

SOFT-SHIELD® 3500

Plated-Fabric Wrapped Foam Economical EMI Shielding Gaskets for Electronics



Customer Value Proposition

Parker Chomerics SOFT-SHIELD® 3500 fabric-over-foam (FoF) EMI shielding gaskets are low-closure EMI shielding gaskets for indoor applications. Available in strip form, SOFT-SHIELD 3500 is an ideal solution for EMI shielding and electrical grounding in shear and compression. By combining the shielding effectiveness of an electrically conductive fabric along with the conformability afforded by a foam core construction, SOFT-SHIELD 3500 ensures both high shielding and reliability for the life of the equipment.

SOFT-SHIELD 3500 is flammability rated to UL 94 V-0 and is available with various profile cross sections each engineered to optimize mechanical form, fit and function while also optimizing electrical performance.

Contact Information

Parker Hannifin Corporation
Chomerics Division
77 Dragon Court
Woburn, MA 01801

phone 781 935 4850

fax 781 933 4318

chomailbox@parker.com

www.parker.com/chomerics



There are two fabric choices both wrapped around open cell urethane foam, available in either nickel-plated copper woven taffeta or nickel-plated copper polyester woven RipStop fabric with halogen-free versions of each. Each fabric option is available without pressure sensitive adhesive (PSA), with PSA or with a second PSA version with an extended liner for easier removal of the backing.

SOFT-SHIELD® 3500's wrap-around technology grounds the gasket from point to point, ultimately eliminating any EMI gaps, and typically requires less than 1 lb/in (0.175 N/mm) closure force, making it effective for low-closure-force applications.

SOFT-SHIELD 3500 takes less than 15% compression set, less than most other fabric-over-foam EMI gaskets on the market. This results in more reliable and repeatable shielding performance, is an excellent alternative shielding solution to traditional spring finger type products and makes this product family one of the most versatile EMI FoF products offered to the market.



SOFT-SHIELD® 3500

Product Features

- >100 dB shielding effectiveness
20 MHz to 10 GHz
- Low closure force for optimum performance
- Low compression set of less than 15%
- Over 250 profiles available to the market
- Readily available in bulk, cut to length or with cut-outs / features
- Available with or without non-conductive pressure sensitive adhesive (PSA)
- Extended Liner option offers easy-peel capability
- Fabric options of nickel-plated copper woven taffeta or nickel-plated copper polyester woven RipStop
- RoHS, REACH and UL 94 V-0 compliant
- Abrasion / sheer resistant conductive jackets

Typical Applications

- Server faceplates and blade cards
- Electronic enclosures
- Consumer electronics
- Door seals
- EMI window / vent seals
- Grounding applications

Available Profiles

Contact Parker Chomerics for any other special requirements and an updated profile list.

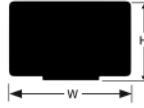


Table 1 - Rectangle Profiles

Profile	Height inches (mm)	Width inches (mm)
3042	0.015 (0.38)	0.472 (11.9)
3268	0.020 (0.51)	0.157 (3.99)
3216	0.020 (0.51)	0.197 (5.00)
3232	0.020 (0.51)	0.394 (10.01)
3273	0.020 (0.51)	0.500 (12.70)
3442	0.020 (0.51)	0.925 (23.50)
3211	0.039 (0.99)	0.118 (3.00)
3214	0.039 (0.99)	0.157 (3.99)
3217	0.039 (0.99)	0.197 (5.00)
3224	0.039 (0.99)	0.276 (7.01)
3230	0.039 (0.99)	0.315 (8.00)
3233	0.039 (0.99)	0.394 (10.01)
3392	0.039 (0.99)	0.512 (13.00)
3420	0.039 (0.99)	0.709 (18.01)
3455	0.039 (0.99)	0.925 (23.50)
3291	0.039 (0.99)	1.142 (29.01)
3234	0.047 (1.19)	0.394 (10.01)
3434	0.050 (1.27)	1.320 (33.53)
3370	0.059 (1.50)	0.157 (3.99)
3219	0.059 (1.50)	0.197 (5.00)
3241	0.059 (1.50)	0.512 (13.00)
3418	0.060 (1.52)	0.118 (3.00)
3226	0.060 (1.52)	0.275 (6.99)
3389	0.060 (1.52)	0.394 (10.01)
3471	0.060 (1.52)	0.670 (17.02)
3101	0.078 (1.98)	0.118 (3.00)
3104	0.078 (1.98)	0.157 (3.99)
3120	0.078 (1.98)	0.236 (5.99)
3136	0.078 (1.98)	0.315 (8.00)
3258	0.078 (1.98)	1.378 (35.00)
3109	0.079 (2.01)	0.197 (5.00)
3133	0.079 (2.01)	0.276 (7.01)
3151	0.079 (2.01)	0.394 (10.01)
3164	0.079 (2.01)	0.472 (11.99)
3187	0.079 (2.01)	0.591 (15.01)
3248	0.079 (2.01)	0.827 (21.01)
3402	0.079 (2.01)	0.984 (24.99)
3435	0.090 (2.29)	0.100 (2.54)

SOFT-SHIELD® 3500

Available Profiles

Contact Parker Chomerics for any other special requirements and an updated profile list.



Table 1 - Rectangle Profiles (continued)

Profile	Height inches (mm)	Width inches (mm)
3110	0.098 (2.49)	0.197 (5.00)
3335	0.098 (2.49)	0.512 (13.00)
3249	0.098 (2.49)	0.826 (20.98)
3463	0.100 (2.54)	0.375 (9.53)
3102	0.118 (3.00)	0.118 (3.00)
3106	0.118 (3.00)	0.157 (3.99)
3153	0.118 (3.00)	0.394 (10.01)
3424	0.120 (3.05)	1.610 (40.89)
3148	0.125 (3.18)	0.375 (9.53)
3173	0.125 (3.18)	0.500 (12.70)
3421	0.125 (3.18)	1.000 (25.40)
3439	0.125 (3.18)	1.850 (46.99)
3472	0.125 (3.18)	2.000 (50.80)
3108	0.126 (3.20)	0.189 (4.80)
3128	0.126 (3.20)	0.252 (6.40)
3195	0.126 (3.20)	0.626 (15.90)
3557	0.134 (3.40)	0.689 (17.50)
3145	0.137 (3.48)	0.354 (8.99)
3298	0.138 (3.51)	0.197 (5.00)
3469	0.138 (3.51)	0.826 (20.98)
3336	0.138 (3.51)	0.512 (13.00)
3107	0.157 (3.99)	0.157 (3.99)
3129	0.157 (3.99)	0.250 (6.35)
3138	0.157 (3.99)	0.315 (8.00)
3318	0.157 (3.99)	0.354 (8.99)
3154	0.157 (3.99)	0.394 (10.01)
3423	0.160 (4.06)	0.577 (14.66)
3113	0.197 (5.00)	0.197 (5.00)
3139	0.197 (5.00)	0.315 (8.00)
3156	0.197 (5.00)	0.394 (10.01)
3190	0.197 (5.00)	0.591 (15.01)
3126	0.236 (5.99)	0.236 (5.99)
3149	0.250 (6.35)	0.375 (9.53)
3174	0.250 (6.35)	0.500 (12.70)
3270	0.251 (6.38)	0.251 (6.38)
3338	0.255 (6.48)	0.512 (13.00)

Table 1 - Rectangle Profiles (continued)

Profile	Height inches (mm)	Width inches (mm)
3270	0.251 (6.38)	0.251 (6.38)
3338	0.255 (6.48)	0.512 (13.00)
3572	0.255 (6.48)	1.000 (25.40)
3300	0.276 (7.01)	0.276 (7.01)
3323	0.276 (7.01)	0.394 (10.01)
3339	0.276 (7.01)	0.512 (13.00)
3159	0.315 (8.00)	0.394 (10.01)
3299	0.370 (9.40)	0.250 (6.35)
3150	0.375 (9.53)	0.375 (9.53)
3175	0.375 (9.53)	0.500 (12.70)
3313	0.394 (10.01)	0.315 (8.00)
3161	0.394 (10.01)	0.394 (10.01)
3358	0.394 (10.01)	0.787 (19.99)
3342	0.413 (10.49)	0.512 (13.00)
3314	0.472 (11.99)	0.315 (8.00)
3346	0.472 (11.99)	0.590 (14.99)
3176	0.500 (12.70)	0.500 (12.70)
9118	0.500 (12.70)	1.181 (30.00)
3162	0.512 (13.00)	0.394 (10.01)
3529	0.590 (14.99)	0.394 (10.01)
3532	0.669 (16.99)	0.500 (12.70)
3438	0.740 (18.80)	0.510 (12.95)
4063	0.748 (19.00)	0.629 (15.98)
3461	0.750 (19.05)	0.250 (6.35)
3527	0.787 (19.99)	0.750 (19.05)
3360	0.787 (19.99)	0.787 (19.99)
3239	0.826 (20.98)	0.314 (7.98)
3235	0.866 (22.00)	0.375 (9.53)
3223	0.866 (22.00)	0.787 (19.99)
3103	0.905 (22.99)	0.500 (12.70)
9009	1.000 (25.40)	0.750 (19.05)
3228	1.023 (25.98)	0.393 (9.98)
3544	1.140 (28.96)	1.180 (29.97)
3486	1.375 (34.93)	0.750 (19.05)
3142	1.575 (40.01)	0.750 (19.05)

SOFT-SHIELD® 3500

Available Profiles

Contact Parker Chomerics for any other special requirements and an updated profile list.

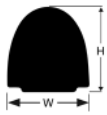


Table 2 - D-Shape Profiles

Profile	Height inches (mm)	Width inches (mm)
3607	0.060 (1.52)	0.150 (3.81)
3664	0.070 (1.78)	0.180 (4.57)
3674	0.075 (1.91)	0.150 (3.81)
3610	0.079 (2.01)	0.197 (5.00)
3628	0.079 (2.01)	0.394 (10.01)
3601	0.090 (2.29)	0.091 (2.31)
3648	0.090 (2.29)	0.150 (3.81)
3671	0.100 (2.54)	0.250 (6.35)
3669	0.110 (2.79)	0.225 (5.72)
3608	0.118 (3.00)	0.150 (3.81)
3622	0.118 (3.00)	0.354 (8.99)
3629	0.118 (3.00)	0.394 (10.01)
3651	0.120 (3.05)	0.250 (6.35)
3624	0.125 (3.18)	0.375 (9.53)
3682	0.130 (3.30)	0.188 (4.78)
3616	0.134 (3.40)	0.256 (6.50)
3684	0.138 (3.51)	0.394 (10.01)
3650	0.142 (3.61)	0.252 (6.40)
3668	0.150 (3.81)	0.354 (8.99)
3685	0.157 (3.99)	0.500 (12.70)
9023	0.157 (3.99)	0.150 (3.81)
3649	0.157 (3.99)	0.236 (5.99)
3666	0.157 (3.99)	0.150 (3.81)
3631	0.177 (4.50)	0.393 (9.98)
3620	0.189 (4.80)	0.299 (7.59)
3611	0.196 (4.98)	0.196 (4.98)
3617	0.197 (5.00)	0.256 (6.50)
3626	0.250 (6.35)	0.375 (9.53)
3662	0.250 (6.35)	0.250 (6.35)
3643	0.375 (9.53)	0.500 (12.70)
3694	0.500 (12.70)	0.500 (12.70)

Table 3 - C-Fold Profiles

Profile	Height inches (mm)	Width inches (mm)
3848	0.236 (5.99)	0.236 (5.99)
3803	0.315 (8.00)	0.315 (8.00)
3843	0.315 (8.00)	0.315 (8.00)
3806	0.385 (9.78)	0.421 (10.69)
3836	0.395 (10.03)	0.430 (10.92)
3834	0.400 (10.16)	0.430 (10.92)
3830	0.465 (11.81)	0.421 (10.69)
3901	0.465 (11.81)	0.421 (10.69)
3822	0.465 (11.81)	0.421 (10.69)
3807	0.675 (17.15)	0.580 (14.73)



Table 4 - P-Shape Profiles

Profile	Height inches (mm)	Width inches (mm)
3816	0.130 (3.30)	0.520 (13.21)
3898	0.145 (3.68)	0.520 (13.21)
3895	0.165 (4.19)	0.520 (13.21)
3877	0.200 (5.08)	0.520 (13.21)



Table 5 - Stealth Profiles

Profile	Height inches (mm)	Width inches (mm)
3902	0.070 (1.78)	0.564 (14.33)
3856	0.080 (2.03)	0.300 (7.62)
3844	0.080 (2.03)	0.500 (12.70)
3845	0.080 (2.03)	0.675 (17.15)
3840	0.100 (2.54)	0.300 (7.62)
3823	0.100 (2.54)	0.394 (10.01)
3922	0.110 (2.79)	0.620 (15.75)
3828	0.120 (3.05)	0.320 (8.13)
3890	0.120 (3.05)	0.400 (10.16)
3926	0.122 (3.10)	0.255 (6.48)
3850	0.134 (3.40)	0.625 (15.88)
3839	0.140 (3.56)	0.500 (12.70)
3891	0.157 (3.99)	0.500 (12.70)
3842	0.197 (5.00)	0.675 (17.15)
3894	0.215 (5.46)	0.500 (12.70)
3995	0.285 (7.24)	0.650 (16.51)
3913	0.350 (8.89)	0.629 (15.98)

SOFT-SHIELD® 3500

Available Profiles

Contact Parker Chomerics for any other special requirements and an updated profile list.



Table 6 - Knife-Edge Profiles

Profile	Height inches (mm)	Width inches (mm)
3941	0.105 (2.67)	0.320 (8.13)
3826	0.106 (2.69)	0.445 (11.30)
3837	0.106 (2.69)	0.445 (11.30)
3893	0.106 (2.69)	0.320 (8.13)
3811	0.252 (6.40)	0.751 (19.08)

Table 7 - Other Profiles

Profile	Height inches (mm)	Width inches (mm)	Profile Shape
3914	0.152 (3.86)	0.250 (6.35)	"T"
3849	0.394 (10.01)	0.590 (14.99)	"L"
9005	0.157 (3.99)	0.257 (6.53)	"L"
3860	0.181 (4.60)	0.244 (6.20)	"T"
3962	0.157 (3.99)	0.301 (7.65)	Clip
3985	0.110 (2.79)	0.283 (7.19)	Clip

SOFT-SHIELD® 3500 – Product Information

Table 8 - Typical Properties

SOFT-SHIELD® 3500 Typical Properties	Value	Test Method
Shielding Effectiveness, 20 MHz to 10 GHz	> 100 dB	CHO-TM-TP08
35% Compression Deflection, lb/in (N/mm), [0.125 x 0.375 in. gasket]	< 1 (<0.175)	ASTM C165
Compression Set	<15%	ASTM D3574
Operating Temperature	-40° to 70°C (-40° to 158°F)	--
Non-Conductive Acrylic Adhesive Peel Strength, inch (N/mm) [Min. value]	4 (0.7)	ASTM D1000
Adhesive Peel Strength	45 oz/in	PSTC 1 Mod./180°
Recommended % Deflection Range	20 - 60%	--
Flammability	V-0	UL 94
Recommended Storage Conditions @ 50% Relative Humidity	70°F ± 20 (21°C ± 10)	--
Shelf Life, months from date of shipment	24*	--

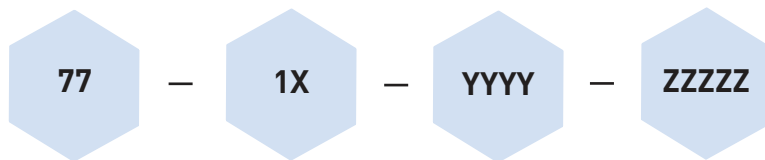
Table 9 - Tolerances

Dimensional Tolerances	
Minimum Wall Widths inches (mm) 0.060 (1.52)	
Cut Length inches (cm)	inches (mm)
Up to 5.00 (up to 12.7)	±0.030 (0.76)
5.01 to 10.00 (12.7 to 25.4)	±0.060 (1.52)
10.01 to 15.00 (25.4 to 38.1)	±0.070 (1.78)
15.01 to 20.00 (38.1 to 50.8)	±0.080 (2.03)
20.01 to 30.00 (50.8 to 76.2)	±0.100 (2.54)
30.01 to 48.00 (76.2 to 121.92)	±0.200 (5.08)
48.01 to 95.00 (121.92 to 241.3)	±0.250 (6.35)
Over 95.00 (over 241.3)	±0.500 (12.7)
Die-Cut inches (mm)	inches (mm)
Up to 10.00 (up to 254)	±0.020 (0.51)
10.01 to 20.00 (254.3 to 508)	±0.030 (0.76)
20.01 to 30.00 (508.3 to 762)	±0.040 (1.02)
Over 30.00 (over 762)	±0.060 (1.52)

* Possible extension of additional twelve (12) months. See Parker Chomerics Shelf Life Re-certification for Laminated Solutions document for procedure.

Ordering Information

Table 10 - Part Numbering



SOFT-SHIELD®
3500 Family

Standard Options

- 1 = Nickel-Plated Copper Woven Taffeta
- 2 = Nickel-Plated Copper Woven Taffeta - PSA with Extended Liner*
- 3 = Nickel-Plated Copper Woven Taffeta - PSA

Non-standard Options

- L = Nickel-Plated Copper Woven Taffeta (Halogen Free)
- M = Nickel-Plated Copper Woven Taffeta (Halogen Free) - PSA
- N = Nickel-Plated Copper Woven Taffeta (Halogen Free) - PSA with Extended Liner*
- P = Nickel-Plated Copper Polyester Woven RipStop (Halogen Free)
- Q = Nickel-Plated Copper Polyester Woven RipStop (Halogen Free) - PSA
- R = Nickel-Plated Copper Polyester Woven RipStop (Halogen Free) - PSA with Extended Liner*
- H = Nickel-Plated Copper Polyester Woven RipStop
- J = Nickel-Plated Copper Polyester Woven RipStop - PSA with Extended Liner*
- K = Nickel-Plated Copper Polyester Woven RipStop - PSA

Profile Number

From Tables 1-7

Length

Standard length 96"

09600 = 96"

Custom lengths available by request.

* Extended Liner option offers easy-peel capability.

Example Part Number: 77-12-3108-09600 (Description: SOFT-SHIELD 3500 Nickel-Plated Copper Woven Taffeta - PSA with Extended Liner, Profile 3108 and 96 inches long)

www.parker.com/chomerics