

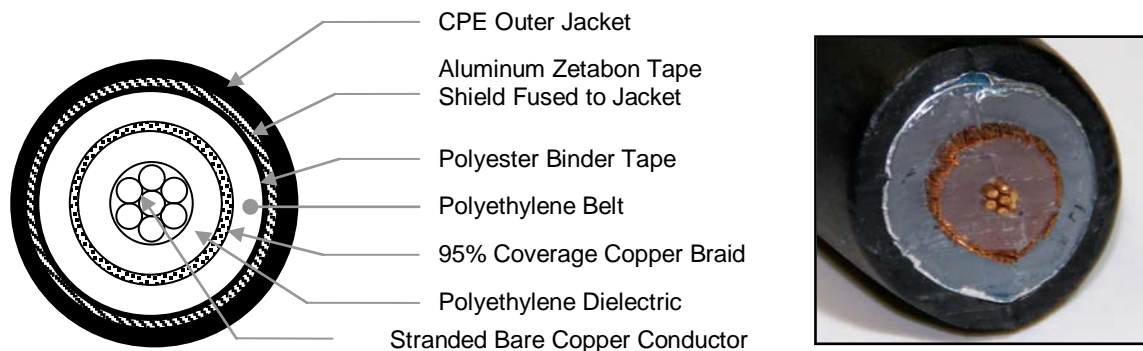


The Electrical Cable Specialists

## Shielded Coaxial Cable for Line Tuner Connection

This specialized, shielded coaxial cable is used to transmit power line carrier signals to line tuners. It is similar to type RG-213 coax, but has a thicker insulation wall (between the inner braid and the coaxial shield) and an additional overall shield designed to withstand the lighting-induced shifts in ground potential shifts encountered in large, high-voltage substations. This additional shielding minimizes the effects on the power line carrier signals caused by switching transients, electrostatic influence, and faults on the power system. The cable has the insulation wall thickness of a 5kV cable, several layers of protection against water absorption and is designed for direct burial. It has provided reliable service at numerous substations for over ten years without reported failure.

Use of this cable is referenced in the last paragraph of Section 7.4.3 of IEEE standard 643 (2004). See also IEEE Transactions of Industry Applications Vol. 30 No. 2, March 1994.



**Description:** 1/C #13 AWG stranded bare copper, polyethylene insulated, bare copper braid shield, polyethylene belt, polyester binder, aluminum zetabon shield bonded to a flame retardant thermoplastic chlorinated polyethylene (CPE) jacket

### A. Construction:

- 1.0 Conductor: #13 AWG (7/.0296) Bare copper, OD: .082" Nom.
- 2.0 Dielectric: 0.098" Polyethylene; OD: .285" +/- .010"
- 3.0 Braid Shield: #33 AWG Bare Copper Braid; 95% Nom. Coverage
- 4.0 Belt: 0.100" Polyethylene, OD: .515" Nom.
- 5.0 Binder: Polyester Tape; 50% Over Lap
- 6.0 Shield: .012" Aluminum Zetabon Tape (.002" x .008" x .002")  
Applied Longitudinally and Fused to the Outer Jacket
- 7.0 Jacket: 0.065" wall Black Flame Retardant Thermoplastic CPE
- 8.0 OD: 0.675" Nom.
- 9.0 Marking: White Surface Printed; ECS P/N 80C-SRF5KV-XX  
TYPE SRF-5000, Year, Feet

**B. Electrical characteristics:**

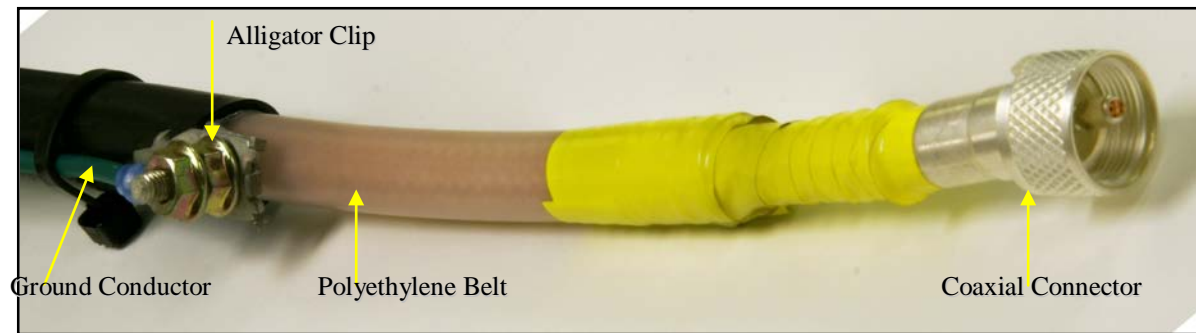
- 1.0 Capacitance: 30.8 PF/FT Nom. (32.0 PF/FT Max.)
- 2.0 Impedance: 50.0 +/- 2.0 Ohms
- 3.0 Velocity of propagation: 66.0% Nom.
- 4.0 Conductor DCR: 1.76 Ohms/Mft Max.
- 5.0 Braid Shield DCR: 1.20 Ohms/Mft Nom.
- 6.0 Dielectric Strength:
  - 6.1 5000 Volt AC @ 60Hz between center conductor and braid shield for 5 minutes without failure
  - 6.2 5000 Volt AC @ 60Hz between braids shield and outer shield for 5 minutes without failure
- 7.0 Attenuation: (Nom.)

Frequency (MHz)	dB/100 ft	Power (Watts)
50	1.2	1,200
100	2.3	800
400	4.8	320
1000	9.0	180
- 8.0 Power rating: 5,000 Volts AC @ 60Hz.
- 9.0 Temperature rating: -40C to +85C

**C. Standards:** Mil-C-17/163 – RG-213/U Type Coaxial cable  
Southern Company Specification SRF-5000

**D. Cable Weight:** 235.0 Lbs/Mft Nom.

**E. Installation:** Cable is installed using a standard coaxial termination and a parallel ground conductor (shown in green in the following photo) bonded to the outer aluminum Mylar shield using an alligator clip. The inner shield is grounded only at the transmitter/receiver equipment end. The outer shield is grounded at both ends.



**F. Availability:** Electrical Cable Specialists stocks this cable to save our customers long production lead times and large minimum production quantities.

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