

## 4505R Coax - 4K Ultra-High-Definition Coax Cable for 12G-SDI



For more Information  
please call

1-800-Belden1



### General Description:

12 GHz, 4K UHD Precision Video Cable, 75 Ohm, 20 AWG solid .032" silver plated copper conductor, gas-injected foam HDPE insulation, Duofoil® bonded to core + tinned copper braid shield (95% coverage), PVC jacket.

### Usage (Overall)

Suitable Applications: SMPTE 2082-1 12 Gb/s UHD TV, SMPTE 2081-1 6 Gb/s UHD TV, SMPTE 424M 3 Gb/s HD-SDI 1080p

### Physical Characteristics (Overall)

#### Conductor

AWG:

# Coax	AWG	Stranding	Conductor Material	Dia. (mm)
1	20	Solid	SPC - Silver Plated Copper	0.813

Total Number of Conductors: 1

#### Insulation

Insulation Material:

Insulation Material	Dia. (mm)
Gas-injected FHDPE - Foam High Density Polyethylene	3.683

#### Outer Shield

Outer Shield Material:

Layer #	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)	Description
1	Bonded Duofoil®	Tape	Aluminum Foil-Polyester Tape-Aluminum Foil	100.000	Bonded to insulation
2		Braid	TC - Tinned Copper	95.000	

#### Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

#### Overall Cable

Overall Nominal Diameter: 5.918 mm

### Mechanical Characteristics (Overall)

Operating Temperature Range: -30°C To +75°C

Bulk Cable Weight: 46.134 Kg/Km

Max. Recommended Pulling Tension: 231.306 N

Min. Bend Radius/Minor Axis: 63.500 mm

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMR

CEC/(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 RoHS Compliance Date (mm/dd/yyyy): 01/01/2005

EU Directive 2002/96/EC (WEEE): Yes

EU Directive 2003/11/EC (BFR): Yes

CA Prop 65 (CJ for Wire & Cable): Yes

MIL Order #39 (China RoHS): Yes

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RG Type: 59/U

### Flame Test

UL Flame Test: UL1666 Vertical Shaft

CSA Flame Test: FT4

### Suitability

Suitability - Indoor: Yes

Suitability - Outdoor: Yes - Black only.

Suitability - Aerial: Yes - Black only, when supported by messenger wire.

Suitability - Burial: No

### Plenum/Non-Plenum

Plenum (Y/N): No

### Electrical Characteristics (Overall)

#### Nom. Characteristic Impedance:

Impedance (Ohm)

75

#### Nom. Inductance:

Inductance (µH/m)

0.351067

#### Nom. Capacitance Conductor to Shield:

Capacitance (pF/m)

52.824

#### Nominal Velocity of Propagation:

VP (%)

83.000

#### Nominal Delay:

Delay (ns/m)

4.003

#### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)

33.466

#### Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/km)

11.155

#### Nom. Attenuation:

Freq. (MHz)	Attenuation (dB/100m)
1.000	0.984
3.600	1.969
5.000	2.067
6.000	2.264
7.000	2.428
10.000	2.953
12.000	2.986
25.000	4.265
67.500	6.726
71.500	6.890
88.500	7.218
100.000	7.546
135.000	8.859
143.000	9.187
180.000	10.171
270.000	12.468
360.000	14.436
540.000	18.046
720.000	20.998
750.000	21.327
1000.000	24.936
1500.000	30.513
2000.000	35.435
2250.000	37.732
3000.000	43.965

## METRIC MEASUREMENT VERSION

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4500.000	54.793
6000.000	64.636
12000.000	94.165

#### Max. Operating Voltage - UL:

Voltage
300 V RMS

#### Other Electrical Characteristic 2:

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	12000.000	15.000

#### Sweep Test

##### Sweep Testing:

Sweep tested 5 MHz to 12 GHz.

#### Notes (Overall)

Notes: Print legend includes sequential footage marks.

#### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
4505R N3U1000	1,000 FT	32.000 LB	GREEN, MIL		#20 PE/GIFHDLDPPE SH FRPVC
4505R 0021000	1,000 FT	32.000 LB	RED		#20 PE/GIFHDLDPPE SH FRPVC
4505R 0031000	1,000 FT	32.000 LB	ORANGE		#20 PE/GIFHDLDPPE SH FRPVC
4505R 0061000	1,000 FT	32.000 LB	BLUE, LIGHT		#20 PE/GIFHDLDPPE SH FRPVC
4505R 0071000	1,000 FT	32.000 LB	VIOLET		#20 PE/GIFHDLDPPE SH FRPVC
4505R 0101000	1,000 FT	32.000 LB	BLACK		#20 PE/GIFHDLDPPE SH FRPVC
4505R 0105000	5,000 FT	160.000 LB	BLACK		#20 PE/GIFHDLDPPE SH FRPVC

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