

## Mechanical Specifications

- **Conductor Material:** Solid Bare Copper
- **AWG (American Wire Gauge):** Typically **23 AWG** for Cat6, or **24 AWG** for Cat5e
- **Insulation Material:** High-Density Polyethylene (HDPE) or Polyethylene (PE)
- **Sheath (Jacket) Material:** PVC (Polyvinyl Chloride) is standard; LSZH (Low Smoke Zero Halogen) is an option
- **Outer Sheath Color:** Blue (various RAL codes like RAL 5015 or RAL 5024)
- **Outer Diameter (O.D.):** Approximately 5.0mm (Cat5e) to 6.2mm (Cat6)
- **Pairs:** 4 twisted pairs, color-coded (e.g., White-Blue/Blue, White-Orange/Orange, White-Green/Green, White-Brown/Brown)
- **Packaging:** Supplied in a **100m (328 ft)** "easy pull box" or reel

## Electrical Characteristics (at 20°C)

- **Frequency Range:** Typically up to 100 MHz (Cat5e) or 250 MHz (Cat6)
- **Characteristic Impedance:**  $100 \pm 15 \Omega$  at 1-100 MHz
- **Max. Conductor DC Resistance:**  $\leq 9.38 \Omega/100m$
- **Max. Delay Skew:**  $\leq 45 \text{ ns}/100m$
- **Nominal Velocity of Propagation (NVP):** ~67% to 69%
- **Max. Operating Voltage:** Typically 60V to 72V

## Environmental & Fire Safety

- **Operating Temperature Range:** Generally -20°C to +60°C or +75°C
- **Installation Temperature Range:** Typically 0°C to +50°C
- **Flame Retardancy:** Usually conforms to standards like IEC 60332-1-2 (for PVC jackets)
- **Certifications:** RoHS compliant, ETL or UL listed, ISO/IEC 11801, TIA/EIA 568-C.2