Cat8 S/FTP Ethernet Bulk Cable — PVC

4 Pairs | 24 AWG Solid Bare Copper | 2000 MHz | 305 m (1000 ft) Reel





1. GENERAL DESCRIPTION

Cat8 bulk cable is designed for data-centre and high-speed structured cabling, supporting 25GBASE-T and 40GBASE-T over channels up to 30 m. It features four twisted pairs of solid pure bare copper conductors, each pair individually screened with aluminium/polyester foil, an overall tinned copper braid screen, and a flame-retardant PVC jacket. This pair-and-overall (S/FTP) construction provides outstanding EMI immunity and alien-crosstalk performance up to 2000 MHz. Supplied on a reel for easy, tangle-free pulling.

2. KEY FEATURES

- Individually foil-screened pairs plus overall braid (S/FTP) — virtually eliminates pair-to-pair and alien crosstalk
- Pure bare copper solid conductors for low attenuation and stable long-run performance
- Characterised up to 2000 MHz — supports 25GBASE-T / 40GBASE-T over channels up to 30 m
- Flame-retardant PVC jacket: flexible, durable and easy to strip and terminate
- Supports PoE / PoE+ / PoE++ (IEEE 802.3af / at / bt) with low heating in bundles
- Supplied on a 305 m reel for smooth, tangle-free pay-out

3. APPLICATIONS

- Data-centre cabling: switch-to-server, top-of-rack and end-of-row links up to 30 m
- 1000BASE-T, 10GBASE-T, 25GBASE-T and 40GBASE-T Ethernet
- Server rooms, storage networks and equipment areas with strong EMI
- High-end CCTV / IP camera, broadcast and PoE++ installations

4. APPLICABLE STANDARDS

- ANSI/TIA-568.2-D — Category 8 balanced twisted-pair cable
- ISO/IEC 11801-1 and IEC 61156-9 — Class I / Category 8.1 generic cabling
- IEC 60332-1 — Flame propagation (single vertical cable)

5. CABLE CONSTRUCTION

Conductor	Solid pure bare copper, 24 AWG (Ø 0.57 mm nominal)

Insulation	Solid foamed / solid HDPE [select]
Pairs	4 twisted pairs, different twist lengths to minimise crosstalk
Pair Colour Code	Blue / White-Blue, Orange / White-Orange, Green / White-Green, Brown / White-Brown
Pair Screening	Individual Al/PET foil screen on each pair (FTP) — coverage [100 %]
Overall Screening	Tinned copper braid (S) — coverage [≥ 40 %]
Drain Wire	[24 AWG tinned copper (7/0.20 mm) / None]
Outer Jacket	Flame-retardant PVC — colour: [Grey / Blue / Orange]
Marking	CAT8 S/FTP 4P 24AWG PVC [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

6. MECHANICAL & ENVIRONMENTAL

Overall Diameter (approx.)	[7.0 ± 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	100 Ω [± 5 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
Nominal Velocity of Propagation (NVP)	[~ 0.78]
Max. Operating Voltage	[72 V]
Screening Effectiveness	[Transfer impedance / coupling attenuation per IEC 61156-5]

8. 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 — screen damage degrades EMC performance.
- Keep separation from power cables according to local wiring standards (EN 50174-2).
- Use fully shielded Category 8-rated connectors and patch cords throughout; keep the channel within 30 m including patch cords (max. 2 connectors).
- Terminate each pair foil, the overall braid and drain wire to the connector shield and ground the screen per the site earthing design; keep the shield continuous end to end.
- Test every installed link with a certified cable tester (Category 8 permanent link / channel, tested to 2000 MHz).