



**Part Number: 7860ENH**

**Category 6 Bonded-Pair ScTP Cable**

**Product Description**

Cat. 6 (250MHz), 4-Pair, F/UTP Foil shielded, Premise Horizontal Cable, 23 AWG solid bare copper conductors, Polyethylene insulation, Beldfoil® shield, AWG 26 solid tinned copper drainwire, LSZH jacket

**Technical Specifications**

**Product Overview**

|                        |   |
|------------------------|---|
| Environmental Space:   | Indoor - Euroclass Dca & Eca  |
| Suitable Applications: | Horizontal and building backbone cable; Support current and future Category 6 and 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 | 23  | Solid     | BC - Bare Copper | 4            |

|                             |   |
|-----------------------------|---|
| Total Number of Conductors: | 8 |
| Total Number of Pairs:      | 4 |

**Insulation**

| Element         | Type       | Material     | Nominal Diameter |
|-----------------|------------|--------------|------------------|
| Individual pair | Dielectric | Polyethylene | 1.35 mm          |

**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 Position |
|------|----------------------|--------------|---------------------|---------------|--------------------|
| Tape | Aluminum / Polyester | 100 %        | Solid tinned copper | 26            | Over foil          |

OuterShield1, Table Note: Aluminum facing outside in contact with drain wire in(in)

**Outer Jacket Material**

| Material    | Color        | Nominal Diameter | Diameter +/- Tolerance |
|-------------|--------------|------------------|------------------------|
| LSZH / FRNC | Grey or Blue | 7.3 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

### Capacitance

| Max. Capacitance Unbalance | Max. Mutual Capacitance |
|----------------------------|-------------------------|
| 1,600 pF/m                 | 56 pF/m                 |

### Conductor DCR

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

### 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                       | 75.3 dB        | 72.3 dB          | 73.2 dB       | 70.2 dB         | 70 dB                   | 67 dB                       | 20 dB                      | 40 dB         | 35 dB            |
| 4 MHz           | 3.8 dB/100m                       | 66.3 dB        | 63.3 dB          | 62.4 dB       | 59.4 dB         | 58 dB                   | 55 dB                       | 23 dB                      | 34 dB         | 23 dB            |
| 10 MHz          | 6 dB/100m                         | 60.3 dB        | 57.3 dB          | 54.3 dB       | 51.3 dB         | 50 dB                   | 47 dB                       | 25 dB                      | 30 dB         | 15 dB            |
| 16 MHz          | 7.6 dB/100m                       | 57.2 dB        | 54.2 dB          | 49.6 dB       | 46.6 dB         | 45.9 dB                 | 42.9 dB                     | 25 dB                      | 28 dB         | 10.9 dB          |
| 20 MHz          | 8.5 dB/100m                       | 55.8 dB        | 52.8 dB          | 47.3 dB       | 44.3 dB         | 44 dB                   | 41 dB                       | 25 dB                      | 27 dB         | 9 dB             |
| 31.2 MHz        | 10.7 dB/100m                      | 52.9 dB        | 49.9 dB          | 42.1 dB       | 39.1 dB         | 40.1 dB                 | 37.1 dB                     | 23.6 dB                    | 25.1 dB       | 5.1 dB           |
| 62.5 MHz        | 15.5 dB/100m                      | 48.4 dB        | 45.4 dB          | 32.9 dB       | 29.9 dB         | 34.1 dB                 | 31.1 dB                     | 21.5 dB                    | 22 dB         |                  |
| 100 MHz         | 19.9 dB/100m                      | 45.3 dB        | 42.3 dB          | 25.4 dB       | 22.4 dB         | 30 dB                   | 27 dB                       | 20.1 dB                    | 20 dB         |                  |
| 155 MHz         | 25.3 dB/100m                      | 42.4 dB        | 39.4 dB          | 17.1 dB       | 14.1 dB         | 26.2 dB                 | 23.2 dB                     | 18.8 dB                    | 18.1 dB       |                  |
| 200 MHz         | 29.1 dB/100m                      | 40.8 dB        | 37.8 dB          | 11.6 dB       | 8.6 dB          | 24 dB                   | 21 dB                       | 18 dB                      | 17 dB         |                  |
| 250 MHz         | 33 dB/100m                        | 39.3 dB        | 36.3 dB          | 6.3 dB        | 3.3 dB          | 22 dB                   | 19 dB                       | 17.3 dB                    | 16 dB         |                  |

High Freq Table Note: Limits below 4MHz are for information only.

### Current

| Max. Recommended Current [A] |
|------------------------------|
| 1.5 A                        |

### Voltage

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

### Coupling Attenuation

| Coupling Attenuation [dB] |
|---------------------------|
| Type II V dB              |

Coupling Attenuation Class: Type II

### 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   |

### Temperature Range

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

## Mechanical Characteristics

|                                      |           |
|--------------------------------------|-----------|
| Burning Load:                        | 745(kJ/m) |
| Bulk Cable Weight:                   | 50(kg/km) |
| Max Recommended Pulling Tension:     | 80(N)     |
| Min Bend Radius During Installation: | 58 mm     |
| Min Bend Radius During Operation:    | 29 mm     |

## Standards

|                     |  |
|---------------------|--|
| ISO/IEC Compliance: | ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011 |
| CPR Euroclass:      | Dca-s2,d1,a1                               |
| CENELEC Compliance: | EN 50173-1 Ed. 3:2011                      |
| ANSI/TIA Category:  | Category 6                                 |
| ANSI Compliance:    | ANSI/TIA/EIA 568-B.2-1 (2002)              |

## Flammability, LSOH, Toxicity Testing

|  |             |
|--|-------------|
| ISO/IEC Flammability:                  | IEC 60332-1 |
| Amt of Halogen IEC 60754-1 /EN50267-1: | Zero        |

## Part Number

### Variants

| Item #         | Color           |
|----------------|-----------------|
| 7860ENH.03500  | BLACK, RAL 9005 |
| 7860ENH.011000 | BLUE, RAL 5015  |
| 7860ENH.01500  | BLUE, RAL 5015  |
| 7860ENH.001000 | GRAY            |
| 7860ENH.002000 | GRAY            |
| 7860ENH.002100 | GRAY            |
| 7860ENH.00305  | GRAY            |
| 7860ENH.00500  | GRAY            |
| 7860ENH.00B100 | GRAY            |
| 7860ENH.02500  | PURPLE          |
| 7860ENH.04500  | YELLOW          |

|         |   |
|---------|---|
| Patent: | <a href="http://www.belden.com/p">http://www.belden.com/p</a> |
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## History

|                  |   |
|------------------|---|
| Revision Number: | 4 |
|------------------|---|

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