



**Product:** [2412](#)

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

### Product Description

Category 6+ Enhanced Premise Horizontal Cable (350MHz), 4 Pair, 23 AWG Solid Bare Copper Conductors, U/UTP, Riser-CMR, PVC 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 <a href="https://www.belden.com/patents">https://www.belden.com/patents</a> . |

#### Construction Details

##### Conductor

| Size   | Stranding | Material         | No. of Pairs |
|--------|-----------|------------------|--------------|
| 23 AWG | Solid     | BC - Bare Copper | 4            |

##### Insulation

| Material        | Color Code   |
|-----------------|--|
| PO - Polyolefin | White/Blue Stripe & Blue, White/Orange Stripe & Orange, White/Green Stripe & Green, White/Brown Stripe & Brown |

##### Outer Jacket

| Separator                  | Material                 | Nom. Diameter      | Ripcord |
|----------------------------|--------------------------|--------------------|---------|
| Dielectric Tape (Patented) | PVC - Polyvinyl Chloride | 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 (24 Ohm/1000ft) | 330 pF/100m                |

##### Delay

| Frequency | Max. Delay    | Max. Delay Skew | Nom. Velocity of Prop. |
|-----------|---------------|-----------------|------------------------|
| 100 MHz   | 537.6 ns/100m | 35 ns/100m      | 70%                    |

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

|      |              |      |      |      |      |      |      |      |          |          |
|------|--------------|------|------|------|------|------|------|------|----------|----------|
| 62.5 | 15.1 dB/100m | 52.4 | 50.4 | 37.3 | 35.3 | 34.9 | 31.9 | 23.5 | 100 ± 15 | 100 ± 15 |
| 100  | 19.3 dB/100m | 49.3 | 47.3 | 30.0 | 28.0 | 30.8 | 27.8 | 22.5 | 100 ± 15 | 100 ± 15 |
| 155  | 24.5 dB/100m | 46.4 | 44.4 | 21.9 | 19.9 | 27.0 | 24.0 | 21.6 | 100 ± 22 | 100 ± 15 |
| 200  | 28.3 dB/100m | 44.8 | 42.8 | 16.6 | 14.6 | 24.8 | 21.8 | 21.0 | 100 ± 22 | 100 ± 15 |
| 250  | 31.8 dB/100m | 43.3 | 41.3 | 11.5 | 9.5  | 22.8 | 19.8 | 20.5 | 100 ± 32 | 100 ± 15 |
| 300  | 35.2 dB/100m | 42.1 | 40.1 | 6.9  | 4.9  | 21.3 | 18.3 | 20.1 | 100 ± 32 | 100 ± 15 |
| 350  | 38.4 dB/100m | 41.1 | 39.1 | 2.7  | 0.7  | 19.9 | 16.9 | 19.8 | 100 ± 32 | 100 ± 15 |
| 400  | 41.5 dB/100m | 40.3 | 38.3 |      |      | 18.8 | 15.8 | 19.5 | 100 ± 32 | 100 ± 15 |
| 450  | 44.3 dB/100m | 39.5 | 37.5 |      |      | 17.7 | 14.7 | 19.2 | 100 ± 32 | 100 ± 15 |
| 500  | 47.1 dB/100m | 38.8 | 36.8 |      |      | 16.8 | 13.8 | 19.0 | 100 ± 32 | 100 ± 15 |
| 550  | 49.7 dB/100m | 38.2 | 36.2 |      |      | 16.0 | 13.0 | 18.8 | 100 ± 32 | 100 ± 15 |

## Voltage

|                          |
|--------------------------|
| <b>UL Voltage Rating</b> |
| 300 V (CMR)              |

## Mechanical Characteristics

### Temperature

| UL Temperature | Operating      | Installation | Storage        |
|----------------|----------------|--------------|----------------|
| 75°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: | 22 lbs/1000ft  |

## Standards and Compliance

|                                       |   |
|---------------------------------------|---|
| Environmental Suitability:            | Riser, Indoor   |
| Sustainability:                       | Product Lens™, Environmental Product Declaration (EPD) Available  |
| Flammability / Reaction to Fire:      | UL 1666 Riser, FT4, IEC 60332-1-2   |
| CPR Compliance:                       | CPR Euroclass: Eca; CPR UKCA Class: Eca   |
| NEC / UL Compliance:                  | Article 800, CMR  |
| CEC / C(UL) Compliance:               | CMR   |
| ICEA Compliance:                      | S-116-732   |
| 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 |
| UK Regulation Compliance:             | UKCA Mark   |
| APAC Compliance:                      | China RoHS II (GB/T 26572-2011)   |
| Plenum Number:                        | 2413  |

## 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: 0.639 Revision Date: 03-04-2023 |
|----------------------|--|

## Part Numbers

### Variants

| Item #       | Color | Putup Type | Length   | UPC          | Footnote |
|--------------|-------|------------|----------|--------------|----------|
| 2412 0101000 | Black | Reel       | 1,000 ft | 612825061199 |          |

|               |        |             |          |              |   |
|---------------|--------|-------------|----------|--------------|---|
| 2412 010A1000 | Black  | Reel-in-Box | 1,000 ft | 612825061205 |   |
| 2412 010U1000 | Black  | UnReel      | 1,000 ft | 612825062165 |   |
| 2412 0061000  | Blue   | Reel        | 1,000 ft | 612825061045 |   |
| 2412 006A1000 | Blue   | Reel-in-Box | 1,000 ft | 612825061052 |   |
| 2412 006U1000 | Blue   | UnReel      | 1,000 ft | 612825061236 |   |
| 2412 0061400  | Blue   | Reel        | 1,400 ft | 612825061076 |   |
| 2412 0062500  | Blue   | Reel        | 2,500 ft | 612825061069 |   |
| 2412 0065000  | Blue   | Reel        | 5,000 ft | 612825062134 | C |
| 2412 0081000  | Gray   | Reel        | 1,000 ft | 612825061168 |   |
| 2412 008A1000 | Gray   | Reel-in-Box | 1,000 ft | 612825061175 |   |
| 2412 008U1000 | Gray   | UnReel      | 1,000 ft | 612825061243 |   |
| 2412 0051000  | Green  | Reel        | 1,000 ft | 612825061083 |   |
| 2412 005A1000 | Green  | Reel-in-Box | 1,000 ft | 612825061090 |   |
| 2412 005U1000 | Green  | UnReel      | 1,000 ft | 612825062127 |   |
| 2412 003A1000 | Orange | Reel-in-Box | 1,000 ft | 612825061212 |   |
| 2412 003U1000 | Orange | UnReel      | 1,000 ft | 612825062103 |   |
| 2412 007A1000 | Purple | Reel-in-Box | 1,000 ft | 612825061182 |   |
| 2412 007U1000 | Purple | UnReel      | 1,000 ft | 612825062141 |   |
| 2412 002A1000 | Red    | Reel-in-Box | 1,000 ft | 612825061229 | C |
| 2412 0091000  | White  | Reel        | 1,000 ft | 612825061106 |   |
| 2412 009A1000 | White  | Reel-in-Box | 1,000 ft | 612825061113 |   |
| 2412 009U1000 | White  | UnReel      | 1,000 ft | 612825061250 |   |
| 2412 0092500  | White  | Reel        | 2,500 ft | 612825061120 |   |
| 2412 0095000  | White  | Reel        | 5,000 ft | 612825062158 | C |
| 2412 0041000  | Yellow | Reel        | 1,000 ft | 612825061137 |   |
| 2412 004A1000 | Yellow | Reel-in-Box | 1,000 ft | 612825061151 |   |
| 2412 004U1000 | Yellow | UnReel      | 1,000 ft | 612825062110 |   |
| 2412 0042500  | Yellow | Reel        | 2,500 ft | 612825061144 |   |

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