



CABLE SOLUTIONS Coaxial Cable

CATV-Cable TV / HDTV-High Definition TV / MATV-Master Antenna / Satellite-Digital & Broadband Video

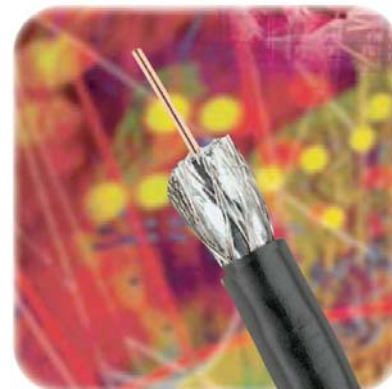
Part#	Description	Rating	Application Solution
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Bare Copper (BC) center conductor for CATV, HDTV & MATV applications

920414	RG6 18BC QUAD 60/40% AL Braid	CM/CL2	CATV - Best shielding
92049	RG6 18BC 60% AL Braid	CM/CL2	CATV - Good shielding

Copper Clad Steel (CCS) center conductor for best strength & durability

92041	RG6 18CCS QUAD 60/40% AL Braid	CM/CL3	CATV - Best RG6 for high & low frequency
92042	RG6 18CCS QUAD	CL2	CATV - Economical quad-nominal braid
92003	RG6 18CCS 60% AL Braid	CM/CL2	CATV - Good shielding
92008	RG6 18CCS	CL2	CATV - Economical RG6-nominal braid
920036	RG6 18CCS 60% AL Braid	CMR	CATV - Riser rated
992479	RG6 18CCS 60% AL Braid		CATV - Direct burial
92001	RG6 18CCS 40% AL Braid	CM/CL2	CATV - Most economical-minimal shielding



CCTV - Closed Circuit TV

Part#	Description	Rating	Application Solution
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92074	RG59 20BC 95%BC	CM/CL2	CCTV - Most common
99969	RG59 20BC 95%BC	CMP/CL3P	CCTV - Plenum rated
192115	RG59 20BC 95%BC		CCTV - Direct burial
92045	RG6 18BC 95%BC	CL2	CCTV - Longer runs
192061	RG6 18BC 95%BC		CCTV - Direct burial for longer runs



Mini RG59 Precision Video Coax

Part#	Description	Rating	Application Solution
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99401	(1) Mini Coax 23BC Foil+ 95%TC	CM/CL3	CATV & CCTV
99403	(3) Mini Coax 23BC Foil+ 95%TC	CM	CATV & CCTV
99405	(5) Mini Coax 23BC Foil+ 95%TC	CM	CATV & CCTV

CCTV - Siamese Combo Coax Cables

Part#	Description	Rating	Application Solution
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993253	RG59 20BC 95%BC + 18/2 Str BC	CM/CL2	CCTV (video & power)
993256	RG59 20BC 95%BC + 18/2 Str BC	CMP/CL2P	CCTV (video & power) Plenum Rated
993267	RG6 18BC 95%BC + 18/2 Str BC	CM	CCTV (video & power) for longer runs
993265	RG6 18BC 95%BC + 18/2 Str BC	CMP/CL2P	CCTV (video & power) Plenum Rated

* Other combo cables also available... see the CCI Home Structured Cable Solutions for more information



Power/ Watch™ Combination CCTV over UTP Cables

Part#	Description	Rating	Application Solution
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97194	(1) 24/2 pair solid BC (Cat 5E twist) (1) 16/2 stranded BC (19/0.0117) power cables	CL2R	CCTV-Riser Rated
97195	(1) 24/2 pair solid BC (Cat 5E twist) (1) 16/2 stranded BC (19/0.0117) power cables	CL2P	CCTV-Plenum Rated



CABLE SOLUTIONS Coaxial 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 "cheaper" 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 brand-width. With digital TV, you need 1gig; 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.

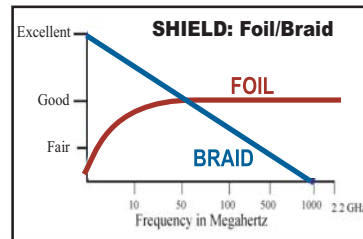
Identify the Application

- 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 3.0 gig": The results of the sweep-test are more important than just being "swept". Some companies readily print "swept to 3.0 gig" 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.

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 & used in most CCTV applications.