

24AWG Stranded Bare Copper | 500 MHz | 10 Gigabit Ethernet | Shielded RJ45–RJ45

Product Overview

PLANET Category 6A F/UTP Shielded Patch Cords are engineered for high-performance 10 Gigabit Ethernet structured cabling where enhanced protection against electromagnetic and radio-frequency interference is required. Four balanced unshielded twisted pairs of stranded bare copper conductors are enclosed by one overall aluminum/polyester foil shield with a tinned-copper drain wire, helping control EMI/RFI and alien crosstalk while maintaining shield continuity and signal integrity. Designed for Category 6A / Class EA applications up to 500 MHz and 10GBASE-T channels up to 100 m when installed as part of a compliant cabling system.



Key Features

- Category 6A F/UTP shielded patch cord
- Performance up to 500 MHz
- Supports 10GBASE-T and legacy Ethernet applications
- 24AWG stranded bare copper conductors – No CCA
- Overall aluminum/polyester foil shield
- Drain wire for reliable shield continuity
- Enhanced EMI/RFI and alien-crosstalk control
- Shielded RJ45 8P8C modular plugs
- 15 µin gold-plated contacts (standard); 30 µin and 50 µin available as options
- Molded strain-relief boot
- Supports PoE, PoE+, and PoE++ subject to compliant channel design
- 100% continuity, wire-map and shield-continuity tested
- PVC standard / LSZH optional

Standards & Compliance

Reference	Requirement / Application
ANSI/TIA-568.2-D	Category 6A balanced twisted-pair cabling
ISO/IEC 11801-1	Class EA generic cabling
IEC 61156-6	Symmetrical pair/quad patch cords
IEC 60603-7-51	Shielded Category 6A connector interface up to 500 MHz
IEEE 802.3an	10GBASE-T 10 Gigabit Ethernet
IEEE 802.3af / 802.3at / 802.3bt	PoE / PoE+ / 4-Pair PoE
RoHS / REACH	Subject to applicable certification/declaration

Cable Construction

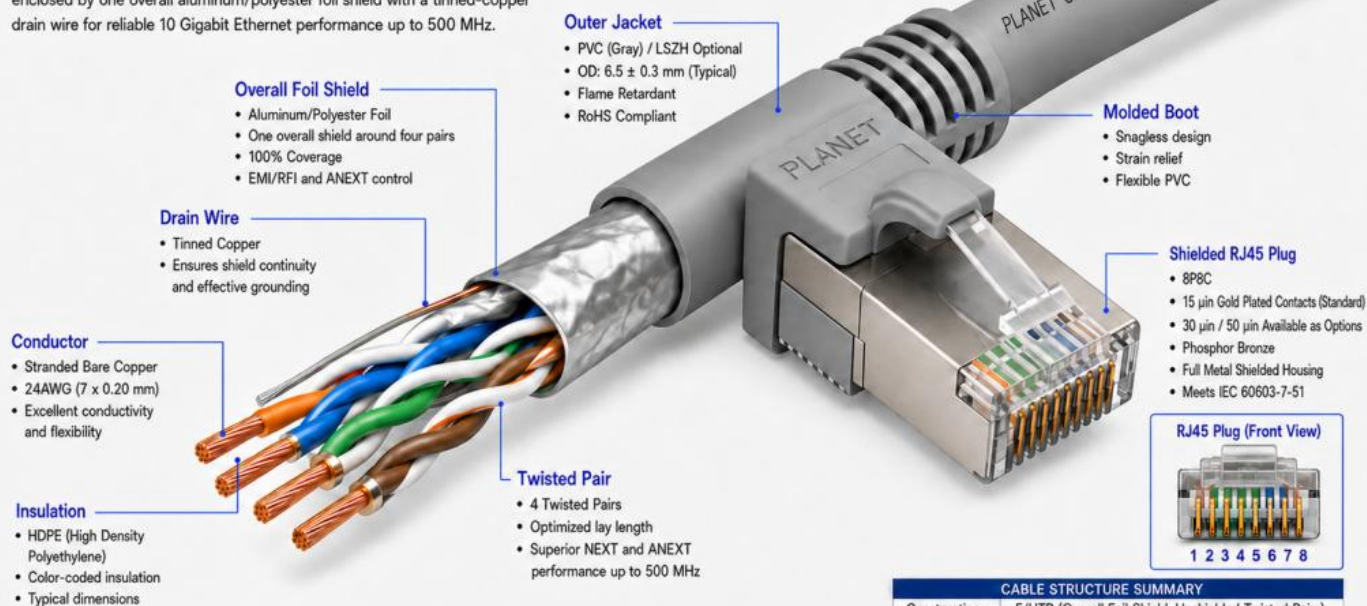
Parameter	Specification
Product Type	Category 6A F/UTP Shielded Patch Cord
Cable Construction	F/UTP – overall foil shield around four unshielded twisted pairs
Number of Pairs	4 Twisted Pairs / 8 Conductors
Conductor	100% Stranded Bare Copper
Nominal Conductor Size	24AWG
Typical Strand Construction	7 × 0.20 mm stranded conductor (typical)
Conductor Insulation	HDPE / High-performance PE
Overall Shield	Aluminum/Polyester Foil
Drain Wire	Tinned copper drain wire for shield continuity and grounding
Outer Jacket	PVC Standard / LSZH Optional
Nominal Cable O.D.	6.5 ± 0.3 mm (typical)
Parameter	Specification
Connector Type	Shielded RJ45, 8P8C, Male-to-Male
Contact Material	Phosphor Bronze
Gold Plating Thickness	15 µin standard; 30 µin and 50 µin available as options
Wiring Scheme	T568B Standard / T568A available on request
Strain Relief	Molded Boot
Shield Continuity	360° cable-to-connector shield termination

F/UTP Shielding Construction

PLANET Cat6A F/UTP Patch Cord – Construction

Typical Category 6A F/UTP patch cord construction (3D schematic)

PLANET Cat6A F/UTP patch cord uses four balanced unshielded twisted pairs enclosed by one overall aluminum/polyester foil shield with a tinned-copper drain wire for reliable 10 Gigabit Ethernet performance up to 500 MHz.



F/UTP Construction:

Four unshielded twisted pairs (UTP) enclosed by one overall foil shield (F), with a tinned-copper drain wire.

NOTES:

- This is a 3D schematic illustration of typical Cat6A F/UTP patch cord construction.
- Actual product may vary in appearance.
- All measurements are typical values.

CABLE STRUCTURE SUMMARY

Construction	F/UTP (Overall Foil Shield, Unshielded Twisted Pairs)
Conductor	24AWG Stranded Bare Copper
Pairs	4 Pairs (8 Conductors)
Overall Shield	Aluminum/Polyester Foil
Drain Wire	Tinned Copper
Connector	Shielded RJ45 8P8C
Jacket	PVC / LSZH Optional
Performance	Up to 500 MHz (Category 6A)
Application	10GBASE-T, Gigabit Ethernet, PoE / PoE+ / PoE++

Electrical Characteristics

Parameter	Specification
Characteristic Impedance	100 Ω nominal
Frequency Range	1–500 MHz
DC Resistance	Compliant with applicable Category 6A patch-cord requirements
DC Resistance Unbalance	Compliant with applicable Category 6A requirements
Insulation Resistance	Compliant with applicable Category 6A patch-cord requirements
Shield Continuity	Continuous end-to-end
Propagation Delay	Category 6A compliant
Delay Skew	≤ 45 ns/100 m

Transmission Performance

Designed to meet applicable Category 6A patch-cord and Class EA channel transmission requirements over the frequency range of 1–500 MHz, including alien-crosstalk performance required for 10GBASE-T applications.

Parameter	Specification
Insertion Loss	Category 6A Compliant
NEXT / PSNEXT	Category 6A Compliant
ACR-N / PSACR-N	Category 6A Compliant
ACR-F / PSACR-F	Category 6A Compliant
Return Loss	Category 6A Compliant
PSANEXT / PSAACR-F	Category 6A Compliant

EMI / RFI Shielding Performance

The overall aluminum/polyester foil shield and tinned-copper drain wire provide enhanced immunity to external EMI/RFI and improved alien-crosstalk control up to 500 MHz. Correct 360° connector termination, end-to-end shield continuity, bonding and grounding practices are required to achieve optimum Category 6A F/UTP shielding performance.

Network & PoE Application Support

Parameter	Specification
10/100/1000BASE-T	Supported
10GBASE-T (IEEE 802.3an)	Supported in a compliant Category 6A channel
Maximum Frequency	500 MHz
Standard Channel Length	Up to 100 m in a compliant Category 6A channel
IEEE 802.3af	PoE
IEEE 802.3at	PoE+
IEEE 802.3bt	4-Pair PoE / PoE++ subject to compliant channel design
Backward Compatibility	Category 6 / 5e applications with compatible interfaces

Mechanical & Environmental

Parameter	Specification
Connector Mating Durability	≥ 750 mating cycles
Minimum Bend Radius	$\geq 4 \times$ cable O.D. under installed conditions
Operating Temperature	-20°C to +60°C (typical)
Standard Jacket	PVC
Optional Jacket	LSZH

Applications

- Data centers and enterprise networks
- Telecommunications and server rooms
- Patch panel-to-switch connections
- 10 Gigabit Ethernet and high-bandwidth networks
- Wi-Fi 6 / 6E / 7 wireless access points
- IP surveillance and access control
- PoE / PoE+ / PoE++ devices
- Industrial and EMI-sensitive installations

Available Colors & Standard Lengths

Parameter	Specification
Colors	Gray, Red, Yellow, Blue, Green
Standard Lengths	0.25 m, 0.5 m, 1 m, 2 m, 3 m, 5 m, 10 m
Custom Options	Additional colors and lengths available upon request

Ordering Information

Product Family	Color Code	Length	Example Ordering Code
Cat6A F/UTP 24AWG	GY = Gray	0.25 m	PL-PC025F6AGY
Cat6A F/UTP 24AWG	RD = Red	0.5 m	PL-PC05F6ARD
Cat6A F/UTP 24AWG	YW = Yellow	1 m	PL-PC01F6AYW
Cat6A F/UTP 24AWG	BL = Blue	2 m	PL-PC02F6ABL
Cat6A F/UTP 24AWG	GR = Green	3 m	PL-PC03F6AGR
Cat6A F/UTP 24AWG	BK = Black	5 m	PL-PC55F6ABK

Packing 1pc / PE bag

length	0.25M	0.5M	1M	2M	3M	5M	10M
quantity/carton	300	250	200	125	100	75	40

Quality Assurance & Testing

Each PLANET Cat6A F/UTP Patch Cord should undergo 100% wire-map, continuity, open/short, miswire, shield-continuity and visual/mechanical inspection. For consultant and tender projects, transmission performance may be verified using an approved Category 6A certification analyzer. ETL/UL certification could be provided if needed.