

# Data/LAN Cables

## Cat 6A S/FTP PE



### Application

- ISDN
- 4/6 Mbps Token Ring (IEEE 802.5)
- 100 Mbps CDDI
- 250 Mbps ATM Power over Ethernet (PoE)
- 10 BASE-T Ethernet (IEEE 802.3j)
- 100 BASE-VG AnyLAN (IEEE 802.12)
- 1000 BASE-T 1 Gigabit Ethernet (IEEE 802.3 ab)
- 10 GBASE-T 10 Gigabit Ethernet (IEEE 802.3 an)

### Cable Construction

- 1 - Conductor : Electrolytic solid copper conductor
- 2 - Insulation : Foamed polyethylene clad with solid polyethylene
- 3 - Indv. Stranding : Insulations are stranded into pairs
- 4 - Indv. Screen : Al/PET tape
- 5 - Screen Wire : A tinned copper earthing wire between screened pairs
- 6 - Ovrl. Stranding : In layers
- 7 - Ovrl. Screen : Tinned copper braiding
- 8 - Outer Jacket : UV resistant polyethylene outer jacket, RAL 9005 (Black)

### Technical Characteristics

| Conductor Resistance<br>$\Omega/\text{km}$<br>(20 °C) | Insulation Resistance<br>$\text{M}\Omega/\text{km}$<br>(20 °C) | Mutual Capacitance<br>nF/km | Capacitance Unbalance<br>% | Propagation Velocity<br>% | Characteristic Impedance<br>$\Omega$<br>(1-500 MHz) | Operating Voltage<br>V DC | Test Voltage<br>V<br>(DC. 1 minute) |
|---|--|-----------------------------|----------------------------|---------------------------|---|---------------------------|-------------------------------------|
| 75  | 5000   | 42                          | %2                         | %78-80                    | 100 $\pm$ 5   | 125                       | 1200                                |

### Mechanical Characteristics

| Bending Radius | Temperature Range Operating |
|----------------|-----------------------------|
| 8.0xD mm       | -20°C ~ +60°C               |

### Standards

| Manufacturing                                  |
|--|
| ANSI/TIA-568-C.2,<br>IEC-61156-5,<br>IEC-11801 |

### Electrical Properties

| Frequency<br>MHz | Insertion Loss<br>dB/100m<br>(Max.) | Near-end Crosstalk (NEXT)<br>dB<br>(Min.) | Power-sum Near-end Crosstalk (PSNEXT)<br>dB<br>(Min.) | Equal-level Far-end Crosstalk (ELFEXT)<br>dB/100m<br>(Min.) | Power-sum Equal Level Far-end Crosstalk (PSELFEXT)<br>dB/100m<br>(Min.) | Return Loss (RL)<br>dB<br>(Min.) |
|------------------|-------------------------------------|---|---|---|---|----------------------------------|
| 1                | 2.1                                 | 74.3                                      | 72.3  | 67.8  | 64.8  | 20                               |
| 4                | 3.8                                 | 65.3                                      | 63.3  | 55.8  | 52.8  | 23                               |
| 8                | 5.3                                 | 60.8                                      | 58.8  | 49.7  | 46.7  | 24.5                             |
| 10               | 5.9                                 | 59.3                                      | 57.3  | 47.8  | 44.8  | 25                               |
| 16               | 7.5                                 | 56.2                                      | 54.2  | 43.7  | 40.7  | 25                               |
| 20               | 8.4                                 | 54.8                                      | 52.8  | 41.8  | 38.8  | 25                               |
| 25               | 9.4                                 | 53.3                                      | 51.3  | 39.8  | 36.8  | 24.3                             |
| 31.25            | 10.5                                | 51.9                                      | 49.9  | 37.9  | 34.9  | 23.6                             |
| 62.5             | 15                                  | 47.4                                      | 45.4  | 31.9  | 28.9  | 21.5                             |
| 100              | 19.1                                | 44.3                                      | 42.3  | 27.8  | 24.8  | 20.1                             |
| 200              | 27.6                                | 39.8                                      | 37.8  | 21.8  | 18.8  | 18                               |
| 250              | 31.1                                | 38.3                                      | 36.3  | 19.8  | 16.8  | 17.3                             |
| 300              | 34.3                                | 37.1                                      | 35.1  | 18.3  | 15.3  | 16.8                             |
| 400              | 40.1                                | 35.3                                      | 33.3  | 15.8  | 12.8  | 15.9                             |
| 500              | 45.3                                | 33.8                                      | 31.8  | 13.8  | 10.8  | 15.2                             |

**Cat 6A S/FTP PE**

| Part Number                   | Pair Count | Conductor Diameter (AWG) | Approx. Cable Diameter (mm) | Copper Weight (kg/km) | Approx. Weight (kg/km) | Packing Lengths (m) |
|-------------------------------|------------|--------------------------|-----------------------------|-----------------------|------------------------|---------------------|
| 3.46A20.12.5.0.0.1 35.A1Db.04 | 4          | 23                       | 7.2                         | 25.9                  | 50                     | 500/1000            |