




**Product:** [10GB24](#) 

10GB Cat 6A Cable, U/UTP, LSZH, 4 Pair, AWG 23, Indoor CPR Eca

## Product Description

Category 6A (500MHz), 4-Pair, U/UTP, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyethylene Insulation, LSZH Jacket

## Technical Specifications

### Product Overview

|                        |  |
|------------------------|--|
| Suitable Applications: | Horizontal and building backbone cable; Support current and future Cat. 6a and 6 applications such as; 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI and ATM |
| Patent:                | This product has one or more applicable patents. More information on patents can be found at <a href="https://www.belden.com/resources/patents">https://www.belden.com/resources/patents</a> .             |

### Physical Characteristics (Overall)

#### Conductor

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

|                        |   |
|------------------------|---|
| Conductor Count:       | 8 |
| Total Number of Pairs: | 4 |

#### Insulation

| Material        | Nominal Diameter |
|-----------------|------------------|
| PO - Polyolefin | 1.18 mm          |

|              |    |
|--------------|----|
| Bonded-Pair: | No |
|--------------|----|

#### Color Chart

| Number | Color                   |
|--------|-------------------------|
| Pair 1 | White / Blue & Blue     |
| Pair 2 | White / Orange & Orange |
| Pair 3 | White / Green & Green   |
| Pair 4 | White / Brown & Brown   |

#### Outer Shield Material

| Type | Material   |
|------|------------|
| Tape | EquiBlock® |

#### Outer Jacket Material

| Material  | Nominal Diameter | Diameter +/- Tolerance |
|---|------------------|------------------------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 7.2 mm           | 0.3 mm                 |

### Construction and Dimensions

|                                       |       |
|---------------------------------------|-------|
| Min Elongation at Breakof Conductors: | 10 %  |
| Min Elongation at Breakof Insulation: | 100 % |
| Min Elongation at Breakof Jacket:     | 100 % |
| Min Tensile Strength of Jacket:       | 9 MPa |

### Electrical Characteristics

## Conductor DCR

| Max. Conductor DCR | Max DCR Unbalanced Between Pairs [%] | Max. DCR Unbalanced Within Pair [%] |
|--------------------|--------------------------------------|-------------------------------------|
| 95 Ohm/km          | 4 %                                  | 2 %                                 |

## Capacitance

| Max. Capacitance Unbalanced Pair to Pair | Max. Mutual Capacitance |
|--|-------------------------|
| 1,600 pF/m                               | 56 pF/m                 |

## Delay

| Max. Delay Skew | Nominal Velocity of Propagation (VP) [%] |
|-----------------|--|
| 45 ns/100m      | 67%                                      |

## High Freq

| 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] | Min. PSANEXT | Min. PSAACRF | Min. TCL [dB] | Min. ELTCTL [dB] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--------------|--------------|---------------|------------------|
| 1 MHz           | 2.1 dB/100m                       | 75.3 dB        | 72.3 dB          | 73.2 dB       | 70.2 dB         | 68 dB                   | 65.0 dB                     | 20 dB                      | 67.0 dB      | 67.0 dB      | 40 dB         | 35 dB            |
| 4 MHz           | 3.8 dB/100m                       | 66.3 dB        | 63.3 dB          | 62.5 dB       | 59.5 dB         | 56 dB                   | 53.0 dB                     | 23 dB                      | 67.0 dB      | 66.2 dB      | 40 dB         | 23 dB            |
| 10 MHz          | 5.9 dB/100m                       | 60.3 dB        | 57.3 dB          | 54.4 dB       | 51.4 dB         | 48 dB                   | 45.0 dB                     | 25 dB                      | 67.0 dB      | 58.2 dB      | 40 dB         | 15 dB            |
| 16 MHz          | 7.5 dB/100m                       | 57.2 dB        | 54.2 dB          | 49.8 dB       | 46.8 dB         | 43.9 dB                 | 40.9 dB                     | 25 dB                      | 67.0 dB      | 54.1 dB      | 38 dB         | 10.9 dB          |
| 31.2 MHz        | 10.5 dB/100m                      | 52.9 dB        | 49.9 dB          | 42.4 dB       | 39.4 dB         | 38.1 dB                 | 35.1 dB                     | 23.6 dB                    | 67.0 dB      | 48.3 dB      | 35.1 dB       | 5.1 dB           |
| 62.5 MHz        | 15 dB/100m                        | 48.4 dB        | 45.4 dB          | 33.4 dB       | 30.4 dB         | 32.1 dB                 | 29.1 dB                     | 21.5 dB                    | 65.6 dB      | 42.3 dB      | 32 dB         |                  |
| 100 MHz         | 19.1 dB/100m                      | 45.3 dB        | 42.3 dB          | 26.2 dB       | 23.2 dB         | 28 dB                   | 25.0 dB                     | 20.1 dB                    | 62.5 dB      | 38.2 dB      | 30 dB         |                  |
| 125 MHz         | 21.5 dB/100m                      | 43.8 dB        | 40.8 dB          | 22.3 dB       | 19.3 dB         | 26.1 dB                 | 23.1 dB                     | 19.4 dB                    | 61.0 dB      | 36.3 dB      | 29 dB         |                  |
| 200 MHz         | 27.6 dB/100m                      | 40.8 dB        | 37.8 dB          | 13.2 dB       | 10.2 dB         | 22 dB                   | 19.0 dB                     | 18 dB                      | 58.0 dB      | 32.2 dB      | 27 dB         |                  |
| 250 MHz         | 31.1 dB/100m                      | 39.3 dB        | 36.3 dB          | 8.3 dB        | 5.3 dB          | 20 dB                   | 17.0 dB                     | 17.3 dB                    | 56.5 dB      | 30.2 dB      | 26 dB         |                  |
| 300 MHz         | 34.3 dB/100m                      | 38.1 dB        | 35.1 dB          | 3.9 dB        | 0.9 dB          | 18.5 dB                 | 15.5 dB                     | 17.3 dB                    | 55.3 dB      | 28.7 dB      |               |                  |
| 500 MHz         | 45.3 dB/100m                      | 34.8 dB        | 31.8 dB          | -10.4 dB      | -13.4 dB        | 14 dB                   | 11.0 dB                     | 17.3 dB                    | 52.0 dB      | 24.2 dB      |               |                  |

Segregation class according EN50174-2:

b

## Current

| Max. Recommended Current [A] |
|------------------------------|
| 1.5 Amps per Conductor       |

## Voltage

| Voltage Rating [V] |
|--------------------|
| Max. 72 V DC       |

## Temperature Range

|                          |               |
|--------------------------|---------------|
| Installation Temp Range: | 0°C To +50°C  |
| Operating Temp Range:    | -30°C To 60°C |

## Mechanical Characteristics

|                                      |          |
|--------------------------------------|----------|
| Bulk Cable Weight:                   | 50 kg/km |
| Max. Pull Tension:                   | 110 N    |
| Min Bend Radius During Installation: | 58 mm    |
| Min Bend Radius During Operation:    | 29 mm    |

## Standards

|                     |  |
|---------------------|--|
| IEC Compliance:     | ISO/IEC 11801-1                                  |
| CPR Euroclass:      | Eca  |
| CENELEC Compliance: | EN 50173-1                                       |
| Data Category:      | Category 6A                                      |
| ANSI Compliance:    | ANSI/TIA 568.2-D (2018)                          |
| IEEE Compliance:    | PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4 |

## Applicable Environmental and Other Programs

|                                       |                        |
|---------------------------------------|------------------------|
| Environmental Space:                  | Indoor - Euroclass Eca |
| EU RoHS Compliance Date (yyyy-mm-dd): | 2015-08-24             |

## Flammability, LSOH, Toxicity Testing

|  |               |
|--|---------------|
| IEC Flammability:  | IEC 60332-1-2 |
| Burning Load:  | 520 kJ/m      |
| IEC 60754-1 (EN50267-1)- Halogen Amount:                                     | Zero          |
| IEC 60754-2 (EN50267-2)- Halogen Acid Gas Amount - Max. Conductivity:        | 2.5 µS/mm     |
| IEC 60754-2 (EN50267-2)- Halogen Acid Gas Amount - Min. pH:                  | 4.3           |
| IEC 61034-2 (EN 61034-2) (VDE 0482-1034) - Smoke Density Min. Transmittance: | 60%           |

## Part Number

### Variants

| Item #        | Color  | Putup Type | Length | EAN           |
|---------------|--------|------------|--------|---------------|
| 10GB24.06B100 | Blue   | Reel       | 100 m  | 8719605000040 |
| 10GB24.06305  | Blue   | Reel       | 305 m  | 8719605000026 |
| 10GB24.06500  | Blue   | Reel       | 500 m  | 8719605000033 |
| 10GB24.08305  | Gray   | Reel       | 305 m  | 8719605000071 |
| 10GB24.07B100 | Purple | Reel       | 100 m  | 8719605000064 |
| 10GB24.07305  | Purple | Reel       | 305 m  | 8719605169679 |
| 10GB24.07500  | Purple | Reel       | 500 m  | 8719605000057 |
| 10GB24.09500  | White  | Reel       | 500 m  | 8719605000088 |

## Product Notes

|        |  |
|--------|--|
| Notes: | Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. |
|--------|--|

## History

|                      |  |
|----------------------|--|
| Update and Revision: | Revision Number: 0.143 Revision Date: 11-12-2020 |
|----------------------|--|

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