



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 FHDPE - Foam High Density 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

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Overall Cabling

Overall Nominal Diameter: 0.237 in.

Mechanical Characteristics (Overall)

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

Bulk Cable Weight: 22 lbs/1000 ft.

Max. Recommended Pulling Tension: 104 lbs.

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

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification: CATV, CM

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

Plenum/Non-Plenum

Plenum (Y/N): No

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)
12

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

Sweep Test

Sweep Testing: 5 MHz - 1 GHz

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
9104 Q5HU1000	1,000 FT	24.000 LB	WHITE, NEUTRAL		#20 GIFHDLDPPE SH FRPVC
9104 009U1000	1,000 FT	24.000 LB	WHITE		#20 GIFHDLDPPE SH FRPVC
9104 010U1000	1,000 FT	24.000 LB	BLACK		#20 GIFHDLDPPE SH FRPVC
9104 0101000	1,000 FT	25.000 LB	BLACK		#20 GIFHDLDPPE SH FRPVC

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	9104	NEC: CATV CM CEC: CM	U-1000 [▲] 1000 [▲]	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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[▲]U-1000 ft. put-ups also available in Beige and White.
[▲]1000 ft. put-up available in Black only.

80°C	9104N	—	1000 [*]	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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^{*}1000 ft. put-up also available in White.

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

75°C	9104P	NEC: CATVP CMP CEC: CMP	1000 [†]	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	9105M new		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	6.10 x 9.83	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	9110	NEC: CATV CM CEC: CM	U-1000 [▲]	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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Sweep tested 5 MHz to 1 GHz.

[▲]U-1000 ft. put-up available in White only.

80°C	1186A	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).

[†]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