Cat3 U/UTP Ethernet Bulk Cable — LSZH

6 Pairs | 24 AWG Solid Bare Copper | 16 MHz | 305 m (1000 ft) Reel



1. GENERAL DESCRIPTION

Cat3 U/UTP bulk cable is designed for voice and low-speed data applications, including telephone systems and 10BASE-T Ethernet. It features six twisted pairs of solid pure bare copper conductors and a Low Smoke Zero Halogen (LSZH) jacket, making it suitable for indoor installations in buildings, offices and public areas where low smoke and halogen-free emission are required. The six-pair construction allows several lines or services to be carried in one cable. Supplied on a reel for easy, tangle-free pulling. For data networks faster than 10 Mbps, Category 5e or higher is recommended.

2. KEY FEATURES

- Pure bare copper solid conductors for low attenuation and stable long-run performance
- LSZH jacket: low smoke, zero halogen, reduced toxic and corrosive gas emission in fire
- Six pairs in one cable — multiple voice lines or services over a single run
- Characterised up to 16 MHz — suitable for voice and 10BASE-T data
- Supplied on a 305 m reel for smooth, tangle-free pay-out

3. APPLICATIONS

- Telephone and PBX voice cabling, multi-line and key-system wiring
- 10BASE-T Ethernet and 4 Mbps token ring (not suitable for 100BASE-TX or Gigabit)
- Alarm, intercom, access control and low-speed control wiring
- Maintenance, repair and extension of existing Category 3 voice networks

4. APPLICABLE STANDARDS

- ANSI/TIA-568 series — Category 3 balanced twisted-pair cable
- ISO/IEC 11801 — Class C generic cabling (Category 3) and IEC 61156
- IEC 60332-1 — Flame propagation (single vertical cable)
- IEC 60754-1 / -2 — Halogen content and acidity of gases
- IEC 61034 — Smoke density

5. CABLE CONSTRUCTION

Conductor	Solid pure bare copper, 24 AWG (Ø 0.51 mm nominal)
Insulation	Solid polyethylene (PE / HDPE) [select]
Pairs	6 twisted pairs, different twist lengths to minimise crosstalk
Pair Colour Code	White-Blue / Blue, White-Orange / Orange, White-Green / Green, White-Brown / Brown, White-Slate / Slate, Red / Blue
Screening	None (U/UTP — unshielded)
Separator	[None / Cross filler]
Outer Jacket	LSZH (Low Smoke Zero Halogen) — colour: [Grey / Blue / White]
Marking	CAT3 U/UTP 6P 24AWG LSZH [standard] [metre marking]
Packing	305 m (1000 ft) on reel / pull box

Pair colour code

Pair	Conductor 1 (Tip)	Conductor 2 (Ring)
1	White / Blue	Blue
2	White / Orange	Orange
3	White / Green	Green
4	White / Brown	Brown
5	White / Slate	Slate
6	Red	Blue

6. MECHANICAL & ENVIRONMENTAL

Overall Diameter (approx.)	[7.5 ± 0.4 mm]
Min. Bending Radius (installation)	4 × overall diameter
Max. Pulling Tension	110 N (25 lbf)
Operating Temperature	[-20 °C to +60 °C]
Installation Temperature	[0 °C to +50 °C]
Flame Retardancy	IEC 60332-1

7. ELECTRICAL CHARACTERISTICS (AT 20 °C)

Characteristic Impedance (1–16 MHz)	100 Ω ± 15 Ω
Max. DC Resistance (per conductor)	93.8 Ω/km (9.38 Ω/100 m)
Max. DC Resistance Unbalance	5 %
Max. Mutual Capacitance (1 kHz)	6.6 nF/100 m

Max. Capacitance Unbalance (pair to ground)	330 pF/100 m
Max. Propagation Delay (10 MHz)	[≤ 570 ns/100 m]
Nominal Velocity of Propagation (NVP)	[~ 0.64]
Max. Operating Voltage	[72 V]
Dielectric Strength (DC, 1 min)	[1.0 kV]

8. TRANSMISSION PERFORMANCE (PER 100 M)

Frequency (MHz)	Insertion Loss — max (dB)	NEXT — min (dB)
1	2.6	41
4	5.6	32
8	8.5	27
10	9.7	26
16	13.1	23

9. INSTALLATION & HANDLING GUIDELINES

- Do not exceed the max. pulling tension (110 N) or the min. bending radius (4 × OD).
- Avoid kinks, sharp bends, crushing and over-tight cable ties — do not exceed the bend radius to keep crosstalk within limits.
- Keep separation from power cables according to local wiring standards (EN 50174-2 / TIA-569).
- Untwist pairs by no more than 13 mm (0.5 in) at termination points.
- Use Cat3-rated (or higher) connectors, jacks and punch-down blocks throughout the link.
- Test every installed link with a certified cable tester (Category 3 link).