



Product: [1633ELW](#) 

Cat 5e Cable, F/UTP, LSZH, 4 Pair, AWG 24, Indoor CPR Cca

Product Description

Cat. 5e (100MHz), 4-Pair, F/UTP Foil shielded, Premise Horizontal Cable, 24 AWG solid bare copper conductors, Polyethylene insulation, Beldfoil® shield, AWG 26 solid tinned copper drainwire, LSZH jacket, RJ-45 compatible

Technical Specifications

Product Overview

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|------------------------|---|
| Suitable Applications: | Horizontal and building backbone cable; Support current and future Category 5e applications, such as: 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM |
|------------------------|---|

Physical Characteristics (Overall)

Conductor

| Element | AWG | Stranding | Material | No. of Pairs |
|-----------------|-----|-----------|------------------|--------------|
| Individual pair | 24 | Solid | BC - Bare Copper | 4 |

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

Insulation

| Element | Type | Material | Nominal Diameter |
|-----------------|------------|-----------------|------------------|
| Individual pair | Dielectric | PO - Polyolefin | 1.05 mm |

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

Color Chart

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

Outer Shield Material

| Type | Material | Coverage [%] | Drainwire Material | Drainwire AWG | Drainwire Construction n x D | Drainwire Position |
|------|-------------------------|--------------|--------------------|---------------|------------------------------|--------------------|
| Tape | Bi-Laminate (Alum+Poly) | 100% | TC - Tinned Copper | 26 | Solid | Over foil |

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|--------------|--|
| Table Notes: | Aluminum facing outside in contact with drain wire |
|--------------|--|

Outer Jacket Material

| Material | Nominal Diameter | Diameter +/- Tolerance |
|---|------------------|------------------------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 6.5 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 Unbalance | Max. Mutual Capacitance |
|----------------------------|-------------------------|
| 1,600 pF/m | 56 pF/m |

Impedance

| Nominal Characteristic Impedance |
|----------------------------------|
| 100 Ohm |

Delay

| Max. Delay Skew | Min. Velocity of Propagation |
|-----------------|------------------------------|
| 40 ns/100m | 60% |

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. TCL [dB] | Min. ELTCTL [dB] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|---------------|------------------|
| 1 MHz | 2.1 dB/100m | 65.3 dB | 62.3 dB | 63.2 dB | 60.2 dB | 64 dB | 61 dB | 20 dB | 40 dB | 35 dB |
| 4 MHz | 4 dB/100m | 56.3 dB | 53.3 dB | 52.32 dB | 49.3 dB | 52 dB | 49 dB | 23 dB | 34 dB | 23 dB |
| 10 MHz | 6.3 dB/100m | 50.3 dB | 47.3 dB | 44 dB | 41 dB | 44 dB | 41 dB | 25 dB | 30 dB | 15 dB |
| 16 MHz | 8 dB/100m | 47.2 dB | 44.2 dB | 39.2 dB | 36.2 dB | 39.9 dB | 36.9 dB | 25 dB | 28 dB | 10.9 dB |
| 20 MHz | 9 dB/100m | 45.8 dB | 42.8 dB | 36.8 dB | 33.8 dB | 38 dB | 35 dB | 25 dB | 27 dB | 9 dB |
| 31.25 MHz | 11.4 dB/100m | 42.9 dB | 39.9 dB | 31.5 dB | 28.5 dB | 34.1 dB | 31.5 dB | 23.6 dB | 25.1 dB | 5.5 dB |
| 62.5 MHz | 16.5 dB/100m | 38.4 dB | 35.4 dB | 21.9 dB | 18.9 dB | 28.1 dB | 25.1 dB | 21.5 dB | 22 dB | |
| 100 MHz | 21.3 dB/100m | 35.3 dB | 32.3 dB | 14 dB | 11 dB | 24 dB | 21 dB | 20.1 dB | 20 dB | |

| | |
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| Table Notes: | Limits below 4 MHz are for information only. Reference standard: IEC 61156-5 |
| Coupling Attenuation Class: | Type II |
| Segregation class according EN50174-2: | c |

Transfer Impedance

| Frequency [MHz] | Description | Transfer Impedance |
|-----------------|-------------|--------------------|
| 1 Mhz | Grade 2 | Max. 50 mOhm/m |
| 10 Mhz | | Max. 100 mOhm/m |
| 30 Mhz | | Max. 200 mOhm/m |
| 100 Mhz | | Max. 1000 mOhm/m |

Current

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

Voltage

| Voltage Rating [V] |
|--------------------|
| 72 V |

Temperature Range

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

Mechanical Characteristics

| | |
|--------------------------------------|----------|
| Bulk Cable Weight: | 47 kg/km |
| Max. Pull Tension: | 72 N |
| Min Bend Radius During Installation: | 52 mm |
| Min Bend Radius During Operation: | 26 mm |

Standards

| | |
|---------------------|-------------------------|
| IEC Compliance: | ISO/IEC 11801-1 |
| CPR Euroclass: | Cca-s1,d1,a1 |
| CENELEC Compliance: | EN 50173-1 |
| Data Category: | Category 5e |
| ANSI Compliance: | ANSI/TIA 568.2-D (2018) |

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| IEEE Compliance: | PoE: IEEE 802.3bt Type 1, Type 2, Type 3 |
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Applicable Environmental and Other Programs

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|---------------------------------------|------------------------|
| Environmental Space: | Indoor - Euroclass Cca |
| EU RoHS Compliance Date (yyyy-mm-dd): | 2005-01-01 |

Flammability, LSOH, Toxicity Testing

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|--|---------------|
| IEC Flammability: | IEC 60332-1-2 |
| Burning Load: | 575 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% |

Product Notes

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

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| Update and Revision: | Revision Number: 0.5 Revision Date: 10-30-2020 |
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