

## 2413 Multi-Conductor - Enhanced Category 6 Nonbonded-Pair Cables



For more Information  
please call

1-800-Belden1



### Description:

23 AWG solid bare copper conductors, Dual FRPO/FEP insulation, film tape separator, Flamarrest® jacket with ripcord, sequential footage marking every two feet.

### Usage (Overall)

**Suitable Applications:** Premise Horizontal Cable, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155 ATM, 622 ATM, 250MHz Category 6

### Physical Characteristics (Overall)

#### Conductor

**AWG:**

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

#### Insulation

**Insulation Material:**

Insulation Material
FRPO/FEP - Flame Retardant Polyolefin/Fluorinated Ethylene Propylene

#### Outer Shield

**Outer Shield Material:**

Outer Shield Material
Unshielded

#### Outer Jacket

**Outer Jacket Material:**

Outer Jacket Trade Name	Outer Jacket Material
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride

**Outer Jacket Ripcord:** Yes

#### Overall Cabling

**Overall Cabling Fillers:** Center Tape

**Overall Nominal Diameter:** 0.225 in.

#### Pair

**Pair Color Code Chart:**

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

### Mechanical Characteristics (Overall)

**Storage Temperature Range:** -20°C To +75°C

**Installation Temperature Range:** +5°C To +50°C

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

**Bulk Cable Weight:** 28 lbs/1000 ft.

**Max. Recommended Pulling Tension:** 40 lbs.

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Min. Bend Radius (Install)/Minor Axis: 1 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

CEC/C(UL) Specification: CMP

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): 10/13/2005

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: Third party verified to Category 6

#### Flame Test

UL Flame Test: NFPA 262 Plenum Flame Test (UL910)(FT6)

CSA Flame Test: FT6

#### Suitability

Suitability - Indoor: Yes

Suitability - Outdoor: No

#### Plenum/Non-Plenum

Plenum (Y/N): Yes

Non-Plenum Number: 2412

### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

Capacitance (pF/ft)

15

#### Maximum Capacitance Unbalance:

Capacitance (pF/ft)

330.000

#### Nominal Velocity of Propagation:

VP (%)

72

Maximum Capacitance Unbalance (pF/100 m): 330

#### Maximum Delay:

Delay (ns/100 m)

537 @ 100MHz

#### Max. Delay Skew:

Delay Skew (ns/100 m)

45

#### Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)

8.2

#### Max. Operating Voltage - UL:

Voltage

300 V RMS

#### Maximum DCR Unbalanced:

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**DCR Unbalance @ 20°C (%)**

5

### 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)
0.772	1.800	77.0	75.0	75.2	73.2	
1	2.000	75.3	73.3	73.3	71.3	20.000
4	3.700	66.3	64.3	62.6	60.6	23.000
8	5.200	63.3	61.3	58.1	56.1	24.500
10	5.800	61.8	59.8	56.0	54.0	25.000
16	7.400	58.6	56.6	51.2	49.2	25.000
20	8.300	57.1	55.1	48.8	46.8	25.000
25	9.300	55.5	53.5	46.3	44.3	24.300
31.25	10.400	54.0	52.0	43.6	41.6	23.600
62.5	15.000	49.1	47.1	34.1	32.1	21.500
100	19.300	45.8	43.8	26.5	24.5	20.800
155	24.500	42.7	40.7	18.2	16.2	19.500
200	28.300	40.9	38.9	12.6	10.6	18.700
250	32.100	39.3	37.3	7.2	5.2	18.000
300	35.600	38.1	36.1	2.5	-0.5	17.500
350	38.900	37.1	35.1	-1.7	-3.7	17.000
400	42.000	36.3	34.3	-5.7	-7.7	16.600
450	45.000	35.5	33.5	-9.5	-11.5	16.200
500	47.900	34.8	32.8	-13.0	-15.0	15.900
550	50.600	34.2	32.2	-16.4	-18.4	15.600

**Premise Cable Electrical Table 2:**

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ELFEXT (dB)	Min. PSELFEXT (dB)
0.772	100 ± 15	102 ± 15	73.0	70.0
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
155	100 ± 22	100 ± 15	27.0	24.0
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			19.9	16.9
400			18.8	15.8
450			17.7	14.7
500			16.8	13.8
550			16.0	13.0

### Notes (Overall)

**Notes:** Jacket sequentially marked at 2 ft./1m intervals. Third party verified to TIA/EIA-568-B.2-1, Category 6. Values above 300 MHz are for Engineering Information Only. US Patents 5424491, 5563377, 6570095 and 6998537.

### Reference (Overall)

**Previous Part Number:**

24567415, 24567715, 24567736T, 24567615T, 25067545, 25067545T, 25067515T, 24567745T, 24567715T, 25067845, 25067845T, 25067836, 25067836T, 24567815, 24567815T, 2456705T, 24567145, 24567145T, 24567115, 24567115T, 24567345, 24567345T, 24567336, 24567336T, 24567315, 24567315T, 24567445T, 24567436, 24567436T, 24567415T, 24567A15T, 24567945, 24567945T, 24567936T, 24567915, 24567915T

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## Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
2413 D15A1000	1,000 FT	33.000 FT	BLUE		4PR23 CMP (24567915T)
2413 D151000	1,000 FT	31.000 LB	BLUE		4PR23 CMP (24567945T)
2413 D152500	2,500 FT	72.500 LB	BLUE		4PR23 CMP (24567936T)
2413 002A1000	1,000 FT	33.000 FT	RED		4PR23 CMP (24567615T)
2413 003A1000	1,000 FT	33.000 LB	ORANGE		4PR23 CMP (25067515T)
2413 0031000	1,000 FT	31.000 LB	ORANGE		4PR23 CMP (25067545T)
2413 004A1000	1,000 FT	33.000 LB	YELLOW		4PR23 CMP (24567715T)
2413 0041000	1,000 FT	31.000 LB	YELLOW		4PR23 CMP (24567745T)
2413 005A1000	1,000 FT	33.000	GREEN, DARK		4PR23 CMP (24567815T)
2413 0051000	1,000 FT	31.000 LB	GREEN, DARK		4PR23 CMP (25067845T)
2413 0052500	2,500 FT	72.500 LB	GREEN, DARK		4PR23 CMP (25067836T)
2413 007A1000	1,000 FT	33.000	VIOLET		4PR23 CMP (24567015T)
2413 008A1000	1,000 FT	33.000	GRAY		4PR23 CMP (24567115T)
2413 0081000	1,000 FT	31.000 LB	GRAY		4PR23 CMP (24567145T)
2413 009A1000	1,000 FT	33.000 LB	WHITE		4PR23 CMP (24567315T)
2413 0091000	1,000 FT	31.000 LB	WHITE		4PR23 CMP (24567345T)
2413 0092500	2,500 FT	72.500 LB	WHITE		4PR23 CMP (24567336T)
2413 010A1000	1,000 FT	33.000	BLACK		4PR23 CMP (24567415T)
2413 0101000	1,000 FT	31.000	BLACK		4PR23 CMP (24567445T)
2413 0102500	2,500 FT	72.500 LB	BLACK		4PR23 CMP (24567436T)
2413 012A1000	1,000 FT	33.000 LB	PINK		4PR23 CMP (24567A15T)

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