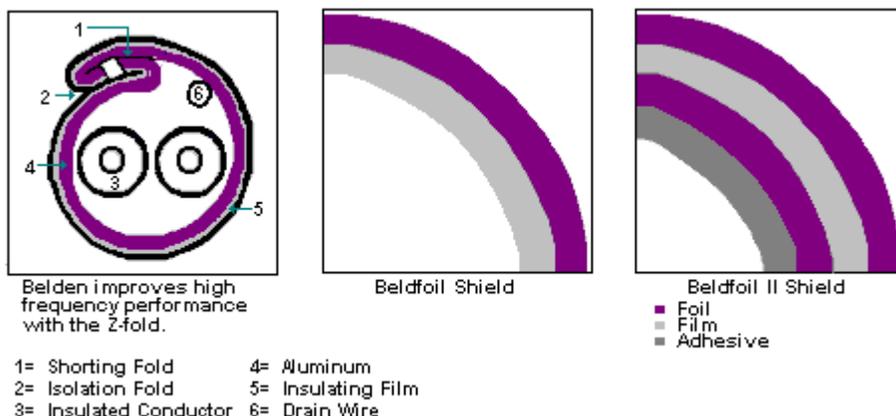


Reliable Performance in Broadcasting Environments

Belden® Cable - Reliable Performance in Broadcasting Environments



Innovating Shielding Solutions

From outdoor news gathering to studios and control rooms to post production, the broadcast industry faces critical challenges from EMI/RF interference. Belden® shielded cable ensures signal integrity and provides confidence in audio and video transmissions, preventing downtime and maintaining sound and picture clarity. Because Belden shielded cable has been engineered for a variety of applications over many years, our experience in this highly specialized field of electronics provides unparalleled value for broadcast transmissions. Choose from the widest variety of innovative shielded cable available through your local Belden Authorized Distributor. For special interference problems, call on Belden to design and manufacture a custom-shielded cable solution.

Braid Shields

Braid shields provide superior structural integrity while maintaining good flexibility and flex life. These shields are ideal for minimizing low frequency interference and have lower DC resistance than foil. Braid shields are effective at audio, as well as RF ranges. Generally, the higher the braid coverage, the more effective the shield.

Foil Shields

Foil shields consist of aluminum foil laminated to a polyester or polypropylene film. The film gives the shield mechanical strength and bonus insulation. Foil shields provide 100% cable coverage. Because of their small size, foil shields are commonly used to shield individual pairs of multi-pair cables to reduce crosstalk. They have less weight, bulk, and cost less than braid shields and are generally more effective in RF ranges. Foil shields are more flexible than braid but have a shorter flex life. Drain wires are used with foil shields to make termination easier and to ground electrostatic discharges.

Belden uses a shorting fold technique to maintain metal-to-metal contact for improved high frequency performance. Without the shorting fold, a slot is created through which signals can leak.

Belden improves on the traditional shorting fold by employing the Z-Fold® designed for use in multi-pair applications to reduce crosstalk. The Z-Fold combines an isolation fold *and* a shorting fold. The shorting fold provides metal-to-metal contact while the isolation fold keeps shields from shorting to one another in multi-pair, individually shielded cables. The Z-Fold design increases the foil shield's range of effectiveness to higher frequencies.

Foil Tape Designs

As an innovator in shielding technology, Belden has developed several shields of exclusive design. Belden was the first to develop the aluminum/polyester foil used as a cable shield and was awarded a patent for the Beldfoil® shield. The Beldfoil shield was the first to offer 100% cable coverage, improving protection against radiated

emission and ingress at audio and radio frequencies.

Foil shields may be bonded to a conductor's insulation with a layer of adhesive. The advantages of bonding include faster, easier, and more reliable termination. In addition, bonding prevents moisture from wicking under the shield. Should the cable jacket rupture, the bonded shield helps protect the cable's insulation against contamination. Belden combines these assets in the Duobond® II shield.

Combination Shields

Combination shields consist of more than one layer of shielding. They provide maximum shield efficiency across the frequency spectrum. The combination foil/braid shield combines the advantages of 100% foil coverage, plus the strength and low DC resistance of a braid. Other combination shields available include various foil/braid/foil designs, braid/braid, or foil/spiral.

Special Noise/Interference Problems in Broadcasting

Triboelectric noise is generated by mechanical motion of a cable, causing movement in the cable's shield. Belden detects and measures triboelectric noise through the use of our own Low Noise Test equipment. The test procedure and equipment have been developed from a combination of three low noise standards--NBS, ISA-S, and MIL-C-17.

Mechanically induced noise is a critical and frequent concern in the use of guitar cords and microphone cables. Generally, test readings should be below 150 millivolts for low impedance microphone cables and below 15 millivolts for guitar cords. The properties of special conductive tapes and insulations are employed at Belden to prevent mechanically induced noise. Consult with Belden Technical Support Department for the proper cable construction needed to combat the noise problems associated with your application.
