



**Product:** [2141A](#)

Category 6A Indoor/Outdoor Cable, 4 Pair, F/UTP, OSP/CM-LS, LSZH

## Product Description

Category 6A Premise Horizontal Cable (500 MHz), Indoor/Outdoor OSP/CM-LS, 4 Pair, 23 AWG Solid Bare Copper Conductors, Haloarrest® LSZH Inner Jacket, F/UTP - Foil Shielded, Gel-Filled, UV Resistant Flame Retardant Haloarrest® LSZH Outer Jacket

## Technical Specifications

### Product Overview

|                        |  |
|------------------------|--|
| Suitable Applications: | OSP-Outdoor, Indoor/Outdoor, Premise Horizontal Cable, Ethernet up to 10GBASE-T, Wi-Fi 6, Wi-Fi 5, PoE++, PoE+, PoE, Noisy Environments, HDBaseT   |
| 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> . |

### Construction Details

#### Conductor

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

#### Insulation

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

#### Inner Jacket

| Material          | Nom. Diameter      | Ripcord |
|-------------------|--------------------|---------|
| PE - Polyethylene | 0.270 in (6.86 mm) | No      |

#### Outer Shield

| Shield Type | Material                | Coverage | Drainwire Type   |
|-------------|-------------------------|----------|------------------|
| Tape        | Bi-Laminate (Alum+Poly) | 100%     | 26 AWG (7x34) TC |

Waterblocking: Gel Filled

#### Outer Jacket

| Separator                          | Material  | Material Trade Name | Nom. Diameter      | Ripcord |
|------------------------------------|---|---------------------|--------------------|---------|
| Center Member (Patented X-Spline®) | LSZH - Low Smoke Zero Halogen (Flame Retardant) | Haloarrest®         | 0.370 in (9.40 mm) | Yes     |

Overall Cable Diameter (Nominal): 0.370 in (9.40 mm)

### Electrical Characteristics

#### Electricals

| Max. Conductor DCR | Max. Capacitance Unbalance |
|--------------------|----------------------------|
| 82 Ohm/km          | 45 pF/100m                 |

#### Delay

| Frequency | Max. Delay    | Max. Delay Skew | Nom. Velocity of Prop. |
|-----------|---------------|-----------------|------------------------|
| 100 MHz   | 537.6 ns/100m | 45 ns/100m      | 64%                    |

#### High Frequency

| Frequency [MHz] | Max. Insertion Loss (Attenuation) | Min. PSNEXT [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 | Min. PSANEXT [dB] | Min. PSAACRF [dB] | Min. TCL [dB] | Min. ELTCTL [dB] |
|-----------------|-----------------------------------|------------------|-----------------|-------------------------|-----------------------------|----------------------------|--------------------------------------|----------------------------|-------------------|-------------------|---------------|------------------|
| 1               | 2.1 dB/100m                       | 72.3             | 70.2            | 67.8                    | 64.8                        | 20.0                       | 105 +/- 10 Ohm                       | 115 +/- 15 Ohm             | 67.0              | 67.0              | 40.0          | 35.0             |
| 4               | 3.8 dB/100m                       | 63.3             | 59.5            | 55.8                    | 52.8                        | 23.0                       | 105 +/- 10 Ohm                       | 100 +/- 7 Ohm              | 67.0              | 66.2              | 40.0          | 23.0             |
| 8               | 5.3 dB/100m                       | 58.8             | 53.4            | 49.7                    | 46.7                        | 24.5                       | 100 +/- 22 Ohm                       | 100 +/- 7 Ohm              | 67.0              | 60.1              | 40.0          | 16.9             |
| 10              | 5.9 dB/100m                       | 57.3             | 51.4            | 47.8                    | 44.8                        | 25.0                       | 100 +/- 22 Ohm                       | 100 +/- 7 Ohm              | 67.0              | 58.2              | 40.0          | 15.0             |
| 16              | 7.5 dB/100m                       | 54.2             | 46.8            | 43.7                    | 40.7                        | 25.0                       | 100 +/- 22 Ohm                       | 100 +/- 7 Ohm              | 67.0              | 54.1              | 38.0          | 10.9             |
| 20              | 8.4 dB/100m                       | 52.8             | 44.4            | 41.8                    | 38.8                        | 25.0                       | 100 +/- 22 Ohm                       | 100 +/- 7 Ohm              | 67.0              | 52.2              | 37.0          | 9.0              |
| 25              | 9.4 dB/100m                       | 51.3             | 42.0            | 39.8                    | 36.8                        | 24.3                       | 100 +/- 22 Ohm                       | 100 +/- 7 Ohm              | 67.0              | 50.2              | 36.0          | 7.0              |
| 31.25           | 10.5 dB/100m                      | 49.9             | 39.4            | 37.9                    | 34.9                        | 23.6                       | 100 +/- 22 Ohm                       | 100 +/- 7 Ohm              | 67.0              | 48.3              | 35.1          | 5.1              |
| 62.5            | 15.0 dB/100m                      | 45.4             | 30.4            | 31.9                    | 28.9                        | 21.5                       | 100 +/- 22 Ohm                       | 100 +/- 7 Ohm              | 65.6              | 42.3              | 32.0          |                  |
| 100             | 19.1 dB/100m                      | 42.3             | 23.2            | 27.8                    | 24.8                        | 20.1                       | 100 +/- 22 Ohm                       | 100 +/- 7 Ohm              | 62.5              | 38.2              | 30.0          |                  |
| 200             | 27.6 dB/100m                      | 37.8             | 10.2            | 21.8                    | 18.8                        | 18.0                       | 100 +/- 22 Ohm                       | 100 +/- 7 Ohm              | 58.0              | 32.2              | 27.0          |                  |
| 250             | 31.1 dB/100m                      | 36.3             | 5.3             | 19.8                    | 16.8                        | 17.3                       | 100 +/- 32 Ohm                       | 100 +/- 7 Ohm              | 56.5              | 30.2              | 26.0          |                  |
| 300             | 34.3 dB/100m                      | 35.1             | 0.9             | 18.3                    | 15.3                        | 16.8                       | 100 +/- 32 Ohm                       | 100 +/- 7 Ohm              | 55.3              | 28.7              | 25.2          |                  |
| 350             | 37.2 dB/100m                      | 34.1             |                 | 16.9                    | 13.9                        | 16.3                       | 100 +/- 32 Ohm                       | 100 +/- 7 Ohm              | 54.3              | 27.3              | 24.6          |                  |
| 400             | 40.1 dB/100m                      | 33.3             |                 | 15.8                    | 12.8                        | 15.9                       | 100 +/- 32 Ohm                       | 100 +/- 7 Ohm              | 53.5              | 26.2              | 24.0          |                  |
| 450             | 42.7 dB/100m                      | 32.5             |                 | 14.7                    | 11.7                        | 15.5                       | 100 +/- 32 Ohm                       | 100 +/- 7 Ohm              | 52.7              | 25.1              | 23.5          |                  |
| 500             | 45.3 dB/100m                      | 31.8             |                 | 13.8                    | 10.8                        | 15.2                       | 100 +/- 32 Ohm                       | 100 +/- 7 Ohm              | 52.0              | 24.2              | 23.0          |                  |

#### Voltage

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

### Mechanical Characteristics

#### Temperature

| UL Temperature | Operating      | Installation   | Storage        |
|----------------|----------------|----------------|----------------|
| 75°C           | -40°C To +75°C | -20°C To +75°C | -40°C To +75°C |

#### Bend Radius

| Stationary Min. | Installation Min. |
|-----------------|-------------------|
| 3.0 in (76 mm)  | 3.75 in (95.3 mm) |

|                    |                |
|--------------------|----------------|
| Max. Pull Tension: | 25 lbs (11 kg) |
| Bulk Cable Weight: | 66 lbs/1000ft  |

### Standards and Compliance

|                                  |   |
|----------------------------------|---|
| Environmental Suitability:       | Indoor/Outdoor, Indoor, Outdoor, Non-Halogenated, Sunlight Resistance   |
| Flammability / Reaction to Fire: | UL 1685 (UL Loading-Limited Smoke)  |
| NEC / UL Compliance:             | Article 800, CM-LS  |
| CEC / C(UL) Compliance:          | CM-LS   |
| ICEA Compliance:                 | S-116-732-2013, S-56-434, S-99-689, S-100-685   |
| IEEE Compliance:                 | IEEE 802.3bt Type 1, Type 2, Type 3, Type 4   |
| NEMA Compliance:                 | ANSI/NEMA WC-66   |
| Data Category:                   | Category 6A   |
| TIA/EIA Compliance:              | ANSI/TIA-568.2-D Category 6A  |
| 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)   |
| Other Standard Compliance(s):    | Verified Channel/Category 6A  |

### Product Notes

|        |   |
|--------|---|
| Notes: | Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0. Not Suitable for Direct Burial. |
|--------|---|

### History

|                      |  |
|----------------------|--|
| Update and Revision: | Revision Number: 0.223 Revision Date: 12-15-2021 |
|----------------------|--|

### Variants

| Item #        | Color | UPC          |
|---------------|-------|--------------|
| 2141A 0101000 | Black | 612825400998 |

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