



## Description:

Series 59, 20 AWG solid .032" bare copper-covered steel conductor, gas-injected foam polyethylene insulation, Duobond® + aluminum braid(s) shield (67 coverage), PVC 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 Material	Dia. (in.)
Gas-injected FPE - Foam Polyethylene	.144

### Outer Shield

#### Outer Shield Material:

Layer #	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
1	Bonded Duofoil®	Tape	Bonded Aluminum Foil-Polyester Tape-Aluminum Foil	100
2		Braid	AL - Aluminum	67
3	Duofoil®	Tape	Aluminum Foil-Polyester Tape-Aluminum Foil	100
4		Braid	AL - Aluminum	46

### Outer Jacket

#### Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

### Overall Cabling

Overall Nominal Diameter: 0.265 in.

## Mechanical Characteristics (Overall)

Operating Temperature Range: -40°C To +80°C

Bulk Cable Weight: 25 lbs/1000 ft.

Max. Recommended Pulling Tension: 140 lbs.

Min. Bend Radius (Install)/Minor Axis: 2.500 in.

## Applicable Specifications and Agency Compliance (Overall)

### Applicable Standards & Environmental Programs

CEC/C(UL) Specification: CM

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): 01/01/2004

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

Series Type: Series 59

### Flame Test

UL Flame Test: UL1685 UL Loading

## Electrical Characteristics (Overall)

### Nom. Characteristic Impedance:

Impedance (Ohm)	Tolerance (Ohms)
75	± 3

### Nom. Inductance:

Inductance (µH/ft)
.097

### Nom. Capacitance Conductor to Shield:

Capacitance (pF/ft)
16.2

### Nominal Velocity of Propagation:

VP (%)
83

### Nominal Delay:

Delay (ns/ft)
1.2

### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
44.5

### Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
7

### Max. Attenuation:

Freq. (MHz)	Attenuation (dB/100 ft.)
5	0.89
55	1.95
211	3.59
270	4.05
300	4.27
350	4.64
400	4.88
450	5.30
550	5.90
750	6.96
870	7.54
1000	8.09

### Max. Operating Voltage - UL:

Voltage
300 V RMS

### Minimum Structural Return Loss:

Description	Freq. (MHz)	Start Freq. (MHz)	Stop Freq. (MHz)	Min. SRL (dB)
		5	1000	20

## Notes (Overall)

Notes: Sweep tested 5 MHz to 1 GHz.

## Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
1186A 0101000	1,000 FT	30.000 LB	BLACK		#20 GIF HDL DPE DBL SH FR PVC

# 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 • Duobond® + Aluminum Braid(s) Shield (67% Coverage)**

**Gas-injected Foam Polyethylene Insulation • Black PVC Jacket**

80°C	<b>9104</b>	NEC: CATV CM CEC: CM	U-1000 <sup>▲</sup> 1000 <sup>▲</sup>	U-304.8 304.8	24.0 24.0	10.9 10.9	20 AWG (solid) .032" BCCS 44.5Ω/M' 146.0Ω/km	.144 3.66	Duobond II* + 67% Aluminum Braid 12.0Ω/M' 39.4Ω/km	.237 6.02	75	83%	16.2	53.1	See Chart on page 6.92		
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<sup>▲</sup>U-1000 ft. put-ups also available in Beige and White.  
<sup>▲</sup>1000 ft. put-up available in Black only.

80°C	<b>9104N</b>	—	1000 <sup>*</sup>	304.8	24.0	10.9	20 AWG (solid) .032" BCCS 44.5Ω/M' 146.0Ω/km	.144 3.66	Duobond II* + 67% Aluminum Braid 12.0Ω/M' 39.4Ω/km	.237 6.02	75	83%	16.2	53.1	See Chart on page 6.92		
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<sup>\*</sup>1000 ft. put-up also available in White.

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

75°C	<b>9104P</b>	NEC: CATVP CMP CEC: CMP	1000 <sup>†</sup>	304.8	24.0	10.9	20 AWG (solid) .032" BCCS 44.5Ω/M' 146.0Ω/km	.140 3.56	Duobond II* + 67% Aluminum Braid 12.0Ω/M' 39.4Ω/km	.203 5.16	75	83%	16.3	53.5	1 10 50 100 200 400 700 900 1000	.4 .8 1.8 2.6 3.8 5.6 7.6 8.8 9.4	1.3 2.6 5.9 8.5 12.5 18.4 24.9 28.9 30.8
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Sweep tested 5 MHz to 1 GHz.

**Gas-injected Foam High-Density Polyethylene Insulation • Black PVC Jacket**

Aerial 80°C	<b>9105M</b> <b>new</b>		1000	304.8	38.0	17.3	20 AWG (solid) .032" BCCS 44.5Ω/M' 146.0Ω/km	.144 3.66	Duobond II* + 67% Aluminum Braid 12.0Ω/M' 39.4Ω/km	.240 x .387 9.83	6.10 x	75	83%	16.2	53.1	See Chart on page 6.92		
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Sweep tested 5 MHz to 1 GHz.

80°C	<b>9110</b>	NEC: CATV CM CEC: CM	U-1000 <sup>▲</sup>	U-304.8	24.0	10.9	20 AWG (solid) .032" BCCS 44.5Ω/M' 146.0Ω/km	.144 3.66	Duobond III* + 67% Aluminum Braid 12.0Ω/M' 39.4Ω/km	.242 6.15	75	83%	16.2	53.1	See Chart on page 6.92		
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<sup>▲</sup>U-1000 ft. put-up available in White only.

Sweep tested 5 MHz to 1 GHz.

80°C	<b>1186A</b>	NEC: CATV CM CEC: CM	1000	304.8	27.0	12.3	20 AWG (solid) .032" BCCS 44.5Ω/M' 146.0Ω/km	.144 3.66	Duobond IV* + 67% & 46% Aluminum Braids 7.0Ω/M' 23.0Ω/km	.265 6.73	75	83%	16.2	53.1	See Chart on page 6.92		
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Sweep tested 5 MHz to 1 GHz.

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

\*Duobond II = Bonded Duofoil® (100% coverage) + aluminum braid (67% coverage).  
Duobond III = Bonded Duofoil (100% coverage) + aluminum braid (67% coverage) + Duofoil (100% coverage).  
Duobond IV = Bonded Duofoil (100% coverage) + aluminum braid(67% coverage) + Duofoil (100% coverage) + aluminum braid (46% coverage).

<sup>†</sup>Spools and/or UnReel® cartons are one piece, but length may vary ±10% for spools and ±5% for UnReel from length shown.

Teflon is a DuPont trademark.



## Technical Information

### Attenuation vs. Frequency for Belden® Broadband Coaxial Products

Frequency Point (MHz)	Series 59				Series 6				Series 11			
	Nominal dB/100 Ft.	Nominal dB/100m	Maximum dB/100 Ft.	Maximum dB/100m	Nominal dB/100 Ft.	Nominal dB/100m	Maximum dB/100 Ft.	Maximum dB/100m	Nominal dB/100 Ft.	Nominal dB/100m	Maximum dB/100 Ft.	Maximum dB/100m
5	.75	2.46	.89	2.92	.54	1.77	.67	2.20	.34	1.12	.38	1.25
55	1.84	6.04	1.95	6.40	1.45	4.76	1.60	5.25	.91	2.99	.97	3.18
211	3.36	11.02	3.59	11.78	2.64	8.66	2.87	9.42	1.68	5.51	1.81	5.94
216	3.41	11.19	3.69	12.11	2.67	8.76	2.95	9.68	1.70	5.58	1.84	6.04
240	3.57	11.71	3.87	12.70	2.80	9.19	3.09	10.14	1.78	5.84	1.94	6.36
270	3.79	12.43	4.05	13.29	2.97	9.74	3.24	10.63	1.89	6.20	2.05	6.73
300	3.99	13.09	4.27	14.01	3.13	10.27	3.43	11.25	1.99	6.53	2.15	7.05
325	4.16	13.65	4.50	14.76	3.26	10.70	3.59	11.78	2.07	6.79	2.24	7.35
350	4.33	14.21	4.64	15.22	3.39	11.12	3.72	12.20	2.15	7.05	2.32	7.61
375	4.49	14.73	4.84	15.88	3.52	11.55	3.87	12.70	2.22	7.28	2.40	7.87
400	4.66	15.29	4.88	16.01	3.65	11.97	4.00	13.12	2.30	7.55	2.47	8.10
450	4.96	16.27	5.30	17.39	3.88	12.73	4.26	13.98	2.45	8.04	2.65	8.69
500	5.22	17.13	5.50	18.04	4.09	13.42	4.48	14.70	2.59	8.50	2.85	9.35
550	5.48	17.98	5.90	19.36	4.30	14.11	4.71	15.45	2.73	8.96	2.94	9.65
600	5.75	18.86	6.18	20.28	4.51	14.80	4.94	16.21	2.85	9.35	3.08	10.10
650	6.03	19.78	6.52	21.39	4.72	15.49	5.18	16.99	2.98	9.78	3.22	10.56
700	6.28	20.60	6.83	22.41	4.92	16.14	5.45	17.88	3.10	10.17	3.37	11.06
750	6.51	21.36	6.96	22.83	5.11	16.76	5.59	18.34	3.21	10.53	3.50	11.48
800	6.71	22.01	7.30	23.95	5.27	17.29	5.75	18.86	3.32	10.89	3.65	11.97
862	6.97	22.87	7.50	24.61	5.47	17.95	5.98	19.62	3.46	11.35	3.82	12.53
870	7.00	22.97	7.54	24.74	5.49	18.01	6.00	19.68	3.48	11.42	3.84	12.60
900	7.14	23.42	7.79	25.56	5.60	18.37	6.11	20.05	3.55	11.65	3.96	12.99
950	7.39	24.25	7.90	25.92	5.79	19.00	6.35	20.83	3.66	12.01	4.10	13.45
1000	7.68	25.20	8.09	26.54	5.99	19.65	6.54	21.46	3.77	12.37	4.23	13.88
1450	—	—	—	—	7.80	25.60	8.00	26.20	5.00	16.41	5.50	18.10
1800	—	—	—	—	8.60	28.20	8.80	28.90	5.70	18.70	6.27	20.60
2250	—	—	—	—	9.80	32.20	10.00	32.80	6.50	21.33	7.15	23.50
3000	—	—	—	—	11.30	37.10	11.90	39.00	8.00	26.25	8.80	28.90