Cat3 F/UTP Ethernet Bulk Cable — LSZH

4 Pairs | 24 AWG Solid Bare Copper | 100 MHz | 305 m (1000 ft) Reel



1. GENERAL DESCRIPTION

Cat3 F/UTP bulk cable is designed for voice and data applications, including telephone systems and Ethernet. It features four twisted pairs of solid pure bare copper conductors, an overall aluminium foil screen 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 foil screen gives added protection against external electromagnetic interference. Characterised up to 100 MHz and supplied on a reel for easy, tangle-free pulling.

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
- Overall foil screen (F/UTP) — improved immunity to electromagnetic interference
- Four pairs, characterised up to 100 MHz — suitable for voice and Ethernet data
- Supplied on a 305 m reel for smooth, tangle-free pay-out

3. APPLICATIONS

- Telephone and PBX voice cabling and key-system wiring
- 10BASE-T Ethernet and other low-speed data networks
- Alarm, intercom, access control and control wiring in electrically noisy environments
- Maintenance, repair and extension of existing Category 3 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)
Pairs	4 twisted pairs, different twist lengths to minimise crosstalk

Pair Colour Code	White-Blue / Blue, White-Orange / Orange, White-Green / Green, White-Brown / Brown
Screening	[Overall Al/PET foil screen (F/UTP) with tinned copper drain wire]
Separator	[None / Cross filler]
Ripcord	[Yes / No]
Outer Jacket	LSZH (Low Smoke Zero Halogen) — colour: [Grey / Blue / White]
Marking	CAT3 F/UTP 4P 24AWG LSZH [standard] [metre marking]
Packing	305 m (1000 ft) on reel

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

6. MECHANICAL & ENVIRONMENTAL

Overall Diameter (approx.)	[6.0 ± 0.3 mm]
Min. Bending Radius (installation)	8 × 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 (1–100 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)	5.6 nF/100 m
Max. Capacitance Unbalance (pair to ground)	330 pF/100 m
Max. Propagation Delay (100 MHz)	[≤ 538 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	2.0	65.3
4	4.1	56.3
8	5.8	51.8
10	6.5	50.3
16	8.2	47.2
31.25	11.7	42.9
62.5	17.0	38.4
100	22.0	35.3

9. INSTALLATION & HANDLING GUIDELINES

- Do not exceed the max. pulling tension (110 N) or the min. bending radius (8 × 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) shielded connectors, jacks and punch-down blocks, and terminate the foil screen / drain wire correctly according to local wiring standards.
- Test every installed link with a certified cable tester (Category 3 link).