

## 7909A Composite - Composite Data, Audio, Video, Security and Control Cable



For more Information  
please call

1-800-Belden1



### General Description:

Composite - (2)Cat 5 4-pair, 24 AWG unshielded plus (1)Series 6 Coax with Duobond® IV Quad Shield, polyolefin insulation on the pairs; Gas-injected FPE insulation on the coaxes, F-R PVC jackets, overall F-R PVC jacket.

### Usage (Overall)

**Suitable Applications:** HDTV, DBS, CATV, CCTV, Multimedia, Voice, Video, Data, High Speed Internet, Networked Computing, Distributed Video, Distributed Audio, Security Monitoring, Energy Monitoring

### Coax

#### Physical Characteristics

##### Conductor

###### AWG:

# Coax	AWG	Stranding	Conductor Material	Dia. (in.)
1	18	Solid	BC - Bare Copper	0.040

##### Insulation

###### Insulation Material:

Insulation Material	Dia. (in.)
Gas-injected FHDPE - Foam High Density Polyethylene	0.180

##### Inner Shield

###### Inner Shield Material:

Layer #	Inner Shield Trade Name	Type	Inner Shield Material	% Coverage (%)
1	Bonded Duofoil®	Tape	Bonded Aluminum Foil-Polyester Tape-Aluminum Foil	100
2		Braid	AL - Aluminum	60
3	Duofoil®	Tape	Aluminum Foil-Polyester Tape-Aluminum Foil	100
4		Braid	AL - Aluminum	40

##### Outer Jacket

###### Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

###### Outer Jacket Diameter:

Nom. Dia. (in.)
0.298

###### Outer Jacket Color Code Chart:

Number	Color
1	Black
2	White

### Applicable Specifications and Agency Compliance Applicable Standards & Environmental Programs

**EU CE Mark:** Yes

**Series Type:** Series 6

### Electrical Characteristics

#### Nom. Characteristic Impedance:

Impedance (Ohm)

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75

**Nom. Inductance:**

**Inductance (μH/ft)**  
0.097

**Nom. Capacitance Conductor to Shield:**

**Capacitance (pF/ft)**  
16.200

**Nominal Velocity of Propagation:**

**VP (%)**  
83.000

**Nominal Delay:**

**Delay (ns/ft)**  
1.200

**Nom. Conductor DC Resistance:**

**DCR @ 20°C (Ohm/1000 ft)**  
6.400

**Nom. Inner Shield DC Resistance:**

**DCR @ 20°C (Ohm/1000 ft)**  
4.800

**Minimum Structural Return Loss:**

Start Freq. (MHz)	Stop Freq. (MHz)	Min. SRL (dB)
5.000	1000.000	20.000
1000.000	2250.000	15.000
2250.000	3000.000	10.000

**Nom. Attenuation:**

Freq. (MHz)	Attenuation (dB/100 ft.)
5.000	0.500
55.000	1.400
211.000	2.600
500.000	4.100
750.000	5.100
862.000	5.500
1000.000	6.000
1450.000	7.800
1800.000	8.600
2250.000	9.800
3000.000	11.300

**Max. Attenuation:**

Freq. (MHz)	Attenuation (dB/100 ft.)
5.000	0.670
55.000	1.600
211.000	2.870
500.000	4.480
750.000	5.590
862.000	5.980
1000.000	6.540
1450.000	8.000
1800.000	8.800
2250.000	10.000
3000.000	11.900

**Max. Operating Voltage - UL:** 300 V RMS

**Shield Effectiveness:**

Start Frequency (MHz)	Stop Frequency (MHz)	Shield Effectiveness (dB)
5.000	50.000	105.000
50.000	1000.000	110.000

## 7909A Composite - Composite Data, Audio, Video, Security and Control Cable

### Twisted Pair

#### Physical Characteristics

##### Conductor

###### AWG:

# Pairs	AWG	Stranding	Conductor Material	Dia. (in.)
8	24	Solid	BC - Bare Copper	0.020

##### Insulation

###### Insulation Material:

Insulation Material Dia. (in.)
PO - Polyolefin 0.035

###### Twisted Pair Color Code Chart:

Number	Color
1	White/Blue Stripe and Blue
2	White/Orange Stripe and Orange
3	White/Green Stripe and Green
4	White/Brown Stripe and Brown

##### Outer Jacket

###### Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

###### Outer Jacket Diameter:

Nom. Dia. (in.)
0.195

###### Outer Jacket Color Code Chart:

Number	Color
1	Blue
2	Green

#### Electrical Characteristics

##### Nom. Mutual Capacitance:

Capacitance (pF/ft)
15.000

##### Nominal Velocity of Propagation:

VP (%)
70.000

##### Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)
9.380

##### Max. Operating Voltage - UL:

Voltage
300 V RMS

##### Other Electrical Characteristic 1:

Third party verified to TIA/EIA-568-B.2, Category 5.

##### Premise Cable Electrics:

Freq. (MHz)	Max. Attenuation (dB/100 m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. SRL (dB)	Fitted Imp. (Ohms)
1.0	2.000	62	N/A	23	100 +/- 15%
4.0	4.100	53	N/A	23	100 +/- 15%
8.0	5.800	48	N/A	23	100 +/- 15%
10.0	6.500	47	N/A	23	100 +/- 15%
16.0	8.200	44	N/A	23	100 +/- 15%
20.0	9.300	42	N/A	23	100 +/- 15%
25.0	10.400	41	N/A	22	100 +/- 15%
31.25	11.700	39	N/A	21	100 +/- 15%
62.5	17.000	35	N/A	18	100 +/- 15%
100	22.000	32	N/A	16	100 +/- 15%

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### Physical Characteristics (Overall)

#### Outer Shield

Outer Shield Material:

Outer Shield Material
Unshielded

#### Outer Jacket

Outer Jacket Material:

Outer Jacket Material
F-R PVC - Flame Retardant Polyvinyl Chloride

Outer Jacket Ripcord: Yes

#### Overall Cable

Overall Nominal Diameter: 0.576 in.

### Mechanical Characteristics (Overall)

Operating Temperature Range: -20°C To +75°C

Bulk Cable Weight: 118 lbs/1000 ft.

Max. Recommended Pulling Tension: 203 lbs.

Min. Bend Radius/Minor Axis: 6 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMR

CEC/C(UL) Specification: CMG

EU Directive 2011/65/EU (ROHS II): Yes

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

Other Specification: NEMA WC-63.1, Category 5

#### Flame Test

UL Flame Test: UL1666 Riser

C(UL) Flame Test: FT4

#### Plenum/Non-Plenum

Plenum (Y/N): No

### Notes (Overall)

**Notes:** Overall jacket sequentially marked. Shielding effectiveness determined from screening attenuation measurement when tested in accordance with IEC 61196-1.

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7909A 3371000	1,000 FT	118.000 LB	DO NOT USE		COMPOSITE CABLE FRPVC
7909A 337500	500 FT	59.000 LB	GREEN, LIGHT		COMPOSITE CABLE FRPVC

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