

LANGUARD™

High Performance
Enterprise
LAN Cabling

Enterprise LAN Applications



Infra - Structure

IT Management has long acknowledged that the use of high quality LAN interconnect cabling within the enterprise network is crucial to maintaining a high level of service. By choosing one cabling supplier with a proven and extensive cabling infrastructure product line Lorom can reduce the undue complexity of the buying and specifying process.

LOROM is unlike other infrastructure vendors who only have products suitable for North American installations; we have a global product line that can meet worldwide standards suitable for next generation infrastructure. Our products not only meet these global networking standards but provide a system overhead budget that can ensure critical up time in your Enterprise Data Network.

LOROM tackles the common problems in the Enterprise Data Network with cabling products that can resolve each and every signal transmission issue with our Languard technology platform.

Our Solutions Include:

- The Languard Series of High Bandwidth LAN Cable
- Product Performance that exceeds all the applicable specified standards
- Cabling Systems for Professional Audio, Video and Entertainment Systems
- Security, HVAC and Lighting Control for Intelligent Building Automation
- High Speed Data interconnects for Data Centers
- Outstanding Global Service and Technical Support



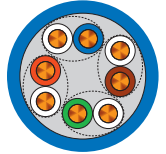
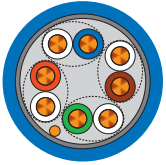
High Quality

We have a name to live up to and a reputation to protect. Our seven factories located in China and India maintain an exceptional level of Quality that assures and maintains our commitment to excellence.

At LOROM, we believe that our employees' skills, training and experience along with a positive attitude and a sense of responsibility make a critical difference in our ability to provide our customers with precision products with world class quality. That's why LOROM's Quality System delivers the best possible combination of common-sense manufacturing and advanced technology to meet your requirements. Making sure that we live up to what you expect from the products that bear the LOROM name comes from a sense of pride on a job well done.

LANGUARD™ 200 Cat 5e

High Performance LAN Cable



- Twisted pair (UTP) and (F/UTP) Category 5e cable for use in horizontal cabling systems per ANSI/TIA/EIA 568-C.2
- The cable exceeds Category 5e electrical characteristics and is sweep tested to 200 MHz.
- Print includes descending footage markers from 1000 to 0 on each 1000 ft reel or box.
- The plenum rated cable is for use in air handling ducts and spaces in accordance with Article 800 of the National Electrical Code (NEC). The cable is UL (USA) and cUL (Canada) safety listed for this application by passing NFPA 262 (UL 910 or FT-6 Steiner Tunnel) test.
- The Riser non-plenum rated cable is for use as a vertical run in a shaft and for general-purpose communications use in accordance with Article 800 of the NEC. The cable is UL (USA) and cUL (Canada) listed for this application by passing UL 1666 Riser Cable Flammability Test. The cable also passes the CSA FT4 vertical flame test - cables in cable trough from Clause 4.11.4 of CSA C22.2 No. 0.3.
- This cable complies with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.
- Supported applications IEEE 802.3 10BASE-T (Ethernet), 100BASE-T (Fast Ethernet), and 1000BASE-T (Gigabit Ethernet), ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 and 16 Mbps Token Ring, ATM up to 155 Mbps.

| Part No. | Description | Conductor | UL Safety Rating | IEC Safety Rating | Insulation Type | Jacket Type | Cable Diameter | |
|----------|-------------|-----------------|------------------|-------------------|-----------------|-------------|----------------|--------|
| | | | | | | | mm | inches |
| CBL-8020 | 4 Pr UTP | 24 AWG Solid | CMP | N/A | FEP | LS PVC | 4.8 | 0.189 |
| CBL-8021 | 4 Pr UTP | 24 AWG Solid | CMR | 60332-3 Cat.C | FRPE | PVC | 5.0 | 0.197 |
| CBL-8022 | 4 Pr UTP | 24 AWG Solid | CMR | 60332-3 Cat.C | FRPE | LSOH | 5.0 | 0.197 |
| CBL-8023 | 4 Pr UTP | 24 AWG Stranded | CMR | 60332-3 Cat.C | FRPE | PVC | 5.4 | 0.212 |
| CBL-8024 | 4 Pr UTP | 24 AWG Stranded | CMR | 60332-3 Cat.C | FRPE | LSOH | 5.4 | 0.212 |
| CBL-8040 | 4 Pr UTP | 24 AWG Solid | CMX | 60332-1 | FRPE | PE | 5.0 | 0.197 |
| CBL-8025 | 4 Pr F/UTP | 24 AWG Solid | CMP | N/A | FEP | LS PVC | 5.9 | 0.232 |
| CBL-8026 | 4 Pr F/UTP | 24 AWG Solid | CMR | 60332-3 Cat.C | FRPE | PVC | 6.0 | 0.236 |
| CBL-8027 | 4 Pr F/UTP | 24 AWG Solid | CMR | 60332-3 Cat.C | FRPE | LSOH | 6.0 | 0.236 |
| CBL-8028 | 4 Pr F/UTP | 24 AWG Stranded | CMR | 60332-3 Cat.C | FRPE | PVC | 6.4 | 0.252 |
| CBL-8029 | 4 Pr F/UTP | 26 AWG Stranded | CMR | 60332-3 Cat.C | FRPE | LSOH | 6.0 | 0.236 |
| CBL-8041 | 4 Pr F/UTP | 24 AWG Solid | CMX | 60332-1 | FRPE | PE | 6.0 | 0.236 |

ELECTRICAL CHARACTERISTICS:

Conductor DCR: 9.4 Ω/100 m
 DCR unbalance: 5% Max
 Mutual Capacitance: 46 pF/m
 Impedance: 100 Ω +/- 15% (1-100 MHz)

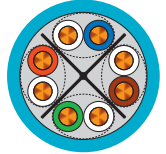
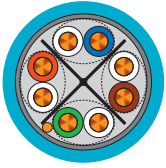
PHYSICAL CHARACTERISTICS:

Cable Weight: 23 lbs/1000 ft
 Bending radius: 1" (25.4mm) min (4x cable OD)
 Pulling Strength: 25 lbf (110 N) Max
 Operating Temperature: -20°C to +60°C

Reference Electrical Characteristics

| Frequency MHz | Attenuation | | NEXT | | PS-NEXT | | RL | | ACRF | | PS-ACRF | |
|------------------|-------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
| | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. |
| 1.0 | 1.8 | 2.0 | 77.0 | 65.3 | 68.0 | 62.3 | 20.0 | 20.0 | 72.3 | 63.8 | 69.3 | 60.8 |
| 4.0 | 3.8 | 4.1 | 68.0 | 56.3 | 57.0 | 53.3 | 23.0 | 23.0 | 61.5 | 51.8 | 58.5 | 48.8 |
| 8.0 | 5.4 | 5.8 | 64.0 | 51.8 | 54.0 | 48.8 | 24.5 | 24.5 | 53.7 | 45.7 | 50.7 | 42.7 |
| 10.0 | 6.0 | 6.5 | 62.0 | 50.3 | 52.0 | 47.3 | 25.0 | 25.0 | 51.2 | 43.8 | 48.2 | 40.8 |
| 16.0 | 7.6 | 8.2 | 60.0 | 47.2 | 50.0 | 44.2 | 25.0 | 25.0 | 47.2 | 39.7 | 44.2 | 36.7 |
| 20.0 | 8.6 | 9.3 | 58.0 | 45.8 | 48.0 | 42.8 | 25.0 | 25.0 | 44.8 | 37.8 | 41.8 | 34.8 |
| 25.0 | 9.7 | 10.4 | 57.0 | 44.3 | 47.0 | 41.3 | 25.0 | 24.3 | 43.4 | 35.8 | 39.4 | 32.8 |
| 31.25 | 10.9 | 11.7 | 56.0 | 42.9 | 46.0 | 39.9 | 24.3 | 23.6 | 36.7 | 33.9 | 33.7 | 30.9 |
| 62.5 | 15.8 | 17.0 | 52.0 | 38.4 | 42.0 | 35.4 | 23.5 | 21.5 | 28.9 | 27.9 | 25.9 | 24.9 |
| 100.0 | 20.5 | 22.0 | 48.0 | 35.3 | 38.0 | 32.3 | 21.5 | 20.1 | 25.2 | 23.8 | 22.2 | 20.8 |
| 155.0 | 26.2 | n/s | 45.0 | n/s | 35.0 | n/s | 20.0 | n/s | 23.2 | n/s | 20.2 | n/s |
| 200.0 | 30.2 | n/s | 43.0 | n/s | 33.0 | n/s | 18.8 | n/s | 21.0 | n/s | 18.0 | n/s |

LANGUARD™ 550 Cat 6 High Performance LAN Cable



- Twisted pair (UTP) and (F/UTP) Category 6 cable for use in horizontal cabling systems per ANSI/TIA/EIA 568-C.2
- The cable exceeds Category 6 electrical characteristics and is sweep tested to 200 MHz.
- Print includes descending footage markers from 1000 to 0 on each 1000 ft reel or box.
- The plenum rated cable is for use in air handling ducts and spaces in accordance with Article 800 of the National Electrical Code (NEC). The cable is UL (USA) and cUL (Canada) safety listed for this application by passing NFPA 262 (UL 910 or FT-6 Steiner Tunnel) test.
- The Riser non-plenum rated cable is for use as a vertical run in a shaft and for general-purpose communications use in accordance with Article 800 of the NEC. The cable is UL (USA) and cUL (Canada) listed for this application by passing UL 1666 Riser Cable Flammability Test. The cable also passes the CSA FT4 vertical flame test - cables in cable trough from Clause 4.11.4 of CSA C22.2 No. 0.3.
- This cable complies with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.
- Supported applications IEEE 802.3 10BASE-T (Ethernet), 100BASE-T (Fast Ethernet), and 1000BASE-T (Gigabit Ethernet), ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 and 16 Mbps Token Ring, ATM up to 155 Mbps.

| Part No. | Description | Conductor | UL Safety Rating | IEC Safety Rating | Insulation Type | Jacket Type | Cable Diameter | |
|----------|-------------|-----------------|------------------|-------------------|-----------------|-------------|----------------|--------|
| | | | | | | | mm | inches |
| CBL-8030 | 4Pr UTP | 23 AWG Solid | CMP | N/A | FEP | LS PVC | 6.0 | 0.228 |
| CBL-8031 | 4Pr UTP | 23 AWG Solid | CMR | 60332-3 Cat.C | FRPE | PVC | 6.0 | 0.236 |
| CBL-8032 | 4Pr UTP | 23 AWG Solid | CMR | 60332-3 Cat.C | FRPE | LSOH | 6.0 | 0.236 |
| CBL-8033 | 4Pr UTP | 23 AWG Solid | CMX | 60332-1 | FRPE | UVPVC | 6.0 | 0.236 |
| CBL-8034 | 4Pr UTP | 24 AWG Stranded | CMR | 60332-3 Cat.C | FRPE | PVC | 6.0 | 0.287 |
| CBL-8035 | 4Pr UTP | 24 AWG Stranded | CMR | 60332-3 Cat.C | FRPE | LSOH | 6.0 | 0.287 |
| CBL-8036 | 4Pr F/UTP | 23 AWG Solid | CMP | N/A | FEP | LS PVC | 6.6 | 0.252 |
| CBL-8037 | 4Pr F/UTP | 23 AWG Solid | CMR | 60332-3 Cat.C | FRPE | PVC | 6.6 | 0.260 |
| CBL-8038 | 4Pr F/UTP | 23 AWG Solid | CMR | 60332-3 Cat.C | FRPE | LSOH | 6.6 | 0.260 |
| CBL-8039 | 4Pr F/UTP | 23 AWG Solid | CMX | 60332-1 | FRPE | UVPVC | 6.6 | 0.260 |
| CBL-8040 | 4Pr F/UTP | 24 AWG Stranded | CMR | 60332-3 Cat.C | FRPE | PVC | 6.6 | 0.260 |
| CBL-8041 | 4Pr F/UTP | 26 AWG Stranded | CMR | 60332-3 Cat.C | FRPE | LSOH | 6.6 | 0.260 |

ELECTRICAL CHARACTERISTICS:

Conductor DCR: 9.4 Ω/100 m
 DCR unbalance: 5% Max
 Mutual Capacitance: 46 pF/m
 Impedance: 100 Ω +/- 15% (1-100 MHz)

PHYSICAL CHARACTERISTICS:

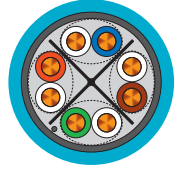
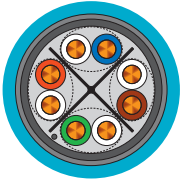
Cable Weight: 23 lbs/1000 ft
 Bending radius: 1" (25.4 mm) min (4x cable OD)
 Pulling Strength: 25 lbf (110 N) Max
 Operating Temperature: -20°C to +60°C

Reference Electrical Characteristics

| Frequency MHz | Attenuation | | NEXT | | PS-NEXT | | RL | | ACRF | | PS-ACRF | |
|------------------|-------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
| | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. |
| 1.0 | 1.9 | 2.0 | 83.0 | 74.3 | 78.0 | 72.3 | 20.0 | 20.0 | 75.3 | 67.8 | 73.3 | 64.8 |
| 4.0 | 3.6 | 3.8 | 74.0 | 65.3 | 69.0 | 63.3 | 23.0 | 23.0 | 64.5 | 55.8 | 62.5 | 52.8 |
| 8.0 | 5.1 | 5.3 | 70.0 | 60.8 | 65.0 | 58.8 | 24.5 | 24.5 | 58.3 | 49.7 | 54.7 | 46.7 |
| 10.0 | 5.7 | 6.0 | 68.0 | 59.3 | 63.0 | 57.3 | 25.0 | 25.0 | 56.3 | 47.8 | 51.2 | 44.8 |
| 16.0 | 7.3 | 7.6 | 65.0 | 56.2 | 60.0 | 54.2 | 25.0 | 25.0 | 51.6 | 43.7 | 48.2 | 40.7 |
| 20.0 | 8.1 | 8.5 | 64.0 | 54.8 | 59.0 | 52.8 | 25.0 | 25.0 | 49.3 | 41.8 | 45.8 | 38.8 |
| 25.0 | 9.1 | 9.5 | 62.0 | 53.3 | 57.0 | 51.3 | 25.0 | 24.3 | 46.8 | 39.8 | 43.4 | 36.8 |
| 31.25 | 10.2 | 10.7 | 61.0 | 51.9 | 56.0 | 49.9 | 24.3 | 23.6 | 44.2 | 37.9 | 37.7 | 34.9 |
| 62.5 | 14.8 | 15.4 | 56.0 | 47.4 | 51.0 | 45.4 | 23.5 | 21.5 | 35.0 | 31.9 | 29.9 | 28.9 |
| 100.0 | 19.0 | 19.8 | 53.0 | 44.3 | 48.0 | 42.3 | 21.5 | 20.1 | 31.0 | 27.8 | 26.2 | 24.8 |
| 155.0 | 24.2 | n/s | 50.0 | n/s | 45.0 | n/s | 20.0 | n/s | 27.2 | n/s | 24.2 | n/s |
| 200.0 | 27.8 | 29.0 | 49.0 | 39.8 | 44.0 | 37.8 | 18.8 | 18.0 | 25.0 | 21.8 | 22.0 | 18.8 |
| 250.0 | 31.5 | 32.8 | 47.0 | 38.3 | 42.0 | 36.3 | 18.1 | 17.3 | 23.0 | 19.8 | 20.0 | 16.8 |
| 300.0 | 35.1 | n/s | 45.4 | n/s | 41.0 | n/s | 17.6 | n/s | 21.7 | n/s | 18.5 | n/s |
| 350.0 | 38.5 | n/s | 44.5 | n/s | 40.0 | n/s | 17.1 | n/s | 20.3 | n/s | 17.1 | n/s |
| 400.0 | 41.7 | n/s | 43.6 | n/s | 39.0 | n/s | 16.7 | n/s | 19.2 | n/s | 16.0 | n/s |
| 500.0 | 47.6 | n/s | 42.1 | n/s | 38.0 | n/s | 15.9 | n/s | 17.2 | n/s | 14.0 | n/s |

LANGUARD™ 750 Cat 6a

High Performance LAN Cable



- Twisted pair (UTP) and (F/UTP) Category 6a cable for use in horizontal cabling systems per ANSI/TIA/EIA 568-C.2
- The cable exceeds Category 6a electrical characteristics and is sweep tested to 750 MHz.
- Print includes descending footage markers from 1000 to 0 on each 1000 ft reel or box
- The plenum rated cable is for use in air handling ducts and spaces in accordance with Article 800 of the National Electrical Code (NEC). The cable is UL (USA) and cUL (Canada) safety listed for this application by passing NFPA 262 (UL 910 or FT-6 Steiner Tunnel) test
- The Riser non-plenum rated cable is for use as a vertical run in a shaft and for general-purpose communications use in accordance with Article 800 of the NEC. The cable is UL (USA) and cUL (Canada) listed for this application by passing UL 1666 Riser Cable Flammability Test. The cable also passes the CSA FT4 vertical flame test - cables in cable trough from Clause 4.11.4 of CSA C22.2 No. 0.3.
- This cable complies with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.
- Supported applications IEEE 802.3 10BASE-T (Ethernet), 100BASE-T (Fast Ethernet), and 1000BASE-T (Gigabit Ethernet), ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 and 16 Mbps Token Ring, ATM up to 155 Mbps.
- Power Sum Alien Crosstalk – Power Sum Alien Crosstalk measures the impact of many aggressors on one victim pair. It is the sum of unwanted signaling coupling of crosstalk noise from the external cabling into a victim pair of a cable.

| Part No. | Description | Conductor | UL Safety Rating | IEC Safety Rating | Insulation Type | Jacket Type | Cable Diameter | |
|----------|-------------|-----------------|------------------|-------------------|-----------------|-------------|----------------|--------|
| | | | | | | | mm | inches |
| CBL-8050 | 4Pr UTP | 23 AWG Solid | CMR | N/A | FEP | LS PVC | 7.0 | 0.276 |
| CBL-8051 | 4Pr UTP | 23 AWG Solid | CMR | 60332-3 Cat.C | FRPE | PVC | 7.0 | 0.276 |
| CBL-8052 | 4Pr UTP | 23 AWG Solid | CMR | 60332-3 Cat.C | FRPE | LSOH | 7.0 | 0.276 |
| CBL-8053 | 4Pr UTP | 24 AWG Stranded | CMR | 60332-3 Cat.C | FRPE | PVC | 7.2 | 0.287 |
| CBL-8054 | 4Pr F/UTP | 23 AWG Solid | CMR | 60332-3 Cat.C | FEP | LS PVC | 8.2 | 0.323 |
| CBL-8055 | 4Pr F/UTP | 23 AWG Solid | CMR | 60332-3 Cat.C | FRPE | PVC | 8.2 | 0.323 |
| CBL-8056 | 4Pr F/UTP | 23 AWG Solid | CMR | 60332-3 Cat.C | FRPE | LSOH | 8.2 | 0.323 |

ELECTRICAL CHARACTERISTICS:

| | |
|---------------------|-----------------------------|
| Conductor DCR: | 6.6 Ω/100 m |
| DCR unbalance: | 5% Max |
| Mutual Capacitance: | 46 pF/m |
| Impedance: | 100 Ω +/- 7% (10-550 MHz) |
| Input Impedance: | 100 Ω +/- 10% (1-100 MHz) |
| | 100 Ω +/- 15% (100-350 MHz) |
| | 100 Ω +/- 22% (>350 MHz) |

PHYSICAL CHARACTERISTICS:

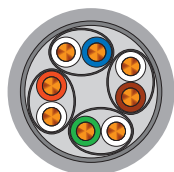
| | |
|------------------------|--------------------------------|
| Cable Weight: | 23 lbs/1000 ft |
| Bending radius: | 1" (25.4 mm) min (4x cable OD) |
| Pulling Strength: | 25 lbf (110 N) Max |
| Operating Temperature: | -20°C to +60°C |

Reference Electrical Characteristics

| Frequency MHz | Attenuation | | NEXT | | PS-NEXT | | RL | | ACRF | | PS-ACRF | | PS-ANEXT | | PS-AACRF | |
|------------------|-------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|----------|-------|----------|-------|
| | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. |
| 1.0 | 1.8 | 2.1 | 83.0 | 74.3 | 79.0 | 72.3 | 21.0 | 20.0 | 75.3 | 67.8 | 73.3 | 64.8 | 67.0 | 67.0 | 67.0 | 67.0 |
| 4.0 | 3.6 | 3.8 | 74.0 | 65.3 | 70.0 | 63.3 | 24.2 | 23.0 | 64.5 | 55.8 | 62.5 | 52.8 | 67.0 | 67.0 | 66.2 | 66.2 |
| 8.0 | 5.1 | 5.3 | 70.0 | 60.8 | 65.5 | 58.8 | 25.7 | 24.5 | 58.3 | 49.7 | 54.7 | 46.7 | 67.0 | 67.0 | 60.1 | 60.1 |
| 10.0 | 5.7 | 5.9 | 68.0 | 59.3 | 64.0 | 57.3 | 26.2 | 25.0 | 56.3 | 47.8 | 51.2 | 44.8 | 67.0 | 67.0 | 58.2 | 58.2 |
| 16.0 | 7.2 | 7.5 | 65.0 | 56.2 | 60.9 | 54.2 | 26.2 | 25.0 | 51.6 | 43.7 | 48.2 | 40.7 | 67.0 | 67.0 | 54.2 | 54.1 |
| 20.0 | 8.1 | 8.4 | 64.0 | 54.8 | 59.5 | 52.8 | 26.2 | 25.0 | 49.3 | 41.8 | 45.8 | 38.8 | 67.0 | 67.0 | 52.2 | 52.2 |
| 25.0 | 9.1 | 9.4 | 62.0 | 53.3 | 58.0 | 51.3 | 25.5 | 24.3 | 46.8 | 39.8 | 43.4 | 36.8 | 67.0 | 67.0 | 50.2 | 50.2 |
| 31.25 | 10.2 | 10.5 | 61.0 | 51.9 | 56.6 | 49.9 | 24.8 | 23.6 | 44.2 | 37.8 | 37.7 | 34.9 | 67.0 | 67.0 | 48.3 | 48.3 |
| 62.5 | 14.5 | 15.0 | 56.0 | 47.4 | 52.1 | 45.4 | 22.5 | 21.5 | 35.0 | 31.9 | 29.9 | 28.9 | 67.0 | 65.6 | 42.3 | 42.3 |
| 100.0 | 18.5 | 19.1 | 53.0 | 44.3 | 49.0 | 42.3 | 21.3 | 20.1 | 31.0 | 27.8 | 26.2 | 24.8 | 65.6 | 62.5 | 38.2 | 38.2 |
| 155.0 | 23.4 | n/s | 50.0 | n/s | 40.2 | n/s | 20.0 | n/s | 27.2 | n/s | 24.2 | n/s | 62.5 | n/s | 34.4 | n/s |
| 200.0 | 26.8 | 27.6 | 49.0 | 39.8 | 44.0 | 37.8 | 18.5 | 18.0 | 25.0 | 21.8 | 22.0 | 18.8 | 59.6 | 58.0 | 32.2 | 32.2 |
| 250.0 | 30.2 | 31.1 | 47.0 | 38.3 | 44.5 | 36.3 | 18.0 | 17.3 | 23.0 | 19.8 | 20.0 | 16.8 | 58.0 | 56.5 | 30.2 | 30.2 |
| 300.0 | 33.3 | 34.3 | 45.4 | 37.1 | 41.8 | 35.1 | 18.0 | 16.8 | 21.7 | 18.3 | 18.5 | 15.3 | 56.5 | 55.3 | 28.7 | 28.7 |
| 350.0 | 36.3 | n/s | 44.5 | n/s | 35.2 | n/s | 17.2 | n/s | 20.3 | n/s | 17.1 | n/s | 55.3 | n/s | 27.3 | n/s |
| 400.0 | 39.0 | 40.1 | 43.6 | 35.3 | 40.0 | 33.3 | 17.0 | 15.9 | 19.2 | 15.8 | 16.0 | 12.8 | 54.5 | 53.5 | 26.3 | 26.2 |
| 500.0 | 45.2 | 45.3 | 42.1 | 33.8 | 38.5 | 31.8 | 16.3 | 15.2 | 17.2 | 13.8 | 14.0 | 10.8 | 52.0 | 52.0 | 24.2 | 24.2 |
| 550.0 | 47.7 | n/s | 41.5 | n/s | 37.9 | n/s | 15.9 | n/s | 16.2 | n/s | 13.2 | n/s | 51.4 | n/s | 23,4 | n/s |
| 600.0 | 50.0 | n/s | 40.8 | n/s | 37.3 | n/s | 15.7 | n/s | 15.6 | n/s | 12.4 | n/s | 50.8 | n/s | 22,6 | n/s |
| 650.0 | 52.3 | n/s | 40.4 | n/s | 36.8 | n/s | 15.4 | n/s | 14.9 | n/s | 11.7 | n/s | 50.3 | n/s | 21,9 | n/s |
| 750.0 | 56.6 | n/s | 39.5 | n/s | 35.9 | n/s | 15.0 | n/s | 13.7 | n/s | 10.5 | n/s | 49.4 | n/s | 20,7 | n/s |

LANGUARD™ 1000 Cat 7

High Performance LAN Cable



- Languard 1000 is a high performance augmented Category 7 cable, supporting 10GBASE-T applications over a full 100-meter channel, meeting the requirements of the current standard IEC/ISO 11801 Category 7 Class F and ANSI/TIA-568-C.2. IEEE 802.3 is looking beyond the present, specifying an operating range from 1-1000 MHz.
- Languard 1000 unique construction features our specialty common axis individual shielding technology uniquely designed to maximize as well as our unique skin-foam-skin dielectric technologies provides superior pair balance as well as improving insertion loss.
- These technologies combined provides best in class ICR [insertion loss to Crosstalk ratio]
- Future proofing your network with unmatched cable performance
- Sweep tested to 1000 MHz for performance
- Supports any component compliant and connectivity
- Application – Support for 10 Gigabit Ethernet / 10GBASE-T / IEEE 802.3an.
- Fully backwards compatible for 1000BASE-T, 100BASE-T, and 10BASE-T applications
- ISO/IEC 11801:2002 (Category 7) IEC 61156-5:2002 (Including transfer impedance and coupling attenuation)
- LSOH: IEC 60332-1, IEC 60754, and IEC 61034 the plenum rated cable is for use in air handling ducts and spaces in accordance with Article 800 of the National Electrical Code (NEC). The cable is UL (USA) and cUL (Canada) safety listed for this application by passing NFPA 262 (UL 910 or FT-6 Steiner Tunnel) test.
- The Riser non-plenum rated cable is for use as a vertical run in a shaft and for general-purpose communications use in accordance with Article 800 of the NEC. The cable is UL (USA) and cUL (Canada) listed for this application by passing UL 1666 Riser Cable Flammability Test. The cable also passes the CSA FT4 vertical flame test - cables in cable trough from Clause 4.11.4 of CSA C22.2 No. 0.3.
- This cable complies with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.

| Part No. | Description | Conductor | UL Safety Rating | IEC Safety Rating | Insulation Type | Jacket Type | Cable Diameter | |
|----------|-------------|-----------------|------------------|-------------------|-----------------|-------------|----------------|--------|
| | | | | | | | mm | inches |
| CBL-8070 | 4 Pr S/FTP | 23 AWG Solid | CMP | N/A | Foam FEP | LS PVC | 7.2 | 0.283 |
| CBL-8071 | 4 Pr S/FTP | 23 AWG Solid | CMR | 60332-3 Cat. C | Foam PE | PVC | 7.2 | 0.283 |
| CBL-8072 | 4 Pr S/FTP | 23 AWG Solid | CMG | 60332-1 | Foam PE | LSOH | 7.2 | 0.283 |
| CBL-8073 | 4 Pr S/FTP | 26 AWG Stranded | CMG | 60332-1 | Foam PE | LSOH | 6.5 | 0.256 |

ELECTRICAL CHARACTERISTICS:

| | |
|---------------------|-----------------------------|
| Conductor DCR: | 17 Ω/100 m |
| DCR unbalance: | 2% Max |
| Mutual Capacitance: | 56 pF/m |
| Impedance: | 100 Ω +/- 5% (1-100 MHz) |
| Input Impedance: | 100 Ω +/- 22% (100-250 MHz) |
| | 100 Ω +/- 22% (250-600 MHz) |
| LCL: | 40-10 log(f)dBmin |
| Skew: | 18 ns/100 m Max |

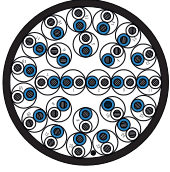
PHYSICAL CHARACTERISTICS:

| | |
|------------------------|--------------------------------|
| Cable Weight: | 37 lbs/1000 ft |
| Bending radius: | 1" (24.4 mm) min (4x cable OD) |
| Pulling Strength: | 25 lbf (110 N) Max |
| Operating Temperature: | -20°C to +60°C |

Reference Electrical Characteristics

| Frequency MHz | Attenuation | | NEXT | | PS-NEXT | | ACR | | PS-ACR | | EL-FEXT | | PS-ELFEXT | | RL | |
|------------------|-------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|-----------|-------|---------|-------|
| | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. |
| 1.0 | 1.9 | 2.0 | 90.0 | 80.0 | 87.0 | 77.0 | 88.0 | 78.0 | 85.0 | 75.0 | 92.0 | 80.0 | 89.0 | 77.0 | 30.0 | 23.0 |
| 4.0 | 3.5 | n/s | 90.0 | n/s | 87.0 | n/s | 86.5 | n/s | 83.5 | n/s | 92.0 | n/s | 89.0 | n/s | 30.0 | n/s |
| 10.0 | 4.8 | 5.7 | 90.0 | 80.0 | 87.0 | 77.0 | 84.6 | 74.0 | 82.0 | 71.0 | 86.0 | 74.0 | 83.0 | 71.0 | 30.0 | 25.0 |
| 16.0 | 7.0 | n/s | 90.0 | n/s | 87.0 | n/s | 83.0 | n/s | 80.0 | n/s | 86.0 | n/s | 83.0 | n/s | 20.0 | n/s |
| 20.0 | 8.0 | n/s | 90.0 | n/s | 87.0 | n/s | 80.0 | n/s | 77.0 | n/s | 86.0 | n/s | 83.0 | n/s | 20.0 | n/s |
| 31.25 | 10.0 | n/s | 90.0 | n/s | 87.0 | n/s | 80.0 | n/s | 77.0 | n/s | 86.0 | n/s | 83.0 | n/s | 20.0 | n/s |
| 62.5 | 14.0 | n/s | 90.0 | n/s | 87.0 | n/s | 76.0 | n/s | 73.0 | n/s | 86.0 | n/s | 83.0 | n/s | 20.0 | n/s |
| 100.0 | 16.4 | 18.5 | 90.0 | 72.0 | 87.0 | 69.0 | 72.0 | 54.0 | 69.0 | 51.0 | 86.0 | 54.0 | 83.0 | 51.0 | 20.0 | 20.1 |
| 200.0 | 24.2 | 26.8 | 90.0 | 68.0 | 87.0 | 65.0 | 64.0 | 41.0 | 61.0 | 38.0 | 78.0 | 48.0 | 75.0 | 45.0 | 20.0 | 18.0 |
| 250.0 | 27.8 | 30.2 | 90.0 | 66.0 | 87.0 | 63.0 | 61.0 | 36.0 | 58.0 | 33.0 | 76.0 | 46.0 | 73.0 | 43.0 | 20.0 | 17.3 |
| 300.0 | 31.4 | n/s | 90.0 | n/s | 87.0 | n/s | 58.0 | n/s | 55.0 | n/s | 76.0 | n/s | 73.0 | n/s | 20.0 | n/s |
| 350.0 | 35.0 | n/s | 90.0 | n/s | 87.0 | n/s | 55.0 | n/s | 52.0 | n/s | 74.0 | n/s | 71.0 | n/s | 20.0 | n/s |
| 400.0 | 36.1 | n/s | 85.0 | n/s | 82.0 | n/s | 52.0 | n/s | 43.0 | n/s | 68.0 | n/s | 65.0 | n/s | 20.0 | n/s |
| 500.0 | 38.2 | 44.1 | 85.0 | 62.0 | 82.0 | 59.0 | 50.0 | 18.0 | 43.0 | 15.0 | 66.0 | 40.0 | 63.0 | 37.0 | 20.0 | 17.3 |
| 550.0 | 40.6 | n/s | 85.0 | n/s | 82.0 | n/s | 50.0 | n/s | 43.0 | n/s | 64.0 | n/s | 61.0 | n/s | 20.0 | n/s |
| 600.0 | 42.9 | 48.9 | 85.0 | 61.0 | 82.0 | 58.0 | 48.0 | 12.0 | 43.0 | 9.0 | 64.0 | 38.0 | 61.0 | 35.0 | 20.0 | 17.3 |
| 800.0 | 50.8 | n/s | 80.0 | n/s | 77.0 | n/s | 26.0 | n/s | 21.0 | n/s | 52.0 | n/s | 49.0 | n/s | 18.0 | n/s |
| 900.0 | 55.9 | n/s | 80.0 | n/s | 77.0 | n/s | 22.0 | n/s | 17.0 | n/s | 48.0 | n/s | 45.0 | n/s | 18.0 | n/s |
| 1000.0 | 61.0 | n/s | 80.0 | n/s | 77.0 | n/s | 19.0 | n/s | 14.0 | n/s | 48.0 | n/s | 45.0 | n/s | 18.0 | n/s |

LANGUARD™ Cat 5e Multi-Pair Backbone Cables



- Unshielded Twisted pair (UTP) and shielded (F/UTP) Category 5e cable for use in backbone cabling systems as described in ANSI/TIA/EIA 568-B.
- The cable consists of #24 AWG solid bare copper insulated conductors, assembled into 25 tightly twisted pairs, with a ripcord, under an overall jacket.
- The plenum rated cable is for use in air handling ducts and spaces in accordance with Article 800 of the National Electrical Code (NEC). The cable is UL (USA) and cUL (Canada) listed for this application by passing NFPA 262 (UL 910 or FT-6 Steiner Tunnel) test.
- The Riser non-plenum rated cable is for use as a vertical run in a shaft and for general purpose communications use in accordance with Article 800 of the NEC.
- The cable is UL (USA) and cUL (Canada) listed for this application by passing UL 1666 Riser Cable Flammability Test.
- The cable also passes the CSA FT4 vertical flame test
- Cables in cable trough from Clause 4.11.4 of CSA C22.2 No. 0.3.
- These cables comply with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.
- Supported applications IEEE 802.3 10BASE-T (Ethernet), 100BASE-T (Fast Ethernet), and 1000BASE-T (Gigabit Ethernet), ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 and 16 Mbps Token Ring, ATM up to 155 Mbps, 550 MHz broadband video and standards under development such as ATM at 622 Mbps.

| Part No. | Description | Conductor | UL Safety Rating | IEC Safety Rating | Insulation Type | Jacket Type | Cable Diameter | |
|----------|-------------|--------------|------------------|-------------------|-----------------|-------------|----------------|--------|
| | | | | | | | mm | inches |
| CBL-8120 | 25 Pr UTP | 24 AWG Solid | CMR | 60332-3 Cat. C | FRPE | PVC | 10.0 | 0.394 |
| CBL-8121 | 50 Pr UTP | 24 AWG Solid | CMR | 60332-3 Cat. C | FRPE | PVC | 14.0 | 0.551 |
| CBL-8122 | 25 Pr UTP | 24 AWG Solid | CMP | N/A | FEP | LS PVC | 10.0 | 0.394 |
| CBL-8123 | 25 Pr F/UTP | 24 AWG Solid | CMP | N/A | FEP | LS PVC | 12.0 | 0.472 |

ELECTRICAL CHARACTERISTICS:

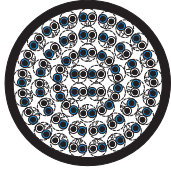
| | | | |
|---------------------|--------------|------------|---------------------------|
| Conductor DCR: | 28.6 Ω/100 m | Impedance: | 100 Ω +/- 15% (1-100 MHz) |
| DCR unbalance: | 3% Max | Skew: | 45 ns/100 m Max |
| Mutual Capacitance: | 46 pF/m | | |

Reference Electrical Characteristics

| Frequency MHz | Attenuation | | NEXT | | PS-NEXT | | RL | | ACRF | | PS-ACRF | |
|------------------|-------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
| | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. |
| 1.0 | 1.8 | 2.0 | 77.0 | 65.3 | 68.0 | 62.3 | 20.0 | 20.0 | 72.3 | 63.8 | 69.3 | 60.8 |
| 4.0 | 3.8 | 4.1 | 68.0 | 56.3 | 57.0 | 53.3 | 23.0 | 23.0 | 61.5 | 51.8 | 58.5 | 48.8 |
| 8.0 | 5.4 | 5.8 | 64.0 | 51.8 | 54.0 | 48.8 | 24.5 | 24.5 | 53.7 | 45.7 | 50.7 | 42.7 |
| 10.0 | 6.0 | 6.5 | 62.0 | 50.3 | 52.0 | 47.3 | 25.0 | 25.0 | 51.2 | 43.8 | 48.2 | 40.8 |
| 16.0 | 7.6 | 8.2 | 60.0 | 47.2 | 50.0 | 44.2 | 25.0 | 25.0 | 47.2 | 39.7 | 44.2 | 36.7 |
| 20.0 | 8.6 | 9.3 | 58.0 | 45.8 | 48.0 | 42.8 | 25.0 | 25.0 | 44.8 | 37.8 | 41.8 | 34.8 |
| 25.0 | 9.7 | 10.4 | 57.0 | 44.3 | 47.0 | 41.3 | 25.0 | 24.3 | 43.4 | 35.8 | 39.4 | 32.8 |
| 31.25 | 10.9 | 11.7 | 56.0 | 42.9 | 46.0 | 39.9 | 24.3 | 23.6 | 36.7 | 33.9 | 33.7 | 30.9 |
| 62.5 | 15.8 | 17.0 | 52.0 | 38.4 | 42.0 | 35.4 | 23.5 | 21.5 | 28.9 | 27.9 | 25.9 | 24.9 |
| 100.0 | 20.5 | 22.0 | 48.0 | 35.3 | 38.0 | 32.3 | 21.5 | 20.1 | 25.2 | 23.8 | 22.2 | 20.8 |
| 155.0 | 26.2 | n/s | 45.0 | n/s | 35.0 | n/s | 20.0 | n/s | 23.2 | n/s | 20.2 | n/s |
| 200.0 | 30.2 | n/s | 43.0 | n/s | 33.0 | n/s | 18.8 | n/s | 21.0 | n/s | 18.0 | n/s |

| Pair Number | Pair Color Code | | Pair Number | Pair Color Code | | Pair Number | Pair Color Code | |
|-------------|-----------------|--------------|-------------|-----------------|---------------|-------------|-----------------|---------------|
| 1 | White/Blue | Blue/White | 10 | Red/Gray | Gray/Red | 19 | Yellow/Brown | Brown/Yellow |
| 2 | White/Orange | Orange/White | 11 | Black/Blue | Blue/Black | 20 | Yellow/Gray | Gray/Yellow |
| 3 | White/Green | Green/White | 12 | Black/Orange | Orange/Black | 21 | Purple/Blue | Blue/Purple |
| 4 | White/Brown | Brown/White | 13 | Black/Green | Green/Black | 22 | Purple/Orange | Orange/Purple |
| 5 | White/Gray | Gray/Red | 14 | Black/Brown | Brown/Black | 23 | Purple/Green | Green/Purple |
| 6 | Red/Blue | Blue/Red | 15 | Black/Gray | Gray/Black | 24 | Purple/Brown | Brown/Purple |
| 7 | Red/Orange | Orange/Red | 16 | Yellow/Blue | Blue/Yellow | 25 | Purple/Gray | Gray/Purple |
| 8 | Red/Green | Green/Red | 17 | Yellow/Orange | Orange/Yellow | | | |
| 9 | Red/Brown | Brown/Red | 18 | Yellow/Green | Green/Yellow | | | |

LANGUARD™ Cat 3 Multi-Pair Backbone Cables



- Unshielded Twisted pair (UTP) Category 3 cable for use in backbone cabling systems as described in TIA/EIA 568-B.
- The cable consists of #24 AWG solid bare copper insulated conductors, assembled into twisted pairs, with a ripcord, under an overall jacket.
- The plenum rated cable is rated for use in air handling ducts and spaces in accordance with Article 800 of the National Electrical Code (NEC).
- The plenum cable is ETL (USA) and cETL (Canada) listed for this application by passing NFPA 262/UL 910 (Steiner Tunnel) test.
- The non-plenum is UL (USA) and cUL (Canada) listed for this application by passing UL 1666 Riser Cable Flammability Test.
- Supported applications: Analog and Digital Voice, ISDN, IBM 3270 and System/3X, IEEE 802.5 4 Mbps, Token Ring, IEEE 802.3, 1BASE-5 & 10 BASE-T, 10 Mbps Ethernet, 100 Base-T.

| Part No. | Description | Conductor | UL Safety Rating | IEC Safety Rating | Insulation Type | Jacket Type | Cable Diameter | |
|----------|-------------|--------------|------------------|-------------------|-----------------|-------------|----------------|--------|
| | | | | | | | mm | inches |
| CBL-8015 | 4 Pr UTP | 24 AWG Solid | CMR | 60332-3 Cat. C | PVC | PVC | 5.0 | 0.197 |
| CBL-8016 | 25 Pr UTP | 24 AWG Solid | CMR | 60332-3 Cat. C | PVC | PVC | 7.8 | 0.307 |
| CBL-8017 | 50 Pr UTP | 24 AWG Solid | CMR | 60332-3 Cat. C | PVC | PVC | 14.0 | 0.551 |
| CBL-8018 | 100 Pr UTP | 24 AWG Solid | CMR | 60332-3 Cat. C | PVC | PVC | 19.4 | 0.764 |

ELECTRICAL CHARACTERISTICS:

| | |
|---------------------|--------------------------|
| Conductor DCR: | 28.6 Ω/100 m |
| DCR unbalance: | 3% Max |
| Mutual Capacitance: | 46 pF/m |
| Impedance: | 100 Ω +/- 15% (1-16 MHz) |

PHYSICAL CHARACTERISTICS:

| | |
|------------------------|--------------------------|
| Cable Weight: | 137 lbs/1000 ft |
| Bending Radius: | 4.3" (100 mm) 4X OD |
| Pulling Strength: | 25 lbf (110 N) Max |
| Impedance: | 100 Ω +/- 15% (1-16 MHz) |
| Operating Temperature: | -20°C to + 60°C |

Reference Electrical Characteristics

| Frequency MHz | Attenuation | | NEXT | | PS-ELFEXT | | SRL | | ACRF | | PS-ACRF | |
|------------------|-------------|-------|---------|-------|-----------|-------|---------|-------|---------|-------|---------|-------|
| | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. | Typical | Spec. |
| 1.0 | 2.0 | 2.2 | 47.0 | 43.0 | 43.0 | n/s | 14.0 | 12.0 | 50.0 | n/s | 46.0 | n/s |
| 4.0 | 2.4 | 2.6 | 45.0 | 41.3 | 41.0 | n/s | 14.0 | 12.0 | 48.0 | n/s | 44.0 | n/s |
| 8.0 | 5.2 | 5.6 | 36.0 | 32.3 | 32.0 | n/s | 14.0 | 12.0 | 36.0 | n/s | 32.0 | n/s |
| 10.0 | 7.9 | 8.5 | 31.0 | 27.8 | 27.0 | n/s | 14.0 | 12.0 | 28.0 | n/s | 24.5 | n/s |
| 16.0 | 9.1 | 9.7 | 30.0 | 26.3 | 26.0 | n/s | 12.0 | 10.0 | 26.0 | n/s | 22.2 | n/s |
| 20.0 | 12.2 | 13.1 | 27.0 | 23.2 | 23.0 | n/s | 12.0 | 10.0 | 20.0 | n/s | 16.0 | n/s |

| Pair Number | Pair Color Code | | Pair Number | Pair Color Code | | Pair Number | Pair Color Code | |
|-------------|-----------------|--------------|-------------|-----------------|---------------|-------------|-----------------|---------------|
| 1 | White/Blue | Blue/White | 10 | Red/Gray | Gray/Red | 19 | Yellow/Brown | Brown/Yellow |
| 2 | White/Orange | Orange/White | 11 | Black/Blue | Blue/Black | 20 | Yellow/Gray | Gray/Yellow |
| 3 | White/Green | Green/White | 12 | Black/Orange | Orange/Black | 21 | Purple/Blue | Blue/Purple |
| 4 | White/Brown | Brown/White | 13 | Black/Green | Green/Black | 22 | Purple/Orange | Orange/Purple |
| 5 | White/Gray | Gray/Red | 14 | Black/Brown | Brown/Black | 23 | Purple/Green | Green/Purple |
| 6 | Red/Blue | Blue/Red | 15 | Black/Gray | Gray/Black | 24 | Purple/Brown | Brown/Purple |
| 7 | Red/Orange | Orange/Red | 16 | Yellow/Blue | Blue/Yellow | 25 | Purple/Gray | Gray/Purple |
| 8 | Red/Green | Green/Red | 17 | Yellow/Orange | Orange/Yellow | | | |
| 9 | Red/Brown | Brown/Red | 18 | Yellow/Green | Green/Yellow | | | |

LANGUARD™ Category Patch Cable

Performance Overview

Languard Category 5 Ethernet Cables



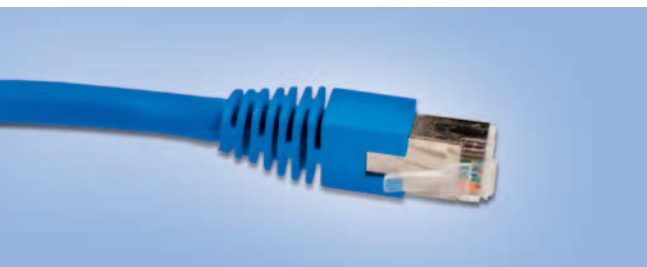
- Category 5 performance for Hi-speed networking applications
- Molded boot with an easy to depress latch makes patching easier
- 50µ Gold plated contacts for superior durability
- Your choice of up to nine different colors
- CMR rated thermoplastic jacket material
- CM rated Polyurethane jacket material
- CM rated LSOH jacket material

Category 5 Patch Cords

| Part Number | Length m | Cable Type | Shield | Jacket Color | Jacket Material |
|---------------|----------|------------|--------|--------------|-----------------|
| CBL-1000-P-1 | 0.25 | Category 5 | UTP | See Table | See Table |
| CBL-1000-P-2 | 0.33 | Category 5 | UTP | See Table | See Table |
| CBL-1000-P-3 | 0.5 | Category 5 | UTP | See Table | See Table |
| CBL-1000-P-4 | 0.75 | Category 5 | UTP | See Table | See Table |
| CBL-1000-P-5 | 1 | Category 5 | UTP | See Table | See Table |
| CBL-1000-P-6 | 1.5 | Category 5 | UTP | See Table | See Table |
| CBL-1000-P-7 | 2 | Category 5 | UTP | See Table | See Table |
| CBL-1000-P-8 | 2.5 | Category 5 | UTP | See Table | See Table |
| CBL-1000-P-9 | 3 | Category 5 | UTP | See Table | See Table |
| CBL-1000-P-10 | 4 | Category 5 | UTP | See Table | See Table |
| CBL-1000-P-11 | 5 | Category 5 | UTP | See Table | See Table |

Table see page 18

Languard Shielded Category 5 Ethernet Cables



- Ideal for use in Industrial Ethernet networking
- Applications where EMI and RFI are present
- These rugged RJ45 Cat5 Ethernet Cables features 24 AWG stranded cable construction providing flexibility as well as a 100% foil shield
- Your choice of up to nine different colors
- CM rated thermoplastic jacket material
- CM rated Polyurethane jacket material
- CM rated LSOH jacket material

Category 5 Foil Shielded Patch Cords

| Part Number | Length m | Cable Type | Shield | Jacket Color | Jacket Material |
|---------------|----------|------------|--------|--------------|-----------------|
| CBL-1001-P-1 | 0.25 | Category 5 | F/UTP | See Table | See Table |
| CBL-1001-P-2 | 0.33 | Category 5 | F/UTP | See Table | See Table |
| CBL-1001-P-3 | 0.5 | Category 5 | F/UTP | See Table | See Table |
| CBL-1001-P-4 | 0.75 | Category 5 | F/UTP | See Table | See Table |
| CBL-1001-P-5 | 1 | Category 5 | F/UTP | See Table | See Table |
| CBL-1001-P-6 | 1.5 | Category 5 | F/UTP | See Table | See Table |
| CBL-1001-P-7 | 2 | Category 5 | F/UTP | See Table | See Table |
| CBL-1001-P-8 | 2.5 | Category 5 | F/UTP | See Table | See Table |
| CBL-1001-P-9 | 3 | Category 5 | F/UTP | See Table | See Table |
| CBL-1001-P-10 | 4 | Category 5 | F/UTP | See Table | See Table |
| CBL-1001-P-11 | 5 | Category 5 | F/UTP | See Table | See Table |

Category 5 Foil- and Braid Shielded Patch Cords

| Part Number | Length m | Cable Type | Shield | Jacket Color | Jacket Material |
|---------------|----------|------------|--------|--------------|-----------------|
| CBL-1002-P-1 | 0.25 | Category 5 | S/FTP | See Table | See Table |
| CBL-1002-P-2 | 0.33 | Category 5 | S/FTP | See Table | See Table |
| CBL-1002-P-3 | 0.5 | Category 5 | S/FTP | See Table | See Table |
| CBL-1002-P-4 | 0.75 | Category 5 | S/FTP | See Table | See Table |
| CBL-1002-P-5 | 1 | Category 5 | S/FTP | See Table | See Table |
| CBL-1002-P-6 | 1.5 | Category 5 | S/FTP | See Table | See Table |
| CBL-1002-P-7 | 2 | Category 5 | S/FTP | See Table | See Table |
| CBL-1002-P-8 | 2.5 | Category 5 | S/FTP | See Table | See Table |
| CBL-1002-P-9 | 3 | Category 5 | S/FTP | See Table | See Table |
| CBL-1002-P-10 | 4 | Category 5 | S/FTP | See Table | See Table |
| CBL-1002-P-11 | 5 | Category 5 | S/FTP | See Table | See Table |

Table see page 18

LANGUARD™ Category Patch Cable

Performance Overview

Languard Category 5e Ethernet



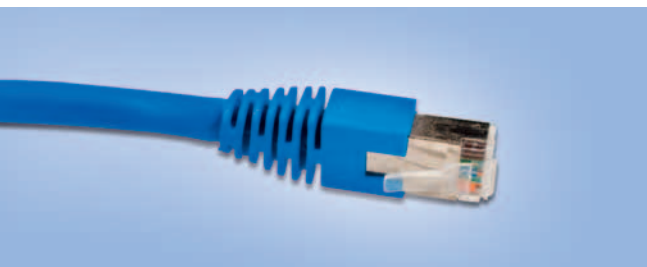
- Category 5 performance for Hi-speed networking applications
- Molded boot with an easy to depress latch makes patching easier
- 50µ Gold plated contacts for superior durability
- Your choice of up to nine different colors
- CMR rated thermoplastic jacket material
- CM rated Polyurethane jacket material
- CM rated LSOH jacket material

Category 5e Patch Cords

| Part number | Length m | Cable Type | Shield | Jacket Color | Jacket Material |
|---------------|----------|-------------|--------|--------------|-----------------|
| CBL-1003-P-1 | 0.25 | Category 5e | UTP | See Table | See Table |
| CBL-1003-P-2 | 0.33 | Category 5e | UTP | See Table | See Table |
| CBL-1003-P-3 | 0.5 | Category 5e | UTP | See Table | See Table |
| CBL-1003-P-4 | 0.75 | Category 5e | UTP | See Table | See Table |
| CBL-1003-P-5 | 1 | Category 5e | UTP | See Table | See Table |
| CBL-1003-P-6 | 1.5 | Category 5e | UTP | See Table | See Table |
| CBL-1003-P-7 | 2 | Category 5e | UTP | See Table | See Table |
| CBL-1003-P-8 | 2.5 | Category 5e | UTP | See Table | See Table |
| CBL-1003-P-9 | 3 | Category 5e | UTP | See Table | See Table |
| CBL-1003-P-10 | 4 | Category 5e | UTP | See Table | See Table |
| CBL-1003-P-11 | 5 | Category 5e | UTP | See Table | See Table |

Table see page 18

Languard Shielded Category 5e Ethernet Cables



- Ideal for use in Industrial Ethernet networking
- Applications where EMI and RFI are present
- These rugged RJ45 Cat5e Ethernet Cables features 24 AWG stranded cable construction providing flexibility as well as a 100% foil shield
- Your choice of up to nine different colors
- CM rated thermoplastic jacket material
- CM rated Polyurethane jacket material
- CM rated LSOH jacket material

Category 5e Foil Shielded Patch Cords

| Part Number | Length m | Cable Type | Shield | Jacket Color | Jacket Material |
|---------------|----------|-------------|--------|--------------|-----------------|
| CBL-1004-P-1 | 0.25 | Category 5e | F/UTP | See Table | See Table |
| CBL-1004-P-2 | 0.33 | Category 5e | F/UTP | See Table | See Table |
| CBL-1004-P-3 | 0.5 | Category 5e | F/UTP | See Table | See Table |
| CBL-1004-P-4 | 0.75 | Category 5e | F/UTP | See Table | See Table |
| CBL-1004-P-5 | 1 | Category 5e | F/UTP | See Table | See Table |
| CBL-1004-P-6 | 1.5 | Category 5e | F/UTP | See Table | See Table |
| CBL-1004-P-7 | 2 | Category 5e | F/UTP | See Table | See Table |
| CBL-1004-P-8 | 2.5 | Category 5e | F/UTP | See Table | See Table |
| CBL-1004-P-9 | 3 | Category 5e | F/UTP | See Table | See Table |
| CBL-1004-P-10 | 4 | Category 5e | F/UTP | See Table | See Table |
| CBL-1004-P-11 | 5 | Category 5e | F/UTP | See Table | See Table |

Category 5e Foil- and Braid Shielded Patch Cords

| Part Number | Length m | Cable Type | Shield | Jacket Color | Jacket Material |
|---------------|----------|-------------|--------|--------------|-----------------|
| CBL-1005-P-1 | 0.25 | Category 5e | S/FTP | See Table | See Table |
| CBL-1005-P-2 | 0.33 | Category 5e | S/FTP | See Table | See Table |
| CBL-1005-P-3 | 0.5 | Category 5e | S/FTP | See Table | See Table |
| CBL-1005-P-4 | 0.75 | Category 5e | S/FTP | See Table | See Table |
| CBL-1005-P-5 | 1 | Category 5e | S/FTP | See Table | See Table |
| CBL-1005-P-6 | 1.5 | Category 5e | S/FTP | See Table | See Table |
| CBL-1005-P-7 | 2 | Category 5e | S/FTP | See Table | See Table |
| CBL-1005-P-8 | 2.5 | Category 5e | S/FTP | See Table | See Table |
| CBL-1005-P-9 | 3 | Category 5e | S/FTP | See Table | See Table |
| CBL-1005-P-10 | 4 | Category 5e | S/FTP | See Table | See Table |
| CBL-1005-P-11 | 5 | Category 5e | S/FTP | See Table | See Table |

Table see page 18

LANGUARD™ Category Patch Cable

Performance Overview

Languard Category 6



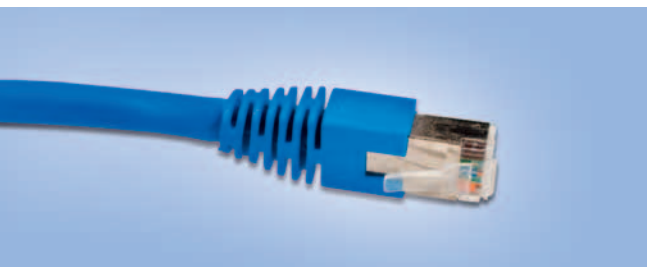
- Category 6 performance for Hi-speed networking applications
- Molded boot with an easy to depress latch makes patching easier
- 50µ Gold plated contacts for superior durability
- Your choice of up to nine different colors
- CM rated thermoplastic jacket material
- CM rated Polyurethane jacket material

Category 6 Patch Cords

| Part Number | Length m | Cable Type | Shield | Jacket Color | Jacket Material |
|---------------|----------|------------|--------|--------------|-----------------|
| CBL-1006-P-1 | 0.25 | Category 6 | UTP | See Table | See Table |
| CBL-1006-P-2 | 0.33 | Category 6 | UTP | See Table | See Table |
| CBL-1006-P-3 | 0.5 | Category 6 | UTP | See Table | See Table |
| CBL-1006-P-4 | 0.75 | Category 6 | UTP | See Table | See Table |
| CBL-1006-P-5 | 1 | Category 6 | UTP | See Table | See Table |
| CBL-1006-P-6 | 1.5 | Category 6 | UTP | See Table | See Table |
| CBL-1006-P-7 | 2 | Category 6 | UTP | See Table | See Table |
| CBL-1006-P-8 | 2.5 | Category 6 | UTP | See Table | See Table |
| CBL-1006-P-9 | 3 | Category 6 | UTP | See Table | See Table |
| CBL-1006-P-10 | 4 | Category 6 | UTP | See Table | See Table |
| CBL-1006-P-11 | 5 | Category 6 | UTP | See Table | See Table |

Table see page 18

Languard Shielded Category 6



- Ideal for use in Industrial Ethernet networking
- Applications where EMI and RFI are present
- These rugged RJ45 Cat6 Ethernet Cables features 26 AWG stranded cable construction providing flexibility as well as a 100% foil shield
- Your choice of up to nine different colors
- CMR rated thermoplastic jacket material
- CM rated Polyurethane jacket material
- CM rated LSOH jacket material

Category 6 Foil Shielded Patch Cords

| Part Number | Length m | Cable Type | Shield | Jacket Color | Jacket Material |
|---------------|----------|------------|--------|--------------|-----------------|
| CBL-1007-P-1 | 0.25 | Category 6 | F/UTP | See Table | See Table |
| CBL-1007-P-2 | 0.33 | Category 6 | F/UTP | See Table | See Table |
| CBL-1007-P-3 | 0.5 | Category 6 | F/UTP | See Table | See Table |
| CBL-1007-P-4 | 0.75 | Category 6 | F/UTP | See Table | See Table |
| CBL-1007-P-5 | 1 | Category 6 | F/UTP | See Table | See Table |
| CBL-1007-P-6 | 1.5 | Category 6 | F/UTP | See Table | See Table |
| CBL-1007-P-7 | 2 | Category 6 | F/UTP | See Table | See Table |
| CBL-1007-P-8 | 2.5 | Category 6 | F/UTP | See Table | See Table |
| CBL-1007-P-9 | 3 | Category 6 | F/UTP | See Table | See Table |
| CBL-1007-P-10 | 4 | Category 6 | F/UTP | See Table | See Table |
| CBL-1007-P-11 | 5 | Category 6 | F/UTP | See Table | See Table |

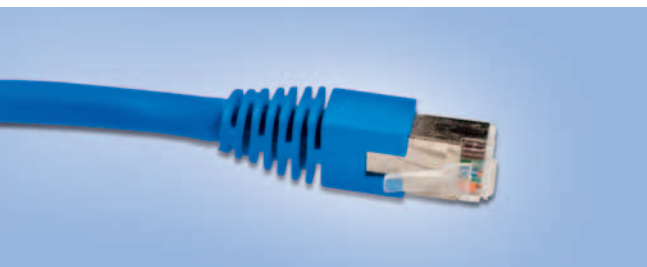
Category 6 Foil- and Braid Shielded Patch Cords

| Part Number | Length m | Cable Type | Shield | Jacket Color | Jacket Material |
|---------------|----------|------------|--------|--------------|-----------------|
| CBL-1008P-1 | 0.25 | Category 6 | S/FTP | See Table | See Table |
| CBL-1008-P-2 | 0.33 | Category 6 | S/FTP | See Table | See Table |
| CBL-1008-P-3 | 0.5 | Category 6 | S/FTP | See Table | See Table |
| CBL-1008-P-4 | 0.75 | Category 6 | S/FTP | See Table | See Table |
| CBL-1008-P-5 | 1 | Category 6 | S/FTP | See Table | See Table |
| CBL-1008-P-6 | 1.5 | Category 6 | S/FTP | See Table | See Table |
| CBL-1008-P-7 | 2 | Category 6 | S/FTP | See Table | See Table |
| CBL-1008-P-8 | 2.5 | Category 6 | S/FTP | See Table | See Table |
| CBL-1008-P-9 | 3 | Category 6 | S/FTP | See Table | See Table |
| CBL-1008-P-10 | 4 | Category 6 | S/FTP | See Table | See Table |
| CBL-1008-P-11 | 5 | Category 6 | S/FTP | See Table | See Table |

Table see page 18

LANGUARD™ Category Patch Cable Performance Overview

LANGUARD™ Category 7 Patch Cable



- Ideal for use in Industrial Ethernet networking
- Applications where EMI and RFI are present
- These rugged Cat7 Ethernet Cables features 26 AWG stranded cable construction providing flexibility as well as a 100% foil pair shield and overall braided shield
- Your choice of up to nine different colors
- CMR rated thermoplastic jacket material
- CM rated Polyurethane jacket material
- CM rated LSOH jacket material

Category 7 Foil- and Braid Shielded Patch Cords

| Part Number | Length M | Cable Type | Shield | Jacket Color | Jacket Material |
|---------------|----------|------------|--------|--------------|-----------------|
| CBL-1009-P-1 | 0.25 | Category 7 | S/FTP | See Table | See Table |
| CBL-1009-P-2 | 0.33 | Category 7 | S/FTP | See Table | See Table |
| CBL-1009-P-3 | 0.50 | Category 7 | S/FTP | See Table | See Table |
| CBL-1009-P-4 | 0.75 | Category 7 | S/FTP | See Table | See Table |
| CBL-1009-P-5 | 1.0 | Category 7 | S/FTP | See Table | See Table |
| CBL-1009-P-6 | 1.5 | Category 7 | S/FTP | See Table | See Table |
| CBL-1009-P-7 | 2.0 | Category 7 | S/FTP | See Table | See Table |
| CBL-1009-P-8 | 2.5 | Category 7 | S/FTP | See Table | See Table |
| CBL-1009-P-9 | 3.0 | Category 7 | S/FTP | See Table | See Table |
| CBL-1009-P-10 | 4.0 | Category 7 | S/FTP | See Table | See Table |
| CBL-1009-P-11 | 5.0 | Category 7 | S/FTP | See Table | See Table |

Table see below

Available Jacket Colors and Jacket Materials

| Jacket Color | Jacket Material | | |
|--------------|-----------------|------|--------------|
| | Thermoplastic | LSOH | Polyurethane |
| White | X | X | |
| Blue | X | X | |
| Orange | X | X | |
| Yellow | X | X | |
| Green | X | X | |
| Violet | X | X | |
| Gray | X | X | |
| Pink | X | X | |
| Black | X | X | X |

How LOROM Gets Interconnect Right

The LOROM name is known throughout the world for producing superior Cable and Cable Assembly Sub-Systems. LOROM's customers have come to expect reliability, technological excellence and our ability to meet the most demanding requirements.

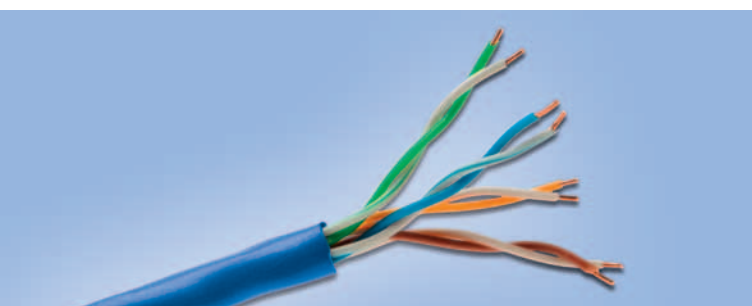
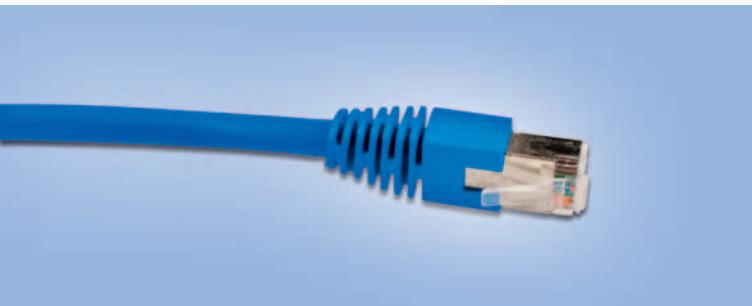
We are best known for our designers, specialty manufacturing and as a supplier of high quality cable and cable systems throughout the world. The challenges that our customers present to us have given us an unparalleled experience in getting it right the first time for each and every customer.

We have the know-how and experience needed to supply you with a full range of cable and cable assembly technology – from 50 AWG to 2/0 AWG with any possible thermoplastic and thermoset insulation and jacket material available today.

Our cable assembly process integrates die-casting, over-molding, injection molding and metal stamping enabling LOROM to not only supply cost-competitive assemblies, but also complete packages and systems.

Our State-of-the-art R&D Design and Test Facility is staffed with more than 500 engineers, enabling us to achieve results and meet standards that quite simply cannot be met by our competitors.

LOROM has the professionalism to make sure we get it right the first time – every time.





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