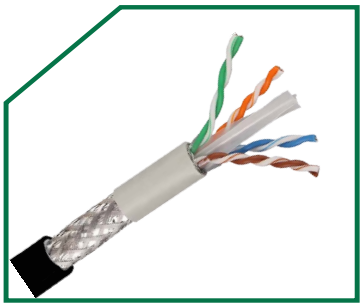
Planet
Structure Cabling Systems

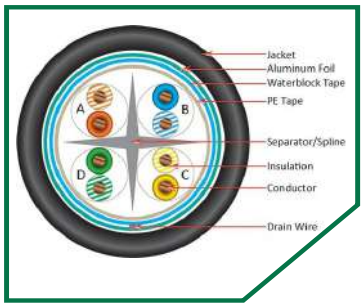
Category : 6 / SFTP Outdoor

Network Cable

Part Number:

PE+PVC : PL-CA6STO



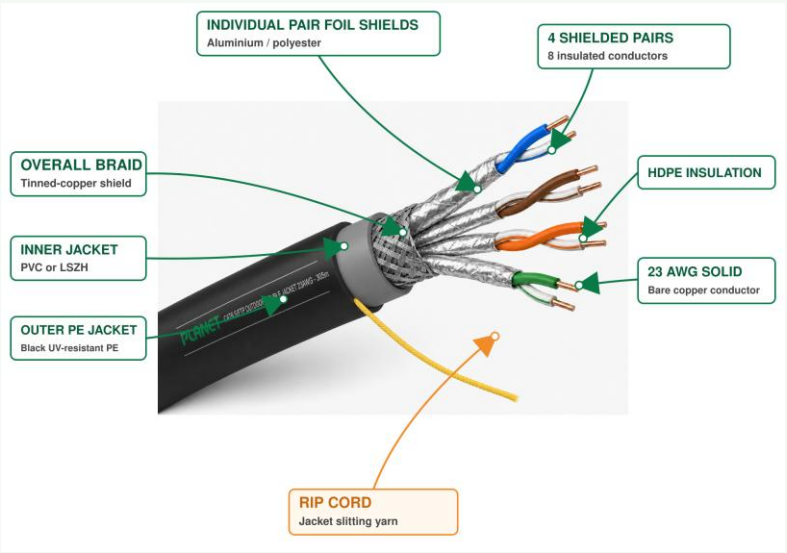


1. General Description

Category 6 S/FTP outdoor double-jacket cable for structured cabling systems, with individually foil-screened pairs and an overall braid for EMI/RFI protection. The standard PL-CA6STO construction uses a grey PVC inner jacket and a black UV-resistant HDPE outer jacket for outdoor, industrial and duct installations. Direct-burial use requires the optional water-blocking construction and confirmation against project conditions and applicable installation rules.

S/FTP Shielded Outdoor	DUAL Double Jacket	250 MHz Category 6	PoE Types 1-4 Subject to limits

"Engineered for Performance. Built for Reliability."



CAT6 S/FTP Outdoor Double-Jacket Construction - Annotated 3D View

Illustration shows the optional premium tinned-copper braid; the standard braid is aluminum-magnesium. The inner jacket is PVC; LSZH is optional.

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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	8.8 ± 0.5 mm
Inner Jacket	Standard: grey PVC inner jacket; Optional: grey LSZH inner jacket
Jacket Construction	Double jacket: grey PVC inner + black UV-resistant HDPE outer
Water Blocking	Optional gel/tape for ordered direct-burial construction
Drain Wire	Optional tinned-copper drain wire
Jacket Type	Double-layer virgin material (non-recycled)
Installation Type	Standard: outdoor / industrial / duct; Optional water-blocked configuration: direct burial
Rip Cord	Nylon rip cord between the two jackets
Jacket Color	Black outer + grey inner

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

Part Number: **PE+PVC** : PL-CA6STO

4. Mechanical Characteristics

Parameter	Value
Minimum Bend Radius	6 Ĭ cable diameter after installation
Pulling Force	≤ 150 N
Operating Temperature	-40ÁC to +75ÁC
Installation Temperature	-20ÁC to +50ÁC
UV Resistance	High UV stability (outdoor grade)
Outdoor / Water Exposure	UV/weather-resistant HDPE outer jacket; water-ingress protection and direct burial require the optional water-blocking construction
Mechanical Protection	Enhanced protection from the double jacket; quantitative impact/crush rating requires test evidence
Flame Rating	No base flame-rating claim; IEC 60332-1 is optional upon verification

5. Applications

- Outdoor Structured Cabling Systems
- Direct burial only with the ordered optional water-blocking construction
- Industrial & Harsh Environment Networks
- Gigabit Ethernet Networks (1000Base-T)
- Outdoor IP CCTV Systems
- Smart City & Infrastructure Networks
- Building-to-Building Backbone Links
- PoE / PoE+ / 4PPoE systems, subject to IEEE 802.3af/at/bt installation limits
- Outdoor data-center connectivity; transition to appropriately rated indoor cable at the building entrance
- Underground Conduit Installations

PERFORMANCE & KEY FEATURES | **CAT6 S/FTP DOUBLE JACKET | 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 (ÓdB)	ATT (ÒdB)	NEXT (ÓdB)	ACRF (ÓdB)	PS NEXT (ÓdB)	PS ACRF (ÓdB)
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

Part Number: **PE+PVC** : PL-CA6STO

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
- Supports a maximum 100 m channel with up to 90 m permanent link, subject to installed-channel compliance
- Environmental use is limited to the stated temperature, jacket and ordered water-blocking conditions

- 23 AWG solid bare copper conductors for optimal conductivity
- Double-jacket construction for enhanced mechanical protection
- UV-resistant PE outer jacket for long-term outdoor durability
- Inner protective jacket for enhanced core safety
- Individual foil shielding on each pair for signal isolation
- Overall braid for EMI/RFI protection; use shielded connecting hardware with continuous bonding/grounding per applicable codes
- Optional water-blocking gel/tape for moisture protection
- Direct burial requires the optional water-blocked construction and confirmation of project mechanical requirements
- Designed for IEEE 802.3af / 802.3at / 802.3bt Types 1-4, subject to installation and thermal limits
- Representative Fluke 90 m Permanent Link and 100 m Channel test reports available upon request

COMPLIANCE, QUALITY & WARRANTY | **CAT6 S/FTP DOUBLE JACKET | PL-CA6STO**

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
- Enhanced double-jacket durability; direct burial validation applies only to the ordered water-blocked construction
- 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.

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11. Key Advantages

- Enhanced mechanical protection from the double-jacket construction
- Optional water-blocked construction available for qualified direct-burial projects
- Excellent EMI/RFI shielding performance
- High copper purity for optimal signal transmission
- PoE performance subject to installed-channel, bundle and temperature limits
- Ideal for industrial and infrastructure projects
- Outdoor service within the stated environmental and installation limits

12. Warranty

25-Year System Warranty	**Subject to proper installation and certified components usage.**