



***Society of Cable
Telecommunications
Engineers***

**ENGINEERING COMMITTEE
Interface Practices Subcommittee**

AMERICAN NATIONAL STANDARD

ANSI/SCTE 74 2011

**Specification for Braided 75 Ω
Flexible RF Coaxial Drop Cable**

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INTRODUCTION

This specification is intended to apply to flexible braided general-purpose type 75 ohm RF coaxial drop cables and not specialty cables. There are numerous reasons to standardize drop cable, but the primary reason is for proper cable to “F” fitting interface.

When reference to other regulations or specifications are made, the user should adhere to the latest revision of the regulation or specification.

1.0 SCOPE

- 1.1 This specification defines the materials, electrical and mechanical properties of flexible braided 75 ohm coaxial drop cables.
- 1.2 These cables are used in the transmission of RF signals and power for voice, data and video applications.

2.0 CENTER CONDUCTOR

2.1 Material

- 2.1.1 The center conductor shall be copper clad steel. The outer layer of copper shall be metallurgically bonded and continually cover the steel core prior to processing. The composite applicable conductor shall meet the requirements of ASTM B869.
- 2.1.2 Solid copper center conductor or copper clad aluminum center conductor may also be specified if required by the user.
- 2.1.3 Factory joints in the finished product shall be allowed. The ultimate tensile strength in the joint area when tested per ASTM E8 shall be 90% of the original unspliced wire.

2.2 Dimensions

- 2.2.1 Center conductor dimensions shall meet the requirements of Table 2.0.
- 2.2.2 All center conductor tolerances shall be $\pm 1\%$.

Table 2.0 Center Conductor Diameters				
Series	59	6	7	11
inches	0.032	0.0403	0.051	0.064
(mm)	0.81	1.02	1.30	1.63

2.2.3 Mechanical

Minimum break strength (MBS) of the copper clad steel conductor shall be determined by multiplying the minimum cross sectional area by 115,000 psi. (See Table 2.1).

Table 2.1 Center Conductor Minimum Break Strength				
Series	59	6	7	11
lbf	91	144	229	363
(kgf)	41.3	65.3	103.9	164.7

2.3 Electrical

2.3.1 The center conductor electrical conductivity shall be 18 percent IACS minimum.

2.3.2 Maximum DC Resistance shall be measured per ANSI/SCTE 44 2010 and shall meet the requirements of Table 2.2.

Table 2.2 Maximum Resistance in Ohms @ 68°F (20°C)				
Series	59	6	7	11
1000 ft	49.2	31.1	20.1	12.3
(km)	161.4	102.0	65.9	40.4

3.0 DIELECTRIC

3.1 Material

3.1.1 Dielectric material extruded over the center conductor shall be an insulating grade virgin polyethylene and shall not contain reground, reprocessed or recycled materials. The insulation shall consist of gas injected foamed polyethylene with a closed cell structure. It shall be applied concentrically and bonded to the center conductor. The

dielectric shall also contain a stabilization package to meet the requirements of section 8.1.4 Thermal Oxidative Stability (TOS).

- 3.1.2 Unless otherwise specified, polyethylene materials for the dielectric shall meet all applicable requirements of ASTM D1248 and requirements of this document.

3.2 Mechanical

Nominal Dielectric Diameter – (See Table 3.0)

Table 3.0 Nominal Dielectric Diameter				
Series	59	6	7	11
inches	0.144	0.180	0.225	0.280
(mm)	3.66	4.57	5.72	7.11

4.0 SHIELD CONSTRUCTIONS (SINGLE TAPE & BRAID, TRISHIELD, QUADSHIELD)

4.1 SINGLE TAPE & BRAID

4.1.1 LAMINATED SHIELDING TAPE (LST)

- 4.1.1.1 The first outer conductor shall be a Laminated Shielding Tape (LST). The LST shall be constructed of two aluminum foils laminated to a strength member and a bonding resin on one side (See Table 4.0).

Table 4.0 LST Thickness		
	Dimensions	
	max	min
Inches	0.0032	0.00186
(microns)	81.28	47.24

- 4.1.1.2 The LST shall overlap the dielectric circumference by 18 percent minimum to 35 percent maximum on the finished product.

- 4.1.1.3 The LST shall be applied longitudinally to the dielectric and shall be free of creases or twists over the entire length.

4.1.2 CORE (DIELECTRIC + LST)

- 4.1.2.1 Average Core Diameter