

Non-Rectangular Fabric Over Foam EMI Shielding Gaskets for High Temperature Applications

SOFT-SHIELD® 3800 is an electrically conductive fabric over a silicone foam EMI shielding and electrical grounding gasket meant for low-closure force and high temperature electronics applications. SOFT-SHIELD 3800 profiles come in complex and unique non-rectangular shapes. SOFT-SHIELD 3800 is comprised of an electrically conductive nickel-plated copper polyester taffeta weave fabric wrapped around open cell silicone foam. This wrap around technology grounds the gasket from point to point, creating an electrically conductive solution to eliminate EMI gaps. With an operating temperature range up to 125°C, SOFT-SHIELD 3700 and 3800 are ideal for applications exposed to high temperatures where a UL 94 V-0 requirement exists. SOFT-SHIELD products typically require less than 1 lb./inch (0.175 lb/mm) of closure force for effective electrical contact. This product takes less than 10% compression set, resulting in reliable and repeatable shielding performance over the life of a device. SOFTSHIELD 3800 is an excellent shielding and grounding alternative to traditional spring finger type products.

IDEAL APPLICATIONS:

- Server faceplates and inserts
- Consumer electronics
- Grounding applications
- Electronics enclosures
- Door seals
- EMI window and vent gaskets



PRODUCT FEATURES:

- Operating temperature range up to 125°C
- > 100 dB shielding effectiveness (20 MHz to 10 GHz)
- Non-Rectangular and complex configurations
- Economical shielding and grounding option
- Low closure force
- Low contact resistance
- Dozens of standard parts available
- Custom profiles available upon request
- Available in bulk or cut to length
- UL 94 V-0, RoHS, and REACH Compliant
- Low compression set
- Abrasion and shear resistant conductive wrap

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Table 1 - D-Shape Profiles

Profile	Height inches (mm) ± 0.020 (0.51)	Width inches (mm) ± 0.020 (0.51)
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)
3662	0.250 (6.35)	0.250 (6.35)
3626	0.250 (6.35)	0.375 (9.53)
3643	0.375 (9.53)	0.500 (12.70)
3694	0.500 (12.70)	0.500 (12.70)



Table 2 - C-Fold Profiles

Profile	Height inches (mm) ± 0.020 (0.51)	Width inches (mm) ± 0.020 (0.51)
3848	0.236 (5.99)	0.236 (5.99)
3803	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)
3807	0.675 (17.15)	0.580 (14.73)



Table 3 - P-Shape Profiles

Profile	Height inches (mm) ± 0.020 (0.51)	Width inches (mm) ± 0.020 (0.51)
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 4 - Stealth Profiles

Profile	Height inches (mm) ± 0.020 (0.51)	Width inches (mm) ± 0.020 (0.51)
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)

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Table 5 - Knife-Edge Profiles

Profile	Height inches (mm) ± 0.020 (0.51)	Width inches (mm) ± 0.020 (0.51)
3941	0.105 (2.67)	0.320 (8.13)
3826	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)

*Contact Applications Engineering for more information.

Table 6 - Other Profiles

Profile	Height inches (mm) ± 0.020 (0.51)	Width inches (mm) ± 0.020 (0.51)	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"

Table 7 - Typical Properties

SOFT-SHIELD® 3800 Typical Properties	Value	Test Method
Shielding Effectiveness 20MHz to 10 GHz	> 100 (dB)	CHO-TM-TP08
35% Compression Deflection lb/in (N/mm), [0.125 x 0.375 in. cross-section]	< 1 (<0.175)	ASTM C165
Compression Set	<10%	ASTM D3574
Operating Temperature	-40° to 125° C (-40° to 257° F)	-
*Conductive Acrylic Adhesive Peel Strength, 90° lb/inch (N/mm) [Min value]	2 (0.35)	ASTM D1000
Recommended % Deflection Range	20 - 50%	-
Flammability	V-0	UL 94
Recommended Storage Conditions @ 50% Relative Humidity	70° F ± 20 21° C ± 10	-
Shelf Life, months from date of shipment	12*	-

* Possible extension of additional six (6) months. See Parker Chomerics Shelf Life Re-certification for Laminated Solutions document for procedure.

Table 8 - Tolerances

Dimensional Tolerances	
Minimum Wall Width 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)

Figure 1

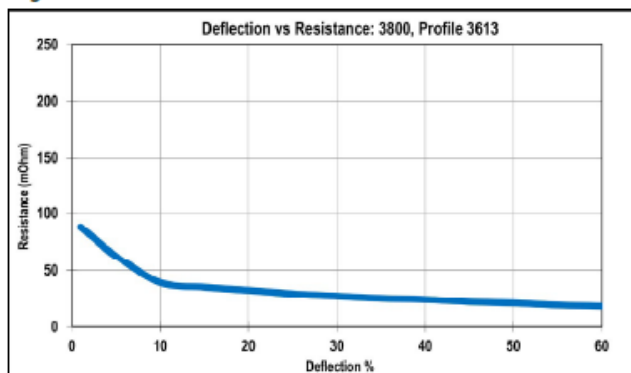


Figure 2

