

Product: 2413

Category 6+ Enhanced Cable, 4 Pair, U/UTP, CMP

Product Description

Category 6+ Enhanced Premise Horizontal Cable (350MHz), 4 Pair, 23 AWG Solid Bare Copper Conductors, U/UTP, Plenum-CMP, Flamarrest® PVC-LS Jacket

Technical Specifications

Product Overview

Suitable Applications:	Premise Horizontal Cable, Ethernet 1000BASE-T, Ethernet 100BASE-TX, Ethernet 10BASE-T, PoE++, PoE+, PoE
Patent:	This product has one or more applicable patents. More information on patents can be found at https://www.belden.com/resources/patents.

Construction Details

Conductor

Size	Stranding	Material	Number of Pairs
23 AWG	Solid	BC - Bare Copper	4

Insulation

Material	Color Code
PO+FEP - Polyolefin + Fluorinated Ethylene Propylene	White/Blue Stripe & Blue, White/Orange Stripe & Orange, White/Green Stripe & Green, White/Brown Stripe & Brown

Outer Jacket

Separator	Material	Material Trade Name	Nom. Diameter	Ripcord
Dielectric Tape (Patented)	PVC - Polyvinyl Chloride	Flamarrest®	0.224 in (5.69 mm)	Yes

Overall Cable Diameter (Nominal):	0.224 in (5.69 mm)

Electrical Characteristics

Electricals

Max. Conductor DCR	Max. Capacitance Unbalance
78 Ohm/km	330 pF/100m

Delay

Frequency	Max. Delay	Max. Delay Skew	Nom. Velocity of Prop.
100 MHz	537.6 ns/100m	35 ns/100m	72%

High Frequency

Frequency [MHz]	Max. Insertion Loss (Attenuation)	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. ACR [dB]	Min. PSACR [dB]	Min. ACRF (ELFEXT) [dB]	Min. PSACRF (PSELFEXT) [dB]	Min. RL (Return Loss) [dB]	Max./Min. Input Impedance (unFitted)	Max./Min. Fitted Impedance
1	2.0 dB/100m	79.3	77.3	77.3	75.3	70.8	67.8	20.0	100 ± 15 Ohm	102 ± 15 Ohm
4	3.7 dB/100m	70.3	68.3	66.5	64.5	58.8	55.8	23.6	100 ± 15 Ohm	100 ± 15 Ohm
8	5.3 dB/100m	65.8	63.8	60.5	58.5	52.7	49.7	25.3	100 ± 15 Ohm	100 ± 15 Ohm
10	5.9 dB/100m	64.3	62.3	58.4	56.4	50.8	47.8	26.0	100 ± 15 Ohm	100 ± 15 Ohm
16	7.4 dB/100m	61.2	59.2	53.8	51.8	46.7	43.7	26.0	100 ± 15 Ohm	100 ± 15 Ohm
20	8.3 dB/100m	59.8	57.8	51.4	49.4	44.8	41.8	26.0	100 ± 15 Ohm	100 ± 15 Ohm
25	9.4 dB/100m	58.3	56.3	49.0	47.0	42.8	39.8	25.5	100 ± 15 Ohm	100 ± 15 Ohm
31.25	10.5 dB/100m	56.9	54.9	46.4	44.4	40.9	37.9	25.0	100 ± 15 Ohm	100 ± 15 Ohm

62.5	15.1 dB/100m	52.4	50.4	37.3	35.3	34.9	31.9	23.5	100 ± 15 Ohm	100 ± 15 Ohm
100	19.3 dB/100m	49.3	47.3	30.0	28.0	30.8	27.8	22.5	100 ± 15 Ohm	100 ± 15 Ohm
155	24.5 dB/100m	46.4	44.4	21.9	19.9	27.0	24.0	21.6	100 ± 22 Ohm	100 ± 15 Ohm
200	28.2 dB/100m	44.8	42.8	16.6	14.6	24.8	21.8	21.0	100 ± 22 Ohm	100 ± 15 Ohm
250	31.8 dB/100m	43.3	41.3	11.5	9.5	22.8	19.8	20.5	100 ± 32 Ohm	100 ± 15 Ohm
300	35.2 dB/100m	42.1	40.1	6.9	4.9	21.3	18.3	20.1	100 ± 32 Ohm	100 ± 15 Ohm
350	38.4 dB/100m	41.1	39.1	2.7	0.7	19.9	16.9	19.8	100 ± 32 Ohm	100 ± 15 Ohm
400	41.5 dB/100m	40.3	38.3			18.8	15.8	19.5	100 ± 32 Ohm	100 ± 15 Ohm
450	44.3 dB/100m	39.5	37.5			17.7	14.7	19.2	100 ± 32 Ohm	100 ± 15 Ohm
500	47.1 dB/100m	38.8	36.8			16.8	13.8	19.0	100 ± 32 Ohm	100 ± 15 Ohm
550	49.7 dB/100m	38.2	36.2			16.0	13.0	18.8	100 ± 32 Ohm	100 ± 15 Ohm

Voltage

UL Voltage Rating
300 V (CMP), 300 V (CL3P)

Mechanical Characteristics

Temperature

UL Temperature	Operating	Installation	Storage
90°C	-20°C To +75°C	0°C To +50°C	-20°C To +75°C

Bend Radius

Stationary Min.	Installation Min.
1.0 in (25 mm)	2.25 in (57.2 mm)

Max. Pull Tension:	25 lbs (11 kg)
Bulk Cable Weight:	26 lbs/1000ft

Standards and Compliance

Environmental Suitability:	Plenum, Indoor
Sustainability:	Product Lens™, Environmental Product Declaration (EPD) Available
Flammability / Reaction to Fire:	NFPA 262, UL 910 (Plenum), FT6, FT6, IEC 60332-1-2
CPR Compliance:	CPR Euroclass: Eca
NEC / UL Compliance:	Article 800, CMP;CMP-LP (0.5A);CL3P-LP (0.5A)
CEC / C(UL) Compliance:	CMP
ICEA Compliance:	S-116-732-2013
IEEE Compliance:	IEEE 802.3bt Type 1, Type 2, Type 3, Type 4
NEMA Compliance:	ANSI/NEMA WC-66
Data Category:	Category 6
TIA/EIA Compliance:	ANSI/TIA-568.2-D Category 6
Third Party Performance Verification:	Category 6
ISO/IEC Compliance:	ISO/IEC 11801-1, IEC 61156-5
European Directive Compliance:	EU CE Mark, EU Directive 2015/863/EU (RoHS 2 amendment), REACH, EU Directive 2011/65/EU (RoHS 2), EU Directive 2012/19/EU (WEEE), REACH: 2020-01-16
APAC Compliance:	China RoHS II (GB/T 26572-2011)
Non-Plenum Number:	2412

Product Notes

Notes:	Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. Values above 350 MHz are for Engineering Information Only. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0.

History

Update and Revision:	Revision Number: 0.442 Revision Date: 11-15-2021

Variants

Item #	Color	Putup Type	Length	UPC
2413 0101000	Black	Reel	1,000 ft	612825061762
2413 010A1000	Black	Reel-in-Box	1,000 ft	612825061755
2413 010U1000	Black	UnReel	1,000 ft	612825131502
2413 0102500	Black	Reel	2,500 ft	612825061748

2413 D151000	Blue	Reel	1,000 ft	612825061601
2413 D15A1000	Blue	Reel-in-Box	1,000 ft	612825061618
2413 D15U1000	Blue	UnReel	1,000 ft	612825061793
2413 D152500	Blue	Reel	2,500 ft	612825061625
2413 0081000	Gray	Reel	1,000 ft	612825061717
2413 008A1000	Gray	Reel-in-Box	1,000 ft	612825061724
2413 008U1000	Gray	UnReel	1,000 ft	612825061809
2413 0051000	Green	Reel	1,000 ft	612825061663
2413 005A1000	Green	Reel-in-Box	1,000 ft	612825061687
2413 005U1000	Green	UnReel	1,000 ft	612825062226
2413 0052500	Green	Reel	2,500 ft	612825061670
2413 0035000	Orange			612825381068
2413 0035000	Orange			612825381068
2413 0031000	Orange	Reel	1,000 ft	612825061694
2413 003A1000	Orange	Reel-in-Box	1,000 ft	612825061700
2413 003U1000	Orange	UnReel	1,000 ft	612825062202
2413 012A1000	Pink	Reel-in-Box	1,000 ft	612825061786
2413 007A1000	Purple	Reel-in-Box	1,000 ft	612825061779
2413 002A1000	Red	Reel-in-Box	1,000 ft	612825061731
2413 0091000	White	Reel	1,000 ft	612825061571
2413 009A1000	White	Reel-in-Box	1,000 ft	612825061588
2413 009U1000	White	UnReel	1,000 ft	612825061816
2413 0092500	White	Reel	2,500 ft	612825061595
2413 0041000	Yellow	Reel	1,000 ft	612825061632
2413 004A1000	Yellow	Reel-in-Box	1,000 ft	612825061649
2413 004U1000	Yellow	UnReel	1,000 ft	612825062219
2413 0042500	Yellow	Reel	2,500 ft	612825061656

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