



## Description:

Series 59, 20 AWG solid .032" bare copper-covered steel conductor, plenum, foam FEP insulation, Duofoil® (100% coverage) + TC braid shield (96% coverage), FEP jacket.

## Physical Characteristics (Overall)

### Conductor

#### AWG:

# Coax	AWG	Stranding	Conductor Material	Dia. (in.)
1	20	Solid	BCCS - Bare Copper Covered Steel	.032

### Insulation

#### Insulation Material:

Insulation Trade Name	Insulation Material	Dia. (in.)
Teflon®	FFEP - Foam Fluorinated Ethylene Propylene	.140

### Outer Shield

#### Outer Shield Material:

Layer #	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
1	Duofoil®	Tape	Aluminum Foil-Polyester Tape	100
2		Braid	TC - Tinned Copper	96

### Outer Jacket

#### Outer Jacket Material:

Outer Jacket Trade Name	Outer Jacket Material
Teflon®	FEP - Fluorinated Ethylene Propylene

### Overall Cabling

Overall Nominal Diameter: 0.203 in.

## Mechanical Characteristics (Overall)

Operating Temperature Range: -70°C To +200°C

Non-UL Temperature Rating: 200°C

Bulk Cable Weight: 35 lbs/1000 ft.

Max. Recommended Pulling Tension: 100 lbs.

Min. Bend Radius (Install)/Minor Axis: 2 in.

## Applicable Specifications and Agency Compliance (Overall)

### Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMP, CATVP

CEC/C(UL) Specification: CMP

EU CE Mark: No

EU Directive 2000/53/EC (ELV): Yes

EU Directive 2002/95/EC (RoHS): Yes

EU RoHS Compliance Date (mm/dd/yyyy): 04/01/2005

EU Directive 2002/96/EC (WEEE): Yes

EU Directive 2003/11/EC (BFR): Yes

CA Prop 65 (CJ for Wire & Cable): Yes

MII Order #39 (China RoHS): Yes

RG Type: 59/U

Series Type: Series 59

### Flame Test

C(UL) Flame Test: FT6

### Plenum/Non-Plenum

Plenum (Y/N): Yes

## Electrical Characteristics (Overall)

### Nom. Characteristic Impedance:

Impedance (Ohm)

75

### Nom. Inductance:

Inductance (μH/ft)

.09

### Nom. Capacitance Conductor to Shield:

Capacitance (pF/ft)

16.5

### Nominal Velocity of Propagation:

VP (%)

82

### Nominal Delay:

Delay (ns/ft)

1.24

### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

26

### Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

2.6

### Nom. Attenuation:

Freq. (MHz) Attenuation (dB/100 ft.)

10	.7
50	1.8
100	2.6
200	3.7
400	5.4
700	7.3
900	8.4
1000	8.9

### Max. Attenuation:

Freq. (MHz) Attenuation (dB/100 ft.)

10	.92
50	2.1
100	2.9
200	4.2
400	5.9
700	7.9
900	9.0
1000	9.4

### Max. Operating Voltage - UL:

Voltage
300 V RMS

**Other Electrical Characteristic 1:** Max Attenuation 10 MHz and above =  $0.2856 * \text{Freq}(\text{MHz})^{0.5065}$

**Minimum Structural Return Loss:**

Description	Freq. (MHz)	Start Freq. (MHz)	Stop Freq. (MHz)	Min. SRL (dB)
		10	400	20

**Sweep Test**

**Sweep Testing:** 10 - 400 MHz

**Misc. Information (Overall)**

**Other Description:** 10-14-05 BAG: Added max attenuation

**Notes (Overall)**

**Notes:** Teflon® is a registered trademark of E. I. duPont de Nemours and Co. used under license by Belden, Inc.

**Put Ups and Colors:**

Item #	Putup	Ship Weight	Color	Notes	Item Desc
89108 0101000	1,000 FT	34.000 LB	BLACK	C	#20 FFEP SH FEP
89108 010500	500 FT	17.000 LB	BLACK	C	#20 FFEP SH FEP

**Notes:**  
C = CRATE REEL PUT-UP.

# Broadband Coax


## CATV Cables

### Series 59


Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Core OD		Shielding Materials Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
			Ft.	m	Lbs.	kg		Inch	mm		Inch	mm			pF/Ft.	pF/m	MHz	dB/100 Ft.	dB/100m

**Series 59 • 20 AWG Solid .032" Bare Copper-covered Steel Conductor • Duofoil® (100% Coverage) + TC Braid Shield(s) (96% Coverage)**


**Plenum • Foam FEP Teflon® Insulation • Black FEP Jacket**

	200°C	<b>89108</b>	NEC:	500 <sup>†</sup>	152.4	17.0	7.7	20 AWG (solid)	.140	3.56	Duofoil + 96%	.203	5.16	75	82%	16.5	54.1	10	.7	2.3
			CATVP	1000 <sup>†</sup>	304.8	34.0	15.4	.032"			TC Braid							50	1.8	5.9
			CMP															100	2.6	8.5
			CEC:					BCCS			2.6Ω/M'							200	3.7	12.1
			CMP					26.0Ω/M'			8.5Ω/km			Sweep tested 5 MHz to 400 MHz.				400	5.4	17.7
								85.3Ω/km										700	7.3	24.0
																		900	8.4	27.6
																	1000	8.9	29.2	

**Plenum • Foam FEP Teflon Insulation • Natural Flamarrest® Jacket**

	75°C	<b>82108</b>	NEC:	U-1000 <sup>†</sup>	U-304.8	34.0	15.4	20 AWG (solid)	.140	3.56	Duofoil + 96%	.202	5.13	75	82%	16.5	54.1	10	.8	2.6
			CATVP	1000 <sup>†</sup>	304.8	32.0	14.5	.032"			TC Braid							50	1.8	5.9
			CMP															100	2.6	8.5
			CEC:					BCCS			2.6Ω/M'							200	3.7	12.1
			CMP FT6, CXC FT4					26.0Ω/M'			8.5Ω/km			Sweep tested 5 MHz to 400 MHz.				400	5.4	17.7
								85.3Ω/km										700	7.3	24.0
																		900	8.4	27.6
																	1000	8.9	29.2	

**Plenum • Foam FEP Teflon Insulation • Snow Beige FEP Jacket**

	200°C	<b>1151A</b>	NEC:	1000 <sup>†</sup>	304.8	40.0	18.2	20 AWG (solid)	.140	3.56	(2) Duofoil Shields	.236	5.99	75	84%	16.5	54.1	10	.8	2.6
			CMP					.032"			+ (2) TC Braids							50	1.8	5.9
			CEC:					BCCS			2.3Ω/M'							100	2.6	8.5
			CMP FT6					26.0Ω/M'			7.5Ω/km			Sweep tested 5 MHz to 400 MHz.				200	3.7	12.1
								85.3Ω/km										400	5.4	17.7
																		700	7.3	24.0
																		900	8.4	27.6
																	1000	8.9	29.2	

BCCS = Bare Copper-covered Steel • DCR = DC Resistance • FEP = Fluorinated Ethylene Propylene • TC = Tinned Copper

<sup>†</sup>Spools and/or UnReel® cartons are one piece, but length may vary ±10% from length shown.

Teflon is a DuPont trademark.