

Industrial Ethernet Cables

SF/UTP Cat 5e – 4 Pair Cables

A range of shielded copper cables for use in industrial Ethernet networks, designed to withstand the entire spectrum of environmental and mechanical hazards, from temperature extremes and sunlight, to solvents, oils, chemicals and moisture.

Ordering Information

Belden European Item Numbers

| Jacket Material | Performance | Number of Pairs | Stationary Application | Flexible Application | Highly Flexible Application |
|--------------------|-------------|-----------------|------------------------|----------------------|-----------------------------|
| PVC | Cat 5e | 4 Pairs | 74001E | 74002E | |
| Premium FRNC | Cat 5e | 4 Pairs | 74001NH | 74002NH | |
| PUR (Halogen Free) | Cat 5e | 4 Pairs | 74001PU | 74002PU | 74003PU |

Applications

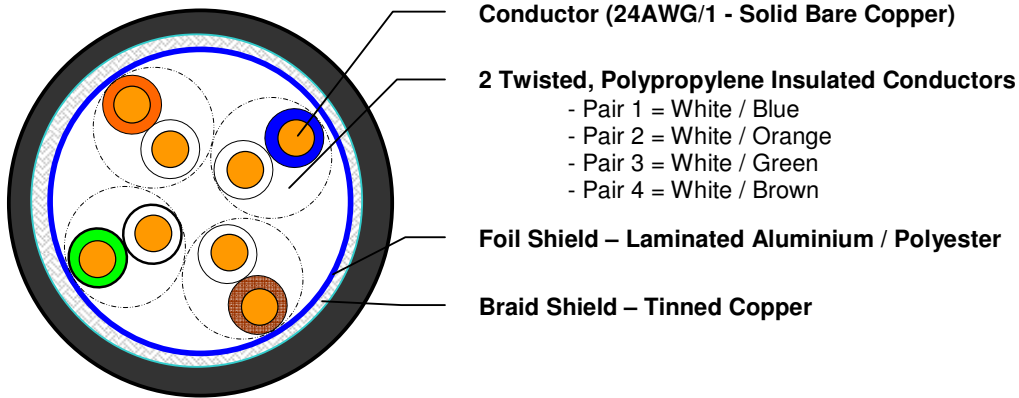
- Industrial environments where IP67 may be required
- Transmission of data in industrial applications via the ethernet protocol
- Stationary applications, where there is no movement after installation
- Flexible applications, subject to occasional movement or vibration after installation
- Highly flexible, trailing applications, for instance 'C Track'

Features & Benefits

- Choice of PVC, Premium FRNC or PUR cable jacket for specific application requirements in the harsh industrial environment
- High shield coverage to maintain signal integrity in the industrial 'noisy' environment
- Oil resistant
- Chemical & solvent resistant
- Temperature resistant
- Abrasion resistant
- Excellent mechanical resistance
- Weld-splatter resistant PUR cable jacket available on request
- IP67 rated
- UV resistant
- Black cable jacket

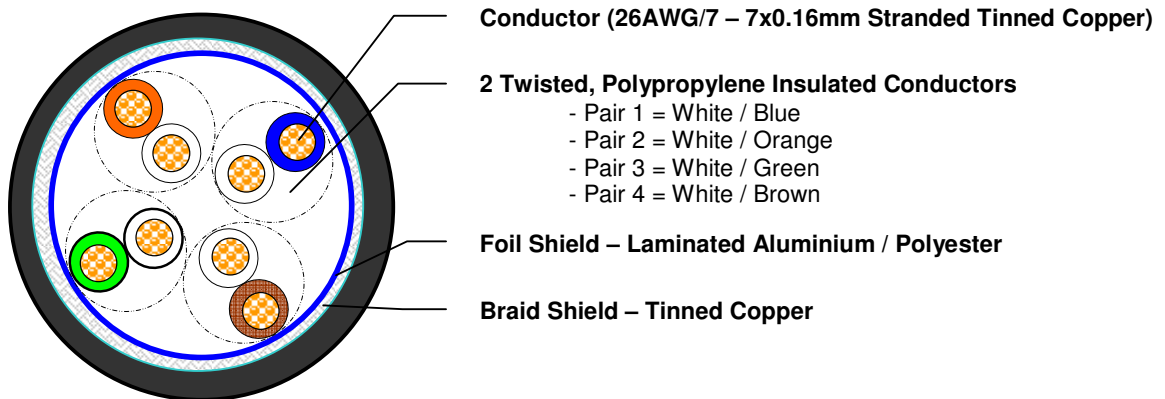
Construction & Dimensions

Mechanical Data – Stationary Application



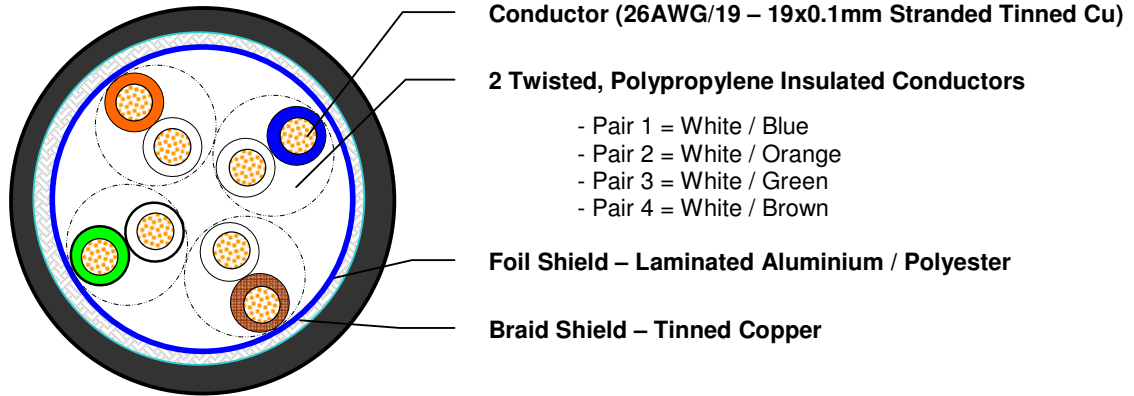
| Part Number | Conductor | Insulation (Nom. Dia.) | Braid Coverage | Sheath Material | Sheath (Nom. Dia.) | Sheath Colour |
|-------------|-----------|------------------------|----------------|-----------------|--------------------|---------------|
| 74001E | 24AWG/1 | 1.10mm | >80% | PVC | 7.00mm | Black |
| 74001NH | 24AWG/1 | 1.10mm | >80% | FRNC | 7.00mm | Black |
| 74001PU | 24AWG/1 | 1.10mm | >80% | PUR | 6.60mm | Black |

Mechanical Data – Flexible Application



| Part Number | Conductor | Insulation (Nom. Dia.) | Braid Coverage | Sheath Material | Sheath (Nom. Dia.) | Sheath Colour |
|-------------|-----------|------------------------|----------------|-----------------|--------------------|---------------|
| 74002E | 26AWG/7 | 0.98mm | >80% | PVC | 6.50mm | Black |
| 74002NH | 26AWG/7 | 0.98mm | >80% | FRNC | 6.50mm | Black |
| 74002PU | 26AWG/7 | 0.98mm | >80% | PUR | 6.50mm | Black |

Mechanical Data – Highly Flexible Application



| Part Number | Conductor | Insulation (Nom. Dia.) | Braid Coverage | Sheath Material | Sheath (Nom. Dia.) | Sheath Colour |
|-------------|-----------|------------------------|----------------|-----------------|--------------------|---------------|
| 74003PU | 26AWG/19 | 1.00mm | >80% | PUR | 6.65mm | Black |

Standards

- ISO/IEC 11801 2nd Edition
- ISO/IEC 24702
- EN 50173-1
- TIA/EIA-568-B.2

Electrical Properties

| | |
|---------------------------------------|-----------------------|
| Max Operating Voltage UL | 450V A.C. / 300V D.C. |
| Velocity of Propagation @ 4 – 100 MHz | 68% |
| Delay | < 5.34 ns / m |
| Impedance @ 1 – 100 MHz | 100 +/- 15 Ohm |

74001E / 74001NH / 74001PU (AWG24)

| Frequency (MHz) | Insertion Loss (Max) (dB/100m) | NEXT (dB) | ELFEXT (dB/100m) | RETURN LOSS (dB) |
|-----------------|--------------------------------|-----------|------------------|------------------|
| 1 | 2.0 | 65.3 | 63.8 | 20.0 |
| 4 | 4.1 | 56.3 | 51.7 | 23.0 |
| 10 | 6.5 | 50.3 | 43.8 | 25.0 |
| 16 | 8.2 | 47.2 | 39.7 | 25.0 |
| 20 | 9.3 | 45.8 | 37.7 | 25.0 |
| 25 | 10.4 | 44.3 | 35.8 | 24.3 |
| 31.25 | 11.7 | 42.9 | 33.9 | 23.6 |
| 62.5 | 17.0 | 38.3 | 27.8 | 21.5 |
| 100 | 22.0 | 35.3 | 23.8 | 20.1 |

74002E / 74002NH / 74002PU / 74003PU (AWG26)

| Frequency (MHz) | Insertion Loss (Max) (dB/100m) | NEXT (dB) | ELFEXT (dB/100m) | RETURN LOSS (dB) |
|-----------------|--------------------------------|-----------|------------------|------------------|
| 1 | 3.2 | 65.3 | 63.8 | 20.0 |
| 4 | 6.0 | 56.3 | 51.7 | 23.0 |
| 10 | 9.5 | 50.3 | 43.8 | 25.0 |
| 16 | 12.1 | 47.2 | 39.7 | 25.0 |
| 20 | 13.6 | 45.8 | 37.7 | 25.0 |
| 25 | 15.3 | 44.3 | 35.8 | 24.3 |
| 31.25 | 17.1 | 42.9 | 33.9 | 23.6 |
| 62.5 | 24.8 | 38.3 | 27.8 | 21.5 |
| 100 | 32 | 35.3 | 23.8 | 20.1 |

Mechanical, Physical and/or Environmental Characteristics

| | |
|----------------------------------|--|
| Flame Resistance | IEC 60332-1 |
| Oil Resistance | IEC 60811-2-1 |
| Bending Radius / Setting Radius | 10 x Diameter / 5 x Diameter |
| Halogen Free | IEC 60754-1 / IEC 60754-2 (FRNC and PUR Cable) |
| Maximum Pulling Tension | 80N |
| Temperature Range - Installation | -5.0°C to +50.0°C |
| Temperature Range - Operating | -40.0°C to +80.0°C |

Version 03 (07/10)