

## 7878S Composite - Composite Data, Audio, Video, Security and Control Cable



For more Information  
please call

1-800-Belden1



### General Description:

Banana Peel® Composite - (2)Cat 5e 4-bonded-pair. 24 AWG unshielded plus (2)Series 6 Coax with Duobond Plus® plus (1)2-Fiber LANLite®, Polyolefin Insulation on the prs; Gas-injected FPE Insulation on the coax, F-R PVC jackets. No overall 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. (mm)
2	18	Solid	BC - Bare Copper	1.016

##### Insulation

Insulation Material:

Insulation Material	Dia. (mm)
Gas-injected FPE - Foam Polyethylene	4.572

##### 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	100.000
2		Braid	AL - Aluminum	77.000
3		Tape	Bonded Aluminum Foil-Polyester Tape w/Shorting Fold	100.000

##### Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Outer Jacket Diameter:

Nom. Dia. (mm)
6.985

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

Series Type: Series 6

### Electrical Characteristics

Nom. Characteristic Impedance:

Impedance (Ohm)
75

Nom. Inductance:

Inductance (µH/m)
0.318

Nom. Capacitance Conductor to Shield:

Capacitance (pF/m)
53.152

Nominal Velocity of Propagation:

VP (%)
83.000

Nominal Delay:

Delay (ns/m)
3.937

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)
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## METRIC MEASUREMENT VERSION

### 7878S Composite - Composite Data, Audio, Video, Security and Control Cable

20.998

**Nom. Inner Shield DC Resistance:**

**DCR @ 20°C (Ohm/km)**

15.093

**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/100m)
5.000	1.641
55.000	4.593
211.000	8.531
500.000	13.452
750.000	16.733
862.000	18.046
1000.000	19.686
1450.000	25.592
1800.000	28.217
2250.000	32.154
3000.000	37.075

**Max. Attenuation:**

Freq. (MHz)	Attenuation (dB/100m)
5.000	2.198
55.000	5.250
211.000	9.416
500.000	14.699
750.000	18.341
862.000	19.620
1000.000	21.458
1450.000	26.248
1800.000	28.873
2250.000	32.810
3000.000	39.044

**Max. Operating Voltage - UL:**

350 V RMS

**Shield Effectiveness:**

Start Frequency (MHz)	Stop Frequency (MHz)	Shield Effectiveness (dB)
5.000	50.000	105.000
50.000	1000.000	125.000

**Other Electrical Characteristic 1:**

Coax Sweep tested to 3.0 GHz.

## Twisted Pair

### Physical Characteristics

#### Conductor

**AWG:**

# Pairs	AWG	Stranding	Conductor Material	Dia. (mm)
8	24	Solid	BC - Bare Copper	0.508

#### Insulation

**Insulation Material:**

Insulation Material	Dia. (mm)
PO - Polyolefin	0.889

**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:**

## METRIC MEASUREMENT VERSION

### 7878S Composite - Composite Data, Audio, Video, Security and Control Cable

**Nom. Dia. (mm)**

5.182

Outer Jacket Ripcord:

Yes

#### Electrical Characteristics

Nom. Mutual Capacitance:

**Capacitance (pF/m)**

49.215

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 5E.

Premise Cable Electrical Table 1:

Freq. (MHz)	Max. Attenuation (dB/100 m)	Min. PSNEXT (dB)	Min. PSACR (dB)	Min RL (dB)
1.0	2.000	62.3	60	20.000
4.0	4.100	53.3	49	23.000
8.0	5.800	48.8	43	24.500
10.0	6.500	47.3	41	25.000
16.0	8.200	44.3	36	25.000
20.0	9.300	42.8	34	25.000
25.0	10.400	41.3	31	24.300
31.25	11.700	39.9	28	23.600
62.5	17.000	35.4	19	21.500
100	22.000	32.3	11	20.100

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Min. PSELFEXT (dB)
1.0	100 ± 15%	60.8
4.0	100 ± 15%	48.7
8.0	100 ± 15%	42.7
10.0	100 ± 15%	40.8
16.0	100 ± 15%	36.7
20.0	100 ± 15%	34.7
25.0	100 ± 15%	32.8
31.25	100 ± 15%	30.9
62.5	100 ± 15%	24.8
100	100 ± 15%	20.8

## Fiber

#### Physical Characteristics

Fiber Type:

62.5/125/900 Micron

Number of Fibers:

2

Fiber Color Code Chart:

Number	Color
1	Blue
2	Orange

#### Outer Jacket

Outer Jacket Material:

**Outer Jacket Material**

PVC - Polyvinyl Chloride

Outer Jacket Diameter:

**Nom. Dia. (mm)**

4.445

## Physical Characteristics (Overall)

#### Outer Shield

Outer Shield Material:

**Outer Shield Material**

Unshielded

## METRIC MEASUREMENT VERSION

### 7878S Composite - Composite Data, Audio, Video, Security and Control Cable

#### Outer Jacket

Outer Jacket Material:

Outer Jacket Material
Unjacketed

#### Overall Cable

Overall Nominal Diameter: 15.240 mm

#### Mechanical Characteristics (Overall)

Bulk Cable Weight:	197.931 Kg/Km
Max. Recommended Pulling Tension:	1165.428 N
Min. Bend Radius/Minor Axis:	107.950 mm

#### Applicable Specifications and Agency Compliance (Overall)

##### Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMR, OF
CEC/C(UL) Specification:	CMG, OF
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):	07/01/2005
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
Other Specification:	NEMA WC-63.1, Category 5e

Applicable Patents:

Country
www.belden.com/p

#### Flame Test

UL Flame Test:	UL1666 Riser
C(UL) Flame Test:	FT4

#### Plenum/Non-Plenum

Plenum (Y/N):	No
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#### Notes (Overall)

**Notes:** 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
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