

Sound/Security Cable

What Really Matters in Selecting the RIGHT Coax Cable

The application determines what's important in selecting the right cable; however there are some overall conditions to watch out for in all coax cables to make sure your installers do not incur costly call-backs.

Overall

DIELECTRIC: Too loosely extruded on the center conductor... the cable won't hold a signal. Too tightly extruded...the residue left on the center conductor when the ends are stripped can result in a poor connectorization and cause signal problems.

JACKET: PVC...most commonly used compound because it provides sufficient protection, flexibility and offers a temperature rating of -40°C to 80°C. Some companies "cheapen" the product by manufacturing the bare minimum jacket thickness, using compounds that are very hard, or extruding the jacket very tightly to the dielectric. Too small diameter...connectors won't stay on the cable, too hard jacket...installer can't get the connector on the end, too tight jacket...installer has difficulty stripping the end

CATV, HDTV & MATV Applications

(Cable, High Definition, Master Antenna, Digital & Satellite)

CENTER CONDUCTOR: Most applications use copper clad steel (CCS). Yet, the latest technology in satellite dishes recommend a bare copper center conductor to carry power to the dish to operate the LNBs. You may recommend that installers use BC center conductors in case the owner eventually wants to add a satellite dish, he won't have to run new coax cable.

SHIELDING: Foil and Braid shielding are important to insure coverage for both the high and low frequencies (see chart). Local codes often dictate the amount of shielding required. Some markets only allow RG6 Quad 60/40%, while in others, RG6 60% or 40% are acceptable. The use of a **Quad shield will cover all applications** and eliminate the risk of interference for the user. The RG6 40% is the lower cost product. The risk of using RG6 40% is problems with signal interference once the cable is installed. Installers do not want to waste time on call-backs because the user can't get the higher channels or they're having radio interference. **Opt for Quad shield.**... most cable TV systems today use up to 2.2 GHz of bandwidth. With digital TV, you need 1 gig; but many installers use 2.2 GHz to future-proof. Most CCI coax for CATV & Satellite TV is swept to 3.0 GHz.

CCTV Applications

(Security Cameras)

CENTER CONDUCTOR: Solid bare copper (BC) is used because it has the best signal strength at low frequencies and will reduce the chance of distortion and line loss. The size of the center conductor is typically specified by the manufacturer of the camera. For longer runs...recommend a RG6 or RG11. For shorter runs or space constraints... recommend a RG59 or mini-coax. For example: in a casino where there can be as many as 25 cameras in a 25sq-ft area, the mini-coax may connect the cameras to a center console and a RG6 may be used as a main run back to the central station.

SHIELDING: Most applications use a bare copper braid (BC) typically 95%. No need for foil shielding...because CCTV operates at low frequencies.

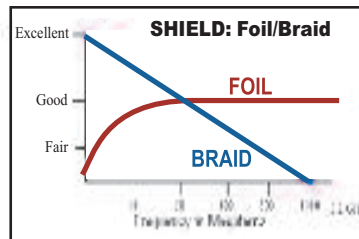
Identify the Application

- CATV (Community Antenna Television)
- CCTV (Closed Circuit Television)
- MATV (Master Antenna Television)
- HDTV (High Definition Television)
- Satellite
- Broadcast Video
- LAN (Local Area Network)

Frequency:

- High Frequency Application (such as: satellite or digital)
- Low Frequency Application (such as: security cameras)

Foil/Braid Shielding



In CATV and Satellite Applications:

Both braid and foil shielding are important to insure coverage for both high and low frequency applications.

More on Coax

Attenuation: Lower is better. Attenuation refers to the loss of signal strength in the cable from initial point of the signal to destination. The more attenuation you have, the less signal is present at the receiver. Attenuation is influenced by the dielectric quality more than the braid coverage.

"Swept to 2.2 gig": The results of the sweep-test are more important than just being "swept". Some companies readily print "swept to 2.2gig" on their cables, packaging or spec sheets. It's important to insure that the results of the test are sufficient to provide protection (against EMI and RFI) and ample signal strength for the application. For CATV, HDTV satellite and digital cable, it is especially important to use a quality cable to insure that the owner has ample signal strength in the higher channels of the spectrum. Also note that CCI tests our products to 3.0 GHz (see website for details).

Shielding: Determines the level of protection from interference that is allowed in the signal and that is leaked out of cable. Shielding provides protection from EMI & RFI.

EMI: Electromagnetic interference

(caused by electric motors, ballasts, & other high voltage currents)

RFI: Radio Frequency Interference

(such as: cell phones, radio towers or garage door openers)

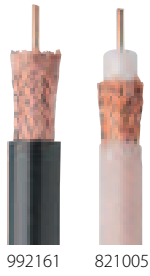
Jacket Compounds:

- PVC is most commonly used because it provides sufficient protection and flexibility. Temperature rating: -40°C to 80°C.
- PE (polyethylene) for direct burial. Temperature rating: -55°C to 85°C.

Center Conductors:

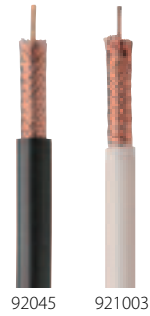
- CCS (copper clad steel) provides best durability and strength. Often used in CATV, HDTV and MATV applications.
- BC (bare copper) offers the best signal strength at low frequencies & is used in most CCTV (low-frequency) applications.





RG11 Type CCTV Coax Cables

Part Number	Description	AWG	UL Type	Weight (Nom.)	Outside Dia. (Nom.)	Packaging	Jacket Color
992161	RG11 14BC 95%BC	14BC	CM CL3	83 lbs	0.405"	1,000' Reel (06)	Black (08)
821005	RG11 14BC 95%BC Plenum Rated	14BC	CMP CL3P	78 lbs	0.344"	1,000' Reel (06)	White (01)
191037	RG11 14BC 95%BC For direct burial use (flooded)	14BC	n/a	87 lbs	0.405"	1,000' Reel (06)	Black (08)



RG6 Type CCTV Coax Cables

Part Number	Description	AWG	UL Type	Weight (Nom.)	Outside Dia. (Nom.)	Packaging	Jacket Color
92045	RG6 18BC 95%BC	18BC	CM CL3	41 lbs	0.270"	1,000' Reel (06) 1,000" Box (46)	Black (08)
921003	RG6 18BC 95%BC Plenum Rated	18BC	CMP CL3P	37 lbs	0.228"	1,000' Reel (06) 1,000" Box (46)	White (01)
92061	RG6 18BC 95%BC For direct burial use8	18BC	n/a	35 lbs	0.270"	1,000' Reel (06)	Black (08)
192061	RG6 18BC 95%BC For direct burial use (flooded)	18BC	n/a	38 lbs	0.270"	1,000' Reel (06)	Black (08)



RG59 Type CCTV Coax Cables

Part Number	Description	AWG	UL Type	Weight (Nom.)	Outside Dia. (Nom.)	Packaging	Jacket Color
92074	RG59 20BC 95%BC	20BC	CM CL3	33 lbs	0.236"	1,000' Reel (06) 1,000' Box (46)	White (01) Black (08)
99969	RG59 20BC 95%BC Plenum Rated	20BC	CMP CL3P	29 lbs	0.198"	1,000' Reel (06) 1,000' Box (46)	White (01)
192115	RG59 20BC 95%BC For direct burial use (flooded)	20BC	n/a	34 lbs	0.269"	1,000' Reel (06)	Black (08)



Micro CCTV Coax Cables

Part Number	Description	AWG	UL Type	Weight (Nom.)	Outside Dia. (Nom.)	Packaging	Jacket Color
993211	Micro 25BC 95%BC	25BC	CM	16 lbs	0.150"	1,000' Reel (06)	White (01) Black (08)

CCTV

Coleman Cable's PowerWatch™ cable is the latest in CCTV cable technology. You can run, for example, power, video and control signals all over a single unshielded twisted pair (UTP) cable. These signals can be sent over longer distances than with ordinary CCTV cables. PowerWatch™ is lighter, takes up less room and lowers life-time systems costs. Coleman Cable offers the most comprehensive cable packages available today.

