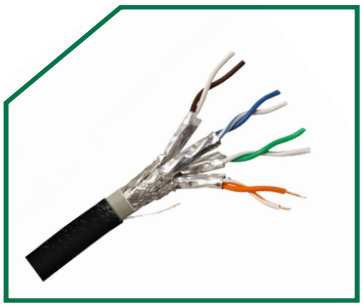
Planet
Structure Cabling Systems

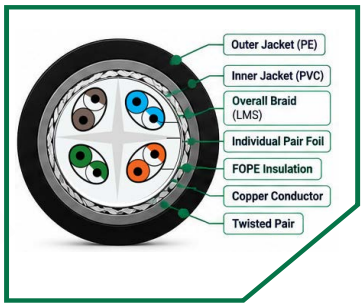
Category : 6A / SFTP Outdoor Double Jacket

Network Cable

Part Number:

PVC+PE : PL-CA6ASTO



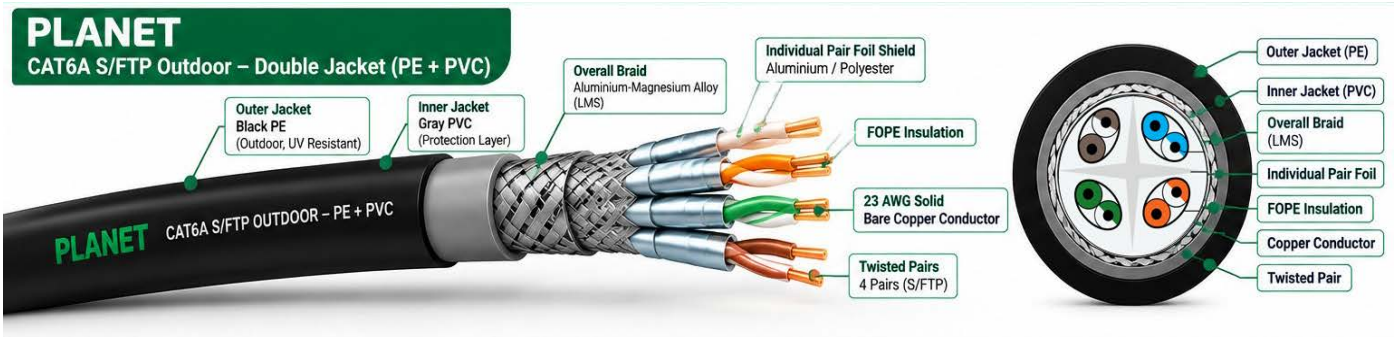


1. Product Overview

Category 6A S/FTP outdoor double-jacket cable for structured cabling systems, designed with four individually foil-screened twisted pairs, an overall aluminium-magnesium alloy (LMS) braid, 23 AWG solid bare-copper conductors and foamed-polyethylene (FOPE) insulation. The proposed dual-sheath assembly comprises a grey PVC inner jacket and a black LDPE outer jacket (PE + PVC).

The cabling is intended for 500 MHz / 10GBASE-T service on a standards-compliant installed channel. This sheet adapts the supplied single-jacket PL-CA6ASTH specification; the dual-jacket build must be separately confirmed and factory-tested before any new-model compliance or outdoor weathering claim.

S/FTP	DUAL	500 MHz	23 AWG
Shielded pairs + braid	LDPE + PVC jackets	Category 6A	Solid bare copper



Part Number: **PVC+PE** : PL-CA6ASTO

2. Construction - Proposed PE + PVC Double-Jacket Model

Parameter	Specification
Cable Design	S/FTP: 4 individually foil-screened twisted pairs (8 conductors) + overall braid
Conductor	23 AWG solid bare annealed copper; 0.570 ± 0.005 mm (original conductor target)
Insulation	FOPE; nominal O.D. 1.38 ± 0.10 mm; average thickness 0.40 mm (original target)
Pair Colours	White/Blue-Blue; White/Green-Green; White/Orange-Orange; White/Brown-Brown
Filler / Central / Drain	None in original core design; verify against final OEM construction
Individual Pair Shield	Aluminium/polyester foil around each individual twisted pair
Overall Braid	LMS braid, 16/4/0.12 mm, coverage ≥ 30%; tinned-copper braid optional
Inner Jacket	Grey PVC - NEW second protective sheath; thickness subject to OEM drawing
Outer Jacket	Black LDPE (PE); thickness subject to OEM drawing (single-jacket original: 0.55 ± 0.05 mm)
Jacket Construction	Double sheath: grey PVC inner + black LDPE outer (PE + PVC)
Overall Diameter	To be confirmed for the double-jacket model; original single-jacket: 7.60 ± 0.40 mm
Rip Cord	Optional / subject to OEM design approval; may be placed between jackets
Jacket Printing	Black outer jacket with white sequential metre marking; certification marks only if valid

TECHNICAL SPECIFICATIONS **CAT6A S/FTP | DOUBLE JACKET | 500 MHz**

3. Electrical Characteristics - Performance Targets

Parameter	Specification
Frequency Range	1-500 MHz
Characteristic Impedance	100 ± 15 Ω over 1-500 MHz
DC Resistance, Single Conductor	≤ 9.0 Ω/100 m at 20°C
DC Resistance Unbalance	Within pair: ≤ 2%; between pairs: ≤ 4%
Insulation Resistance	≥ 5000 MΩ·km at 20°C, DC 100-500 V
Wire-to-Ground Capacitance Unbalance	≤ 160 pF/100 m at 0.8 kHz or 1 kHz
Delay Skew	≤ 45 ns/100 m
Enhanced DC Resistance	≤ 8.5 Ω/100 m at 20°C
Propagation Delay	≤ 538 ns/100 m at 100 MHz
Loop Resistance	≤ 17.0 Ω/100 m at 20°C
Mutual Capacitance	≤ 5.0 nF/100 m
PoE Operating Voltage	IEEE 802.3 PoE application up to 57 V DC

Part Number: **PVC+PE** : PL-CA6ASTO

4. Mechanical Characteristics - New Jacket Assembly

Parameter	Value / Qualification
Outer LDPE Sheath Tensile Strength	≥ 14.0 MPa (original LDPE material target; test new outer sheath)
Outer LDPE Sheath Elongation	≥ 600% (original material target; confirm on final product)
FOPE Insulation Tensile Strength	≥ 10.0 MPa (original core target)
FOPE Insulation Elongation	≥ 200% (original core target)
Ageing Condition	100°C ± 2°C for 7 days (168 h) - original LDPE validation method
Outer Sheath After Ageing	Tensile ≥ 9.8 MPa; elongation ≥ 420% (targets, factory verify)
PVC Inner Jacket Mechanical Values	TBC by factory; do not assume LDPE tensile / ageing values apply to PVC
Temperature Rating	-20°C to +75°C (source target; verify full two-jacket assembly)
Cold Bend	-20°C ± 2°C × 4 h; 8× cable O.D.; no cracks (test double jacket)
Installation / Pulling	Bend ≥ 8× OD during pulling / ≥ 4× after; pull ≤ 110 N (targets)
UV / Water / Direct Burial	Only with independently evidenced outer sheath / optional water-blocked design

CAT6A PERFORMANCE REQUIREMENTS **CAT6A S/FTP | 500 MHz**

5. Mandatory CAT6A Cable Performance

Below are the 1-500 MHz Category 6A cable performance limits reproduced from the supplied source sheet (ANSI/TIA-568.2-E). The new PE + PVC construction must meet these limits and applicable balance / alien-crosstalk requirements. Factory test evidence is necessary.

MHz	RL ≥dB	IL ≤dB	NEXT ≥dB	ACRF ≥dB	PS NEXT ≥dB	PS ACRF ≥dB
1	20.0	2.1	75.3	68.0	72.3	65.0
4	23.0	3.8	66.3	56.0	63.3	53.0
10	25.0	5.9	60.3	48.0	57.3	45.0
16	25.0	7.5	57.2	43.9	54.2	40.9
31.25	23.6	10.5	52.9	38.1	49.9	35.1
62.5	21.5	15.0	48.4	32.1	45.4	29.1
100	20.1	19.1	45.3	28.0	42.3	25.0
125	19.4	21.5	43.8	26.1	40.8	23.1
200	18.0	27.6	40.8	22.0	37.8	19.0
250	17.3	31.1	39.3	20.0	36.3	17.0
300	17.3	34.3	38.1	18.5	35.1	15.5
500	17.3	45.3	34.8	14.0	31.8	11.0

Part Number: **PVC+PE** : PL-CA6ASTO

6. Typical CAT6A Applications

- 10GBASE-T (10 Gigabit Ethernet) over a standards-compliant installed channel
- 1000BASE-T Gigabit Ethernet; 100BASE-TX and 10BASE-T Ethernet
- Outdoor enterprise / industrial structured cabling where shield bonding is continuous and applicable installation rules are followed
- PoE Types 1-4 applications subject to channel, bundle and thermal validation
- Conduit / outdoor runs only after jacket weathering suitability is confirmed; direct burial requires separately qualified water-blocking construction

7. Standards and Compliance

Standard / Certification	Status for Proposed Double-Jacket Model
ANSI/TIA-568.2-E	Category 6A 1-500 MHz requirements; confirm compliance by tests on the PE+PVC SKU
ISO/IEC 11801-1 Class EA	Optional verified compliance; no certification claim without documented evidence
EN 50288-10-1	Screened 500 MHz cable; verify against final product test evidence
EN 50173-1 / IEEE 802.3an	System compatibility / 10GBASE-T use subject to installed-channel compliance
IEC 61156-5	Optional; supporting cable-component tests required
IEEE 802.3af / at / bt	PoE Types 1-4 only subject to thermal and channel verification
IEC 60332-1-2 / CPR EN 50575	Optional only for construction with relevant test / classification
RoHS / CE / UL / ETL	No declarations / certification claims without valid evidence for ordered PE+PVC model
UV / water ingress / direct burial	Additional jacket / environmental tests mandatory for such product claims

8. Quality Verification

- Approve dimensioned section drawing and final bill of materials for FOPE, Al/PET foil, LMS braid, PVC and LDPE.
- Confirm finished diameter, both jacket thicknesses, cable mass, ripcord placement and flame classification if ordered.
- Provide complete factory electrical and alien-crosstalk tests for this PE+PVC Cat6A S/FTP construction.
- Provide jacket ageing, bend, UV/weathering and water-ingress test reports for claims to be printed.
- Validate 90 m Permanent Link / 100 m Channel and PoE Types 1-4 configurations as applicable.

9. Warranty

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