

## 2149A Multi-Conductor - Enhanced Category 6 Nonbonded-Pair ScTP Cable



For more Information  
please call

1-800-Belden1



### General Description:

CAT6+ (350MHz), 4-Pair, F/UTP-Foil Shielded, Riser-CMR-CMX Outdoor, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyolefin Insulation, Patented X-Spline, Overall Beldfoil Shield, PVC Jacket

### Usage (Overall)

**Suitable Applications:** Networking Horizontal Cable, HDBaseT, 1000Base-T (Gigabit Ethernet), 100Base-T (Fast Ethernet), 10Base-T (Ethernet), 100BaseVG, ANYLAN, 155ATM, 622ATM, ANSI.X3.263 FDDI TP-PMD, NTSC/PAL Component or Composite Video, AES/EBU, Digital Video, RS-422, Noisy Environments, 250 MHz Category 6, Outdoor

### Physical Characteristics (Overall)

#### Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
4	23	Solid	BC - Bare Copper

#### Insulation

Insulation Material:

Insulation Material
PO - Polyolefin

#### Outer Shield

Outer Shield Material:

Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100.000

Outer Shield Drain Wire AWG:

AWG	Stranding	Drain Wire Conductor Material
24	Solid	TC - Tinned Copper

#### Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Outer Jacket Diameter:

Nom. Dia. (in.)
0.296

Outer Jacket Ripcord: Yes

#### Overall Cable

Overall Cabling Fillers: Patented Central X-spline

Overall Cabling Separator Material: Polyester

#### Pair

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

### Mechanical Characteristics (Overall)

Storage Temperature Range: -40°C To +75°C

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

Operating Temperature Range: -40°C To +75°C

Bulk Cable Weight: 41 lbs/1000 ft.

Max. Recommended Pulling Tension: 25 lbs.

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Min. Bend Radius/Minor Axis:	1.200 in.
Min. Bend/Installation:	2.900 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMR, CMX-Outdoor, UL444
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 RoHS Compliance Date (mm/dd/yyyy):	12/08/2011
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
Telecommunications Standards:	Category 6 - TIA 568.C.2

#### Applicable Patents:

Country
www.belden.com/p

#### Flame Test

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

#### Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	Yes - CMX - Outdoor

#### Plenum/Non-Plenum

Plenum (Y/N):	No
Plenum Number:	2413F
Non-Plenum Number:	2412F

### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

Capacitance (pF/ft)
14.000

#### Maximum Capacitance Unbalance:

Capacitance (pF/ft)
66.000

#### Nominal Velocity of Propagation:

VP (%)
68.000

#### Maximum Delay:

Description	Delay (ns/100 m)
@ 100 MHz	537.000

#### Max. Delay Skew:

Delay Skew (ns/100 m)
30.000

#### Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)
8.200

#### Max. Operating Voltage - UL:

Voltage
300 V RMS

#### Maximum DCR Unbalanced:

DCR Unbalance @ 20°C (%)
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3.000

### Electrical Characteristics-Premise (Overall)

Premise Cable Electrical Table 1:

Freq. (MHz)	Max. Attenuation (dB/100 m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. ACR (dB)	Min. PSACR (dB)	Min RL (dB)
1	2.000	75.3	73.3	73.3	72.3	20.000
4	3.700	66.3	64.3	62.6	61.6	23.000
8	5.200	63.3	61.3	58.1	57.1	24.500
10	5.800	61.8	59.8	56.0	55.0	25.000
16	7.400	58.6	56.6	51.2	50.2	25.000
20	8.300	57.1	55.1	48.8	47.8	25.000
25	9.300	55.5	53.5	46.3	45.2	24.300
31.25	10.400	54.0	52.0	43.6	42.6	23.600
62.5	15.000	49.1	47.1	34.1	33.1	21.500
100	19.300	45.8	43.8	26.5	25.5	20.800
200	28.300	40.9	38.9	12.6	11.6	18.700
250	32.100	39.3	37.3	7.2	6.2	18.000
300	35.600	38.1	36.1	2.5	1.5	17.500
350	38.900	37.1	35.1			17.000
400	42.000	36.3	34.3			16.600
450	45.000	35.5	33.5			16.200
500	47.900	34.8	32.8			15.900
550	50.600	34.2	32.2			15.600

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ELFEXT (dB)	Min. PSELFEXT (dB)
1	100 ± 15	100 ± 15	70.8	67.8
4	100 ± 15	100 ± 15	58.8	55.8
8	100 ± 15	100 ± 15	52.7	49.7
10	100 ± 15	100 ± 15	50.8	47.8
16	100 ± 15	100 ± 15	46.7	43.7
20	100 ± 15	100 ± 15	44.8	41.8
25	100 ± 15	100 ± 15	42.8	39.8
31.25	100 ± 15	100 ± 15	40.9	37.9
62.5	100 ± 15	100 ± 15	34.9	31.9
100	100 ± 15	100 ± 15	30.8	27.8
200	100 ± 22	100 ± 15	24.8	21.8
250	100 ± 32	100 ± 15	22.8	19.8
300	100 ± 32	100 ± 15	21.3	18.3
350	100 ± 32	100 ± 15	19.9	16.9
400	100 ± 32	100 ± 15	18.8	15.8
450	100 ± 32	100 ± 15	17.7	14.7
500	100 ± 32	100 ± 15	16.8	13.8
550	100 ± 32	100 ± 15	16.0	13.0

Premise Cable Electrical Table 4:

Frequency (MHz)	Min. TCL (dB)	Min. ELTCTL (dB)
1.000	40.000	35.000
4.000	40.000	23.000
8.000	40.000	17.000
10.000	40.000	15.000
16.000	38.000	10.900
20.000	37.000	9.000
25.000	36.000	7.100
31.250	35.100	5.100
62.500	32.000	
100.000	30.000	
200.000	27.000	
250.000	26.000	

### Notes (Overall)

Notes: Jacket sequentially marked at 2ft and 1m intervals. Third party Verified to ANSI/TIA-568-C.2, Category 6. Values above 350 MHz are for Engineering Information Only.

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
2149A 0101000	1,000 FT	45.000 LB	BLACK		CAT6 4PR F/UTP CMR REEL

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