

ABOUT MICRO-D BACKSHELLS

Micro-D EMI backshells connect cable shields to Micro-D connectors, providing strain relief and mechanical protection. These backshells are made out of aluminum alloy. Electroless nickel is the most widely used finish. These backshells are compatible with industry- standard metal shell M83513 type connectors. The following application notes explain how to select the right type of backshell.

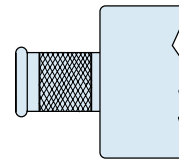
EMI Versus Non-EMI Backshells

Select EMI backshells if your cable has a braided copper shield. The cable shield is secured to the backshell with a **BAND-IT®** strap, supplied with the backshell or purchased separately.

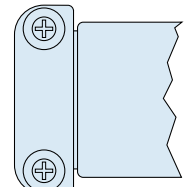
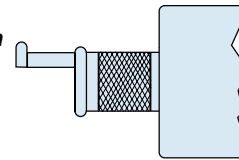
Select a strain relief backshell if your connector has individual wires or if your wire bundle does not have a metal shield.

EMI backshells do not normally require additional strain relief. Micro-D wires are typically potted, and the shield braid is a sufficient strain relief. An optional ty-wrap leg is available if necessary. Add "S" to the end of the part number.

**Band Platform
For EMI Shield**



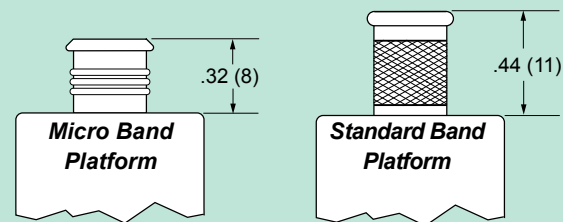
Qwik-Ty Option
Add "S" to Part
Number



**Strain Relief
Clamp**

Standard Band Versus Micro Band

Most Micro-D EMI backshells feature low profile band platforms designed for narrow (.125" width) micro band. Some have a taller band platform which also accepts standard bands (.250" width). Please refer to the "Backshell Selection Guide" on the preceding page to identify which backshells are compatible with both the standard band and the micro band.



One Piece Backshell Versus Split Backshell

Use one piece backshells if in stock availability is important. Split backshells allow installation after the other end of the cable has been terminated. Some split backshells fit over the connector, eliminating the highly magnetic clip. Split versions also can accommodate screw locks.

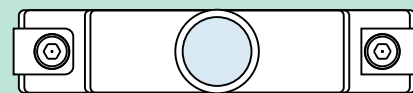
Jackscrews and Screwlocks

Jackscrews are fixed in position and must be turned in order to mate the connectors together. Screwlocks float and allow the connectors to be coupled before the screwlocks are engaged. Screwlocks allow faster mating, while jackscrews offer less risk of contact damage.

Elliptical Versus Circular Cable Entry

Choose elliptical backshells if the wire bundle diameter is too big to fit in a circular cable entry. Large Micro-D connectors (51 pins and up) usually exceed the limits of the round entries. Refer to the cable entry and wire bundle tables in this section to find out if an elliptical entry is necessary.

The actual size illustrations to the right show the difference between round and elliptical cable entries. The round entry circular mil area = $\pi(\frac{1}{2}D)^2 = .11 \text{ In.}^2$. The formula for the area of an ellipse is $\pi(\text{Length})(\text{Width}) \div 4 = .36 \text{ In.}^2$



Round Cable Entry

100 Pin .375 Inch (9.5 mm.) Diameter



Elliptical Cable Entry

100 Pin .360 By 1.29 Inch (9.1 X 32.8 mm.)

BAND-IT® SHIELD TERMINATION SYSTEM

Fast, Cost-Effective Shield Termination

Attach cable braid shields to EMI backshells with **BAND-IT®** stainless steel straps. The **BAND-IT®** system offers fast termination and the flexibility to handle different diameters with the same band.

The aerospace industry has adopted this system for every type of application where reliability and durability are essential.

IMPORTANT NOTE: ALWAYS DOUBLE-WRAP BANDS!

Contact Glenair or visit our website (www.glenair.com) to view our complete line of **BAND-IT®** products, including pneumatic tools for high production and calibration kits.

Micro Band Tool

Part Number **600-061**
Weight: 1.18 lbs.
Length: 6.75 Inches (172mm.)

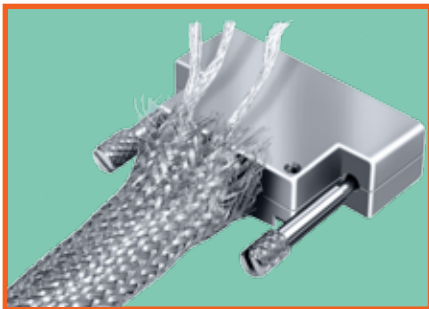


Standard Length Micro Band

8.125 Inches (206 mm.)
Part Number **600-057**
600-057-1 Pre-Coiled
Up to .88 Inches (22 mm.) Diameter

Extended Length Micro Band

14.25 Inches (362 mm.)
Part Number **600-083**
600-083-1 Pre-Coiled
Up to 1.88 Inches (47 mm) Diameter



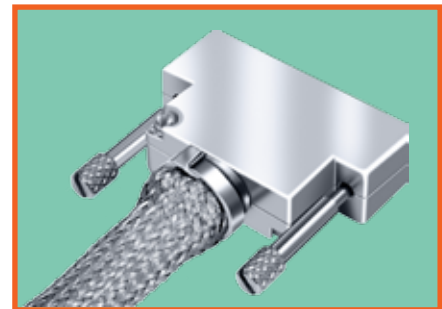
Step One Cable Prep

Lay individual shields over the band platform. Pull overall braid shield over the band platform so that all braid strands will be captured by the band.



Step Two Install Band

Wrap the band through the buckle twice. Insert the free end into the banding tool in the direction shown on the tool. Squeeze the short grey handle to insert the band. Slide the band onto the cable. Close the black handle repeatedly until the handle no longer opens. Close the long grey handle until the tool cuts the band. Remove the excess strap from the tool by closing the small grey handle.



Step Three Trim Braid

It's a snap! Just trim the excess braid and you're done.

Micro-D Backshells General Information and Reference Data



ROUND CABLE ENTRY DIAMETER AND WIRE BUNDLE SIZE

Micro-D backshells have a cable entry code in the part number. This code determines the inside diameter of the wire opening.

CABLE ENTRY CODES

Code	Inside Diameter
04	.125
05	.156
06	.188
07	.219
08	.250
09	.281
10	.312
11	.344
12	.375

Round Cable Entry Backshells May Not Be Large Enough to Accomodate Standard Micro-D Wire Bundles

Backshells with round cable entry might not have enough room for the connector wires. Refer to the table below to find out if the wire bundle exceeds the available backshell cable entry size. These are general guidelines. Twisted wires, tubing or other factors can increase the bundle diameter.

Elliptical backshells are recommended for large bundles.



Round Cable Entry



Elliptical Cable Entry
Area = $\pi(\text{Length})(\text{Width}) \div 4$

STANDARD MICRO-D WIRE BUNDLE DIAMETERS

No. of Wires	M22759/11 Wire Bundle Diameter						M22759/33 Wire Bundle Diameter					
	#24 AWG	Entry Code	#26 AWG	Entry Code	#28 AWG	Entry Code	#24 AWG	Entry Code	#26 AWG	Entry Code	#28 AWG	Entry Code
9	.155	06	.138	07	.121	05	.135	05	.117	05	.100	04
15	.200	07	.178	07	.156	06	.174	06	.151	06	.129	05
21	.237	08	.211	08	.184	07	.206	07	.179	07	.153	06
25	.259	09	.230	09	.201	07	.224	08	.196	07	.167	06
31	.288	10	.256	09	.224	08	.250	09	.218	08	.186	07
37	.315	11 ⁽¹⁾	.280	10 ⁽¹⁾	.245	08	.273	09	.238	08	.203	07
51	.370	— ⁽²⁾	.329	11 ⁽¹⁾	.287	10	.320	11 ⁽¹⁾	.279	09	.238	08
67	.424	— ⁽²⁾	.377	— ⁽²⁾	.329	11 ⁽¹⁾	.367	12 ⁽¹⁾	.320	11 ⁽¹⁾	.273	09
69	.430	— ⁽²⁾	.382	— ⁽²⁾	.334	11 ⁽¹⁾	.373	— ⁽²⁾	.325	11 ⁽¹⁾	.277	10
100	.518	— ⁽²⁾	.460	— ⁽²⁾	.403	— ⁽²⁾	.441	— ⁽²⁾	.384	— ⁽²⁾	.328	11 ⁽¹⁾

(1) Wire bundle diameter exceeds the largest cable entry for top and 45° entry. Side entry is OK.

(2) Wire bundle exceeds maximum cable entry. Use elliptical versions.

FINISH OPTIONS

Finish Code	Description	Specification	Corresponding Connector Finish Code
C	Black Anodize	MIL-A-8625 Type II Class 2	Code 4
E	Chem Film	MIL-C-5541 Class 3	Code 6
J	Cadmium Plate Over Electroless Nickel with Yellow Chromate Conversion Coating	SAE-AMS-QQ-P-416 Type II Class 3	Code 1
M	Electroless Nickel	SAE-AMS-26074 Class 3	Code 2
NF	Olive Drab Cadmium Plate Over Electroless Nickel (1000 Hour Corrosion Rated)	SAE-AMS-QQ-P-416	NF (Special order)
XM	Electroless Nickel (Composite Only)	SAE-AMS-26074 Class 3	Code 2
Z2	Gold Plated	ASTM B488	Code 5

MATERIALS

Shell, Saddle Clamps	Aluminum Alloy 6061 -T6 Per QQ-A-200, QQ-A-225 (Machined Components) Aluminum Alloy 6061-T6 Per QQ-A-591 (A380) (Die-Cast Components)
Clips, E-Rings	17-7PH Stainless Steel
Jackscrows, Washers, Jackposts	300 Series Stainless Steel, Passivated