

## 2177A Coax - Low Loss Serial Digital Coax



For more Information  
please call

1-800-Belden1

**General Description:**

RG-7 Type 16 AWG solid 0.051" bare copper conductor, gas-injected foamed high-density polyethylene insulation, Duofoil® + tinned copper braid shield (95% coverage) plus Beldfoil® with shorting fold, PVC jacket.

**Usage (Overall)****Suitable Applications:**

SMPTE 2081-1 6 Gb/s UHDTV, SMPTE 424M 3 Gb/s HD-SDI 1080p,  
SDI/HDTV Digital Video, High Definition (HD), Standard Definition (SDI)

**Physical Characteristics (Overall)****Conductor****AWG:**

# Coax	AWG	Stranding	Conductor Material	Dia. (mm)
5	16	Solid	BC - Bare Copper	1.295

**Total Number of Conductors:** 1

**Insulation****Insulation Material:**

Insulation Material	Dia. (mm)
Gas-injected FHDPE - Foam High Density Polyethylene	5.715

**Inner Shield****Inner Shield Material:**

Layer #	Inner Shield Trade Name	Type	Inner Shield Material	Coverage (%)
1	Duofoil(R)	Tape	Aluminum Foil-Polyester Tape-Aluminum Foil	100.000
2		Braid	TC - Tinned Copper	95.000
3	Beldfoil(R)	Tape	Polyester Tape-Aluminum Foil	100.000

**Inner Jacket****Inner Jacket Material:**

Inner Jacket Material	Nom. Dia. (mm)
PVC - Polyvinyl Chloride	8.128

**Inner Jacket Color Code Chart:**

Color
Green
Brown
Red
Orange
Yellow

**Outer Jacket****Outer Jacket Material:**

Outer Jacket Material
PVC - Polyvinyl Chloride

**Overall Cable**

**Overall Nominal Diameter:** 24.587 mm

**Mechanical Characteristics (Overall)**

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Operating Temperature Range:	-20°C To +60°C
Bulk Cable Weight:	553.610 Kg/Km
Max. Recommended Pulling Tension:	2468.751 N
Min. Bend Radius/Minor Axis:	247.650 mm

## Applicable Specifications and Agency Compliance (Overall)

## Applicable Standards &amp; Environmental Programs

NEC/(UL) Specification:	CMR
CEC/C(UL) Specification:	CMG
EU Directive 2011/65/EU (ROHS II):	Yes
EU CE Mark:	Yes
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
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 7

## Flame Test

UL Flame Test:	UL1666 Vertical Shaft
CSA Flame Test:	FT4

## Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	Yes - Black only.
Suitability - Burial:	No

## Plenum/Non-Plenum

Plenum (Y/N):	No
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## Electrical Characteristics (Overall)

## Nom. Characteristic Impedance:

Impedance (Ohm)
75

## Nom. Inductance:

Inductance (µH/m)
0.299

## Nom. Capacitance Conductor to Shield:

Capacitance (pF/m)
52.824

## Nominal Velocity of Propagation:

VP (%)
84.000

## Nominal Delay:

Delay (ns/m)
3.970

## Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)
13.124

## Nominal Outer Shield DC Resistance:

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## DCR @ 20°C (Ohm/km)

6.234

## Nom. Attenuation:

Freq. (MHz)	Attenuation (dB/100m)
1.000	0.558
3.580	0.984
5.000	1.148
6.000	1.247
7.000	1.312
10.000	1.575
12.000	1.706
25.000	2.428
55.000	3.543
67.500	3.937
71.500	4.068
88.500	4.495
100.000	4.790
135.000	5.578
143.000	5.742
180.000	6.464
270.000	7.973
360.000	9.285
540.000	11.484
720.000	13.419
750.000	13.715
1000.000	16.044
1500.000	20.014
2000.000	23.623
2250.000	25.231
3000.000	29.791
4500.000	37.830
6000.000	45.179

## Max. Operating Voltage - UL:

## Voltage

300 V RMS

## Other Electrical Characteristic 1:

Return Loss: Fixed bridge and termination.

## Minimum Return Loss:

Start Freq. (MHz)	Stop Freq. (MHz)	Min. RL (dB)
5.000	1600.000	23.000
1600.000	4500.000	21.000
4500.000	6000.000	15.000

## Sweep Test

## Sweep Testing:

Sweep tested 5 MHz to 6 GHz.

## Notes (Overall)

Notes: Print legend includes sequential footage marks.

## Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
2177A B59N1000	1,000 FT	543.000 LB	BLACK, MATTE		5#16LDPE/GIFHDLDP SH FRPVCPCVC

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