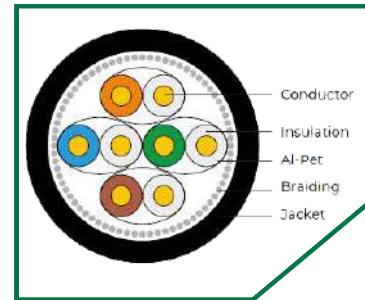
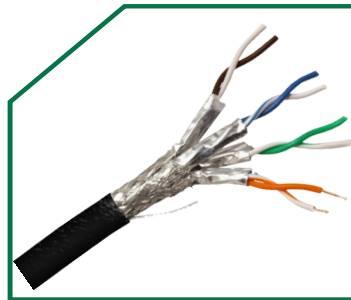


Part Number:

PE : PL-CA6STH

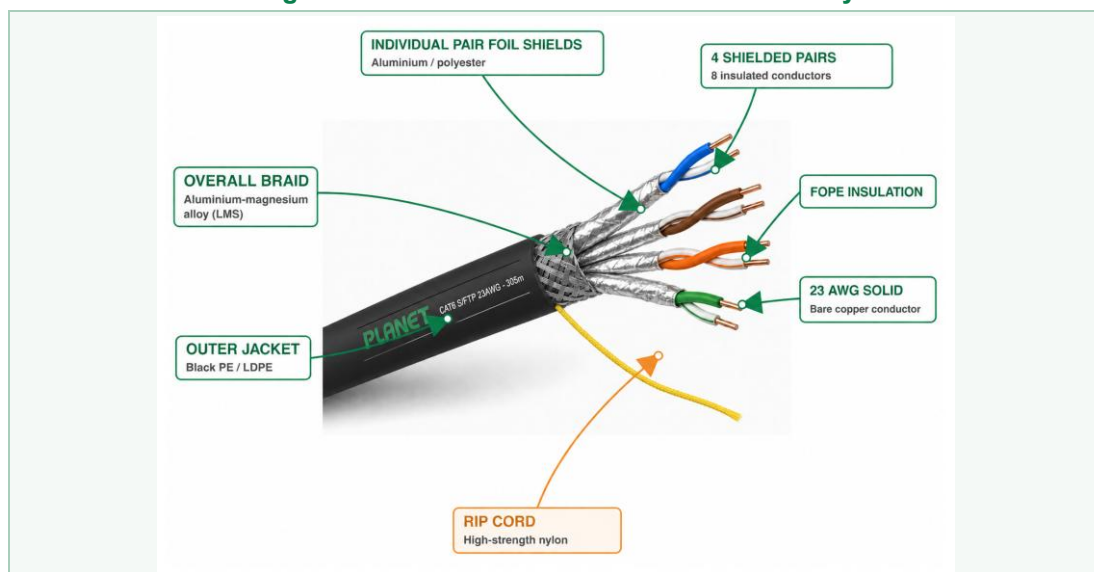


1. General Description

Category 6 S/FTP outdoor cable for structured cabling systems, with individually foil-screened pairs and an overall braid for enhanced EMI/RFI protection. The standard construction uses a black UV-resistant PE/LLDPE jacket for outdoor and duct installations. Direct-burial use requires the optional water-blocking construction and confirmation against the project environment and applicable installation rules.

S/FTP Shielded Outdoor	23 AWG Solid Bare Copper	250 MHz Category 6	PoE Types 1-4 Subject to limits
----------------------------------	------------------------------------	------------------------------	---

"Engineered for Performance. Built for Reliability."



CAT6 S/FTP Outdoor Cable Construction - Annotated 3D View

Illustration shows the optional FOPE insulation configuration; the standard insulation is HDPE.

Part Number: PE : PL-CA6STH

2. Construction

Parameter	Specification
Conductor Material	100% solid bare annealed copper (Cu)
Conductor Size	23 AWG solid bare copper (0.570 ± 0.005 mm)
Number of Conductors	8 (4 individually foil-screened, color-coded twisted pairs)
Insulation Material	High-Density Polyethylene (HDPE)
Individual Pair Shield	Aluminum/polyester foil (Al/PET) around each pair
Overall Shielding	Standard: aluminum-magnesium braid; Optional premium: tinned-copper braid
Shielding Type	S/FTP - overall braid with individually foil-screened twisted pairs
Cable Diameter	7.60 ± 0.40 mm
Drain Wire	Optional tinned-copper drain wire
Water Blocking	Optional gel/tape for ordered direct-burial construction
Outer Jacket	Black UV-resistant PE/LLDPE outdoor jacket
Jacket Type	Weather-resistant virgin material (non-recycled)
Jacket Colour	Black
Installation Type	Standard: outdoor / duct; Optional water-blocked configuration: direct burial
Rip Cord	Nylon rip cord

TECHNICAL SPECIFICATIONS

CAT6 S/FTP OUTDOOR | PE

3. Electrical Characteristics

Parameter	Specification
Characteristic Impedance	100 ± 15 Ω
DC Resistance	≤ 9.38 Ω/100 m at 20°C
DC Loop Resistance	≤ 18.8 Ω/100 m at 20°C
Resistance Unbalance	≤ 5% within a pair (cable value; installed PoE channel verification recommended)
Mutual Capacitance	≤ 5.6 nF/100 m
Frequency Range	Up to 250 MHz
Remote Powering Support	IEEE 802.3af / 802.3at / 802.3bt PoE applications (up to 57 V DC), subject to channel, bundle and temperature limits

4. Mechanical Characteristics

Parameter	Value
Minimum Bend Radius	4 × cable diameter after installation
Pulling Force	≤ 110 N
Operating Temperature	-40°C to +75°C
Installation Temperature	-20°C to +50°C
UV Resistance	UV-stabilized outer jacket
Outdoor / Water Exposure	UV/weather-resistant PE jacket; water-ingress protection and direct burial require the optional water-blocking construction
Flame Rating	No base flame-rating claim; IEC 60332-1 is optional upon verification

Part Number: PE : PL-CA6STH

5. Applications

- Outdoor Structured Cabling Systems
- Gigabit Ethernet Networks (1000Base-T)
- Industrial & High EMI Environments
- Outdoor IP CCTV Systems
- Outdoor segments serving data centers and enterprise networks; transition to appropriately rated indoor cable at the building entrance
- PoE / PoE+ / 4PPoE systems and high-definition video, subject to IEEE 802.3af/at/bt installation limits
- Smart City & Campus Networks
- Direct burial / underground installations only with the ordered optional water-blocking construction
- Building-to-Building Connectivity
- Outdoor Wireless Access Points

PERFORMANCE & KEY FEATURES

CAT6 S/FTP OUTDOOR | 250 MHz

6. Technical Performance

Category 6 Permanent Link reference limits up to 250 MHz (maximum 90 m). These are installed-link limits, not individual bulk-cable component values; the complete channel may be up to 100 m.

Frequency (MHz)	RL (≥ dB)	ATT (≤ dB)	NEXT (≥ dB)	ACRF (≥ dB)	PS NEXT (≥ dB)	PS ACRF (≥ dB)
1	19.1	3.0	65.0	64.2	62.0	61.2
4	21.0	3.5	64.1	52.1	61.8	49.1
8	21.0	5.0	59.4	46.1	57.0	43.1
10	21.0	5.5	57.8	44.2	55.5	41.2
16	20.0	7.0	54.6	40.1	52.2	37.1
20	19.5	7.9	53.1	38.2	50.7	35.2
25	19.0	8.9	51.5	36.2	49.1	33.2
31.25	18.5	10.0	50.0	34.3	47.5	31.3
62.5	16.0	14.4	45.1	28.3	42.7	25.3
100	14.0	18.6	41.8	24.2	39.3	21.2
200	11.0	27.4	36.9	18.2	34.3	15.2
250	10.0	31.1	35.3	16.2	32.7	13.2

7. Transmission Performance

- Supports 10/100/1000 Mbps (Gigabit Ethernet)
- Bandwidth up to 250 MHz
- Designed for IEEE 802.3af / 802.3at / 802.3bt PoE applications, subject to channel, bundle and temperature limits
- Excellent NEXT, ACRF, and Return Loss performance
- Superior EMI/RFI shielding protection
- Shielded construction helps reduce external interference; no Category 6A alien-crosstalk compliance claim
- UV-resistant PE/LLDPE jacket for outdoor exposure; water blocking remains an optional construction

Part Number: PE : PL-CA6STH

8. Key Features

- 23 AWG solid bare copper conductors for optimal conductivity
- Individual foil shielding on each pair for enhanced signal isolation
- Overall braid for EMI/RFI protection; use shielded connecting hardware with continuous bonding/grounding per applicable codes
- UV-resistant PE/LLDPE outer jacket for outdoor durability
- Weather-resistant outdoor PE/LLDPE jacket
- Optional water-blocking gel/tape for direct burial protection
- Precision twisted pairs for reduced crosstalk
- Designed for IEEE 802.3af / 802.3at / 802.3bt Types 1-4, subject to installation and thermal limits
- High mechanical durability for harsh environments
- Representative Fluke 90 m Permanent Link and 100 m Channel test reports available upon request

COMPLIANCE, QUALITY & WARRANTY

CAT6 S/FTP OUTDOOR | PL-CA6STH

9. Standards Compliance

Standard / Certification	Status
ISO/IEC 11801-1 (Class E cabling support)	Baseline design support
ANSI/TIA-568.2-E	Baseline compliance
EN 50173-1 (Class E cabling support)	Baseline design support
EN 50288-5-1 (screened cable up to 250 MHz)	Baseline compliance
RoHS	Compliant
CE Marking	Subject to applicable EU conformity documentation
CPR (EN 50575)	Optional; declared class and DoP required for the ordered construction
UL / ETL Verification	Optional; valid listing/file required

10. Quality Assurance

Manufactured under strict quality control to ensure:

- Consistent electrical performance
- Consistent outdoor operation within the stated environmental limits
- UV-jacket validation; water-ingress validation for the optional water-blocked construction
- Enhanced shielding efficiency
- Compliance with the stated baseline standards, subject to supporting documentation

Validation: Representative 90 m Permanent Link and 100 m Channel configurations tested using a Fluke Networks cable analyzer; report available upon request.

11. Key Advantages

- Superior EMI/RFI shielding in outdoor environments
- UV-resistant outdoor-jacket construction
- High copper purity for maximum transmission efficiency
- Excellent mechanical durability for harsh conditions
- Ideal for industrial and enterprise outdoor installations
- PoE performance subject to installed-channel, bundle and temperature limits

12. Warranty

25-Year System Warranty

Subject to proper installation and certified components usage.