

# BACKSHELL FAMILY

Amphenol Backshells are available in several different types, designed for optimum performance in the application or environment it will be used in. For example, in ground and naval applications, the robustness and environmental sealing may be more important, whereas weight may be the prime consideration for Space and Aerospace applications. The following overview explains the various families of Amphenol Backshells with its applications. Some families of backshells shown here can be used without any additional protection. Some other types of backshells shown are generally used with heat shrink boots or similar protection/strain relief mechanisms depending upon the specific requirements. Also, there are some clamps & nuts for the applications where varying degrees of strain reliefs and cable holding will suffice and weight savings is of higher importance.



## Non-Environmental Backshell

Effective cable holding mechanism with good strain relief when the environmental protection of the cable termination area is not a concern. Amphenol offers cost-effective solutions by eliminating extra sealing parts. Suitable for an inside-the-box/climate controlled room application where heavy cabling should be supported with adequate strain relief.



## Environmental Backshell

Not only provide the cable support and strain relief, but ensure the cable sealing and environment protection by means of high quality sealing grommet and grommet follower. The strain relief nut is tightened, squeezing the grommet onto the cable jacket during assembly. Provides 6sixfeet water sealing protection when used with perfectly jacketed cable, and suitable for harsh environment applications.



## Non-Environmental EMI/RFI Backshell

360-degree screen termination facility, in addition to other features of the Non-Environmental type. Available in straight, 90 degree and 45 degree varieties. Accommodates both individual and overall shielding.



## Environmental EMI/RFI Backshell

Ideal choice for heavy duty cabling solutions in harsh environment situations where electromagnet and radio frequency noises are to be isolated. Accommodates both individual and overall shielding.



## Shrink Boot Adapter

A good solution when the unshielded cables are terminated with heat shrink boots. It has a groove where the boot lip can be held which provides good grip apart from sufficient space inside for the cable looping. Using the heat shrink boot is one way of providing environmental protection and strain relief to cable termination. Using a suitable adapter is essential to ensure the repair ability.



## Crimp Ring Adapter

Many cable terminations where heat shrink boots are used will require provision for terminating the screens, too. It is achieved in this type of backshell through a ring, which can be crimped to the backshell body holding the screens in between.

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## Band Lock Adapter

Another method of termination of screens. A high quality band will do the job in this backshell. Tempered bands are tightened over the shields, which are pulled over the banding area using a special assembly tool. Suitable over cover by heat shrink boot or some other method as chosen by the designer could be used. Both crimp ring and banded terminations give a low DC resistance.



## Strain Relief Clamps

Another cable holding option when environmental protection is not a concern and weight savings is a major consideration. Secures and "tidys-up" the cable and also provides good strain relief at the termination area.



## Quick Clamp

A light weight clamp used for securing and "tidying up" cable into a desired direction. Used in interior wiring of aircraft.



## Pre-Shield Adapter

Supplied with some length of braid attached. This braid overlaps with the cable braid. Effective shielding takes place due to the 360° contact of the braid. Designed to accept heat shrink boot. Ease of assembly saves time for cable termination.



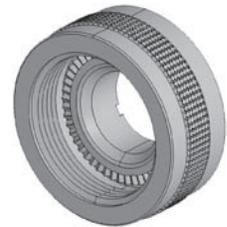
## Lamp Thread Adapter

An adapter with threads similar to that in the lamp base for shield termination. An effective, easy and quick method of shield termination and field maintenance. Termination area can accept a nut as well as a clamp. The nut option enables the use of heat shrink boot and the clamp option will facilitate the strain relief clamping without heat shrink boot after the shield/cable termination.



## SQ Adapter

Another cost-effective way to terminate the braid to the adapter. The braid is pulled over the conical shape to the rear end of the adapter and then tied. The end nut is tightened to ensure adequate grip for the shielding. A heat shrink boot can be used with this adapter as well.



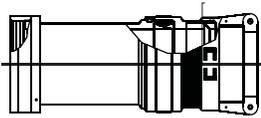
## Grommet Nut

Provides a good grommet-holding force for the crimp connectors when expensive and heavy backshells are not used. Such holding force is essential to hold the contacts and grommet in place when terminated with wire bundles.

# ANGLES/PROFILES & COUPLING STYLES

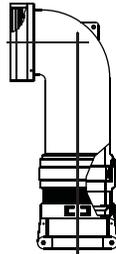
## Angles/Profiles

Amphenol Backshells are available in three different angular profiles: straight, 90 degree and 45 degree. These profiles will meet most of the cable routing required in the interconnect market. We can also make additional profiles if required. Please go to the web link <http://www.backshellworld.com/customdesign.asp> to contact Amphenol about your specific backshell needs.



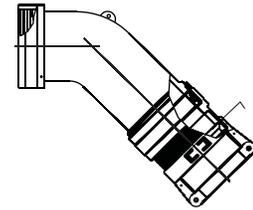
### Straight Backshells

Available in different lengths and cable entry diameters for most applications. Different cable and braid terminating systems are also available as shown in the respective product sections.



### 90° Angled Backshells

Many applications require the cable to be bent and routed rather than straight routed. Amphenol offers a 90° angled style in all the Backshell families for space saving and convenience.



### 45° Angled Backshells

Amphenol offers further design flexibility with a backshell that allows the cable to be routed 45° to the axis of the assembly.

## Coupling Styles

Various coupling styles are available for the coupling between the backshell and the connector. Popular styles are shown in the respective backshell sections, and custom profiles can be designed. Please go to the web link <http://www.backshellworld.com/customdesign.asp> to contact Amphenol about your specific backshell needs.



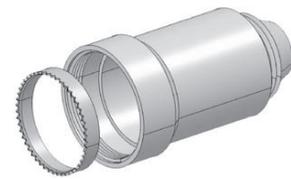
### Spin Coupling

A captivated coupling nut within the backshell which provides the following advantages: Free rotation of the coupling nut making the assembly of the backshell to the connector easy without turning the entire backshell body. Lock wire holes are provided on the coupling nut to prevent accidental decoupling.



### Self-Lock Coupling

Same as the Spin Coupling style with the additional feature of "self-locking." Internally locks the movement of the coupling nut so that accidental decoupling is prevented. Used in higher vibration conditions.



### Direct Coupling

The coupling nut is eliminated in this design, and the backshell directly threads to the connector. For applications where simple direct connectivity is sufficient.