

# **SCTE • ISBE** **S T A N D A R D S**

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**Interface Practices Subcommittee**

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**SCTE STANDARD**

**SCTE 51 2018**

**Method for Determining  
Drop Cable Braid Coverage**

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140 Philips Road

Exton, PA 19341

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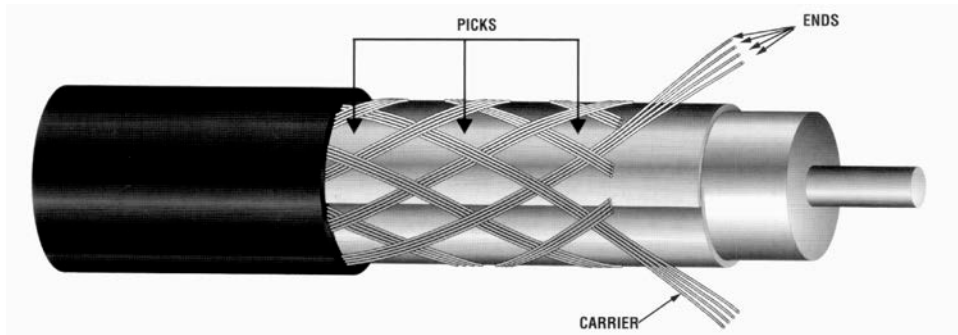
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## 1.0 SCOPE

This document is identical to SCTE 51 2012 except for informative components which may have been updated such as the title page, NOTICE text, headers and footers. No normative changes have been made to this document.

The purpose of this document is to provide instruction on the calculation of braid coverage for braided coaxial drop cables. Braid coverage is expressed as a percentage of optical coverage of the underlying core by the braid wires. It is a function of the diameter of the cable core, the diameter of the wire braid, the number of carriers (groups of wire ends), the number of individual wires in each carrier and the picks per inch (distance between each carrier crossing.)

## 2.0 DEFINITIONS



$\alpha$  = Braid angle (radians) - the angle formed by the carriers with the longitudinal axis of the cable (refer to the illustration)

D = Diameter under the braid (inches)

C = Number of carriers - the number of groups of individual braid wires (ends), usually 16 for most cable telecommunications braided cables (refer to the illustration)

d = Braid strand diameter (inches)

P = Picks per inch – the number of carrier crossing points per longitudinal inch (refer to the illustration)

N = Number of individual wires (ends) in each carrier

## 3.0 BRAID COVERAGE FORMULA

$$\text{Percent Braid Coverage} = (2 \cdot F - F^2) \times 100$$

where:

$$F = N \cdot P \cdot d / \sin \alpha$$

$$\alpha = \tan^{-1} [2 \cdot \pi \cdot (D + 2 \cdot d) \cdot (P/C)]$$

#### 4.0 BRAID COVERAGE EXAMPLE

Cable construction: 59 Series, tape and braid construction

Given:

$D = 0.150$  inches (from measurement or ANSI/SCTE 74 2011)

$C = 16$  (from measurement)

$d = 0.0063$  (from measurement or ANSI/SCTE 74 2011)

$P = 6.0$  (from measurement)

$N = 4$  (from measurement)

$$\alpha = \tan^{-1} [2 \cdot \pi \cdot (0.150 + 2 \cdot 0.0063) \cdot (6.0/16)] = \tan^{-1} (0.383) = 0.366$$

$$F = 4 \cdot 6.0 \cdot 0.0063 / \sin (0.366) = 0.151 / 0.357 = 0.423$$

$$\text{Percent Braid Coverage} = (2 \cdot 0.423 - 0.423^2) \cdot 100 = 66.7\%$$