# Part Number: BE43886

## ECE R118 Approved Ethernet Cat 5e 1Gb/s



### Product Description

ECE R118 Approved Ethernet Cat 5e, 1Gb/s, 4 Pair, AWG 26(7), Overal Foil, No Halogen Jacket, Approved for Bus and Coach Applications

### Technical Specifications

#### Product Overview

| | |
|---|---|
| Environmental Space: | Indoor |
| Suitable Applications: | Work area patch 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 | 26 | 7x34 | BC - Bare Copper | 4 |

| | |
|---|---|
| Conductor Count: | 8 |
| Total Number of Pairs: | 4 |
| Conductor Size: | 26 AWG |

**Insulation**

| Element | Type | Material | Nominal Diameter |
|---|---|---|---|
| Individual pair | Dielectric | Polyethylene | 0.95 mm |

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

**Color Chart**

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

**Outer Shield Material**

| Type | Material | Drainwire Material | Drainwire AWG | Drainwire Position |
|---|---|---|---|---|
| Tape | Aluminum/Polyester | Stranded tinned copper | 26 (7xAWG34) | Under foil |

**Outer Jacket Material**

| Material | Color | Nominal Diameter | Diameter +/- Tolerance | Max. Diameter | Min. Wall Thickness | Nominal Wall Thickness |
|---|---|---|---|---|---|---|
| LSZH / FRNC | Grey (RAL 7032) | 5.4 mm | 0.3 mm | 5.9 mm | 0.4 mm | 0.45 mm |

#### Construction and Dimensions

| | |
|---|---|
| Min Elongation at Breakof Conductors: | 10 % |
| Min Elongation at Breakof Insulation: | 100 % |

**Cabling**

| Description |
|---|
| 4 pairs twisted together |

| | |
|---|---|
| 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 [%] |
|---|---|---|
| 145 Ohm/km | 4 % | 2 Ohm |

**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 | 3.2 dB/100m | 65.3 dB | 62.3 dB | 62.1 dB | 59.1 dB | 64 dB | 61 dB | 20 dB | 40 dB | 35 dB |
| 4 MHz | 6 dB/100m | 56.3 dB | 53.3 dB | 50.3 dB | 47.3 dB | 52 dB | 49 dB | 23 dB | 34 dB | 23 dB |
| 10 MHz | 9.5 dB/100m | 50.3 dB | 47.3 dB | 40.8 dB | 37.8 dB | 44 dB | 41 dB | 25 dB | 30 dB | 15 dB |
| 16 MHz | 12.1 dB/100m | 47.2 dB | 44.2 dB | 35.2 dB | 32.2 dB | 39.9 dB | 36.9 dB | 25 dB | 28 dB | 10.9 dB |
| 20 MHz | 13.5 dB/100m | 45.8 dB | 42.8 dB | 32.2 dB | 29.2 dB | 38 dB | 35 dB | 25 dB | 27 dB | 9 dB |
| 31.25 MHz | 17.1 dB/100m | 42.9 dB | 39.9 dB | 25.8 dB | 22.8 dB | 34.1 dB | 31.5 dB | 23.3 dB | 25.1 dB | 5.5 dB |
| 62.5 MHz | 24.8 dB/100m | 38.4 dB | 35.4 dB | 13.6 dB | 10.6 dB | 28.1 dB | 25.1 dB | 20.7 dB | 22 dB | |
| 100 MHz | 32 dB/100m | 35.3 dB | 32.3 dB | 3.3 dB | 0.3 dB | 24 dB | 21 dB | 19 dB | 20 dB | |

| | |
|---|---|
| High Freq Table Note: | Limits below 4MHz are for information only. |
| Coupling Attenuation Class: | Type II |
| Segregation class according EN50174-2: | a |

**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 A |

**Voltage**

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

## Temperature Range

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

## Mechanical Characteristics

| | |
|---|---|
| Bulk Cable Weight: | 31 kg/km |
| Max Recommended Pulling Tension: | 45 N |
| Min Bend Radius During Installation: | 42 mm |
| Min Bend Radius During Operation: | 21 mm |

## Standards

| | |
|---|---|
| ISO/IEC Compliance: | ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011 |

| | |
|---|---|
| CPR Euroclass: | Eca |
| CENELEC Compliance: | EN 50173-1 Ed. 3:2011 |
| ANSI Compliance: | ANSI/TIA/EIA 568-C.2 (2009) |

## Applicable Environmental and Other Programs

| | |
|---|---|
| EU RoHS Compliance Date (yyyy-mm-dd): | 2017-03-31 |

## Flammability, LS0H, Toxicity Testing

| | |
|---|---|
| ISO/IEC Flammability: | IEC 60332-1 |
| Other Flammability: | ECE R118 |
| Burning Load: | 395 kJ/m |
| Amount of Halogen acc. to IEC 60754-1 & EN50267-1: | Zero |

## Part Number

| | |
|---|---|
| Patent: | https://www.belden.com/resources/patents |

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