092	07-0101-0177
0.125 (3.18)	0.625 (15.88)	07-0101-0152	07-0102-0164	07-0101-0178
0.125 (3.18)	0.750 (19.05)	07-0101-0250	07-0102-0529	07-0101-0179
0.125 (3.18)	1.000 (25.4)	07-0101-0268	07-0102-0525	07-0101-11166
0.156 (3.96)	0.156 (3.96)	07-0101-0502	07-0102-11149	N/A
0.156 (3.96)	0.187 (4.78)	07-0101-0226	07-0102-11150	N/A
0.156 (3.96)	0.250 (6.35)	07-0101-0368	07-0102-11151	N/A
0.156 (3.96)	0.312 (7.92)	07-0101-0632	07-0102-11152	N/A
0.156 (3.96)	0.375 (9.53)	07-0101-11142	07-0102-11153	07-0101-11167
0.156 (3.96)	0.500 (12.70)	07-0101-0627	07-0102-11154	07-0101-11168
0.156 (3.96)	0.625 (15.88)	07-0101-0628	07-0102-11155	07-0101-11169
0.156 (3.96)	0.750 (19.05)	07-0101-0630	07-0102-11156	07-0101-11170
0.156 (3.96)	1.000 (25.4)	07-0101-11143	07-0102-11157	07-0101-11171

Table 4 continued

POLA SOLID STANDARD STRIP GASKETING inches (mm)				
Thickness	**Width**	**Part Number**		
		Monel Wire	**Aluminum Wire**	**Twin Monel Wire**
0.187 (4.78)	0.187 (4.78)	07-0101-0011	07-0102-0051	N/A
0.187 (4.78)	0.250 (6.35)	07-0101-0021	07-0102-0055	N/A
0.187 (4.78)	0.312 (7.92)	07-0101-0025	07-0102-0060	N/A
0.187 (4.78)	0.375 (9.53)	07-0101-0120	07-0102-0122	07-0101-0180
0.187 (4.78)	0.500 (12.70)	07-0101-0089	07-0102-0093	07-0101-0181
0.187 (4.78	0.625 (15.88)	07-0101-0153	07-0102-0165	07-0101-0182
0.187 (4.78)	0.750 (19.05)	07-0101-0378	07-0102-11158	07-0101-0183
0.187 (4.78)	1.000 (25.4)	07-0101-11144	07-0102-11159	07-0101-11172
0.250 (6.35)	0.250 (6.35)	07-0101-0003	07-0102-0056	N/A
0.250 (6.35)	0.312 (7.92)	07-0101-0026	07-0102-0061	N/A
0.250 (6.35)	0.375 (9.53)	07-0101-0029	07-0102-0064	07-0101-0536
0.250 (6.35)	0.500 (12.70)	07-0101-0031	07-0102-0066	07-0101-0184
0.250 (6.35)	0.625 (15.88)	07-0101-0154	07-0102-0166	07-0101-0185
0.250 (6.35)	0.750 (19.05)	07-0101-0390	07-0102-0530	07-0101-0186
0.250 (6.35)	1.000 (25.4)	07-0101-0449	07-0102-0526	07-0101-0408
0.312 (7.92)	0.312 (7.92)	07-0101-0027	07-0102-0062	N/A
0.312 (7.92)	0.375 (9.53)	07-0101-0124	07-0102-0126	07-0101-11173
0.312 (7.92)	0.500 (12.70)	07-0101-0136	07-0102-0138	07-0101-0442
0.312 (7.92)	0.625 (15.88)	07-0101-0363	07-0102-11160	07-0101-11174
0.312 (7.92)	0.750 (19.05)	07-0101-0497	07-0102-11161	07-0101-0441
0.312 (7.92)	1.000 (25.4)	07-0101-11145	07-0102-11162	07-0101-11175
0.375 (9.53)	0.375 (9.53)	07-0101-0030	07-0102-0065	07-0101-11176
0.375 (9.53)	0.500 (12.70)	07-0101-0140	07-0102-0142	07-0101-11177
0.375 (9.53)	0.625 (15.88)	07-0101-0155	07-0102-0167	07-0101-11178
0.375 (9.53)	0.750 (19.05)	07-0101-0296	07-0102-0531	07-0101-0447
0.375 (9.53)	1.000 (25.4)	07-0101-0519	07-0102-0527	07-0101-11179
0.500 (12.70)	0.500 (12.70)	07-0101-0009	07-0102-0067	07-0101-0317
0.500 (12.70)	0.625 (15.88)	07-0101-0156	07-0102-0168	07-0101-11180
0.500 (12.70)	0.750 (19.05)	07-0101-0509	07-0102-0532	07-0101-0448
0.500 (12.70)	1.000 (25.4)	07-0101-0520	07-0102-0528	07-0101-0401

Notes
1. To specify pressure sensitive adhesive, add -77 to the end of the part number
2. Contact Parker Chomerics for part number assistance with parts requiring non-standard phosphor bronze wire and fluorosilicone binder.
3. Contact Parker Chomerics regarding questions on part numbers formerly generated by Tecknit
4. Custom dimensions available upon request

FABRICATED GASKETS:

Parker Chomerics can provide finished gaskets utilizing a variety of cutting and bonding techniques. Compression stop integration is available upon request. Please contact Parker Chomerics directly for design assistance.

Table 5

DIE-CUT GASKET DESIGN PARAMETERS inches (mm)	
A Dimensional Tolerances <10 (<254) 10 to 15 (254 to 381) >15 (>381)	 ±0.010 (0.25) ±0.020 (0.51) ±0.20% of Nom. Dim
B Min. Width	0.125 (3.18)
C Min. Wall Thickness	0.080 (2.03)
D Min. Hole Diameter	0.060 (1.52)
E Slot	if min. wall thickness **C** cannot be accommodated, holes should be changed to slots.

Notes:
1. Die-cut gaskets should be inspected for dimensional compliance in a restrained condition.

Figure 1 **DIE-CUT GASKET**

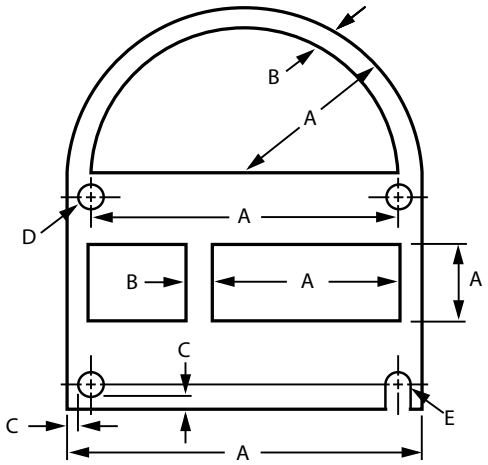
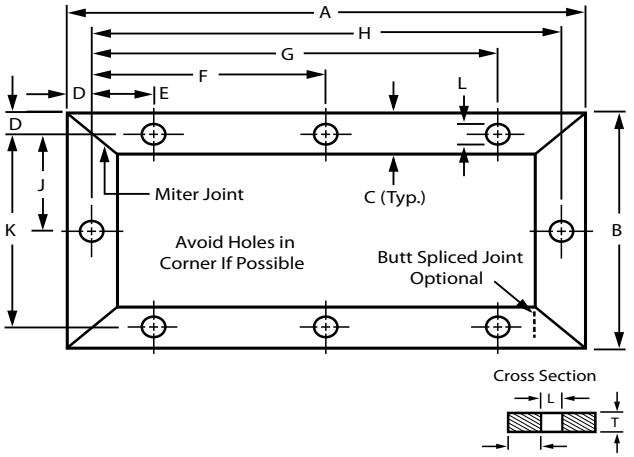


Table 6

SPLICED/DIE-CUT GASKET DESIGN PARAMETERS inches (mm)			
Dimensions	**0-12.0 (0-30 cm)**	**12.1-24.0 (31-61cm)**	**24.1-36.0 (61-91 cm)**
A,B	±0.03 (±0.76)	±0.06 (±1.52)	±0.12 (±3.05)
C	(Width) See Table 2		
D	±0.02 (±0.51)	±0.02 (±0.51)	±0.02 (±0.51)
E, F, G, H, J, K	±0.02 (±0.51)	±0.04 (±1.02)	±0.06 (±1.52)
L	±0.02 (±0.51)	±0.02 (±0.51)	±0.02 (±0.51)

Notes:
1. Joint bonded with RTV silicone adhesive.
2. When B dim. is less than 4.5 inches (113 mm), POLASHEET, rather than POLASTRIP, may be used.
3. Die-cut gaskets should be inspected for dimensional compliance in a restrained condition.

Figure 2 **SPLICED GASKET**



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