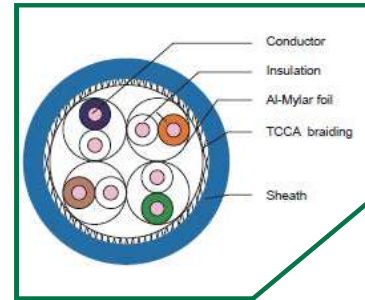
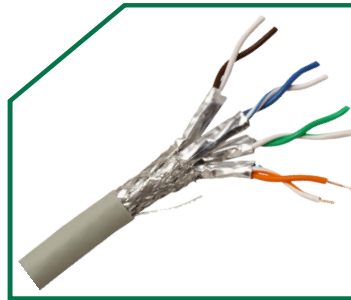


Part Number:

LSZH : PL-CA7STL

PVC : PL-CA7STP



1. General Description

High-performance Category 7 S/FTP cable engineered for advanced structured cabling systems, fully compliant with ISO/IEC Class F standards. Designed to deliver extremely high bandwidth performance, superior shielding efficiency, and exceptional EMI/RFI protection for demanding commercial, industrial, and data center environments.

The cable supports high-frequency transmission up to 600 MHz, enabling stable 10 Gigabit Ethernet performance over structured copper cabling systems.

"Engineered for Performance. Built for Reliability."

2. Construction

Parameter	Specification
Conductor Material	100% Bare Copper (Cu)
Conductor Size	23 AWG (0.565 – 0.57 mm)
Number of Conductors	8 (4 Shielded Twisted Pairs)
Insulation Material	Foam Skin / High-Density Polyethylene (PE)
Individual Pair Shield	Aluminum Foil (Al/Mylar)
Overall Shielding	Aluminum-magnesium wire braiding (Optional Tinned Copper Braiding)
Shielding Type	S/FTP (Screened Foiled Twisted Pair)
Cable Diameter	7.8 ± 0.40 mm
Drain Wire	Optional (Tinned Copper)
Outer Jacket	LSZH / PVC / PE (Optional depending on application)
Jacket Type	Virgin Material (Non-Recycled)
Jacket Color	Grey / Blue / Optional
Rip Cord	Nylon Rip Cord

Part Number: LSZH : PL-CA7STL PVC : PL-CA7STP

3. Electrical Characteristics

Parameter	Specification
Characteristic Impedance	100 ± 15 Ω
DC Resistance	≤ 9.0 Ω/100m
Loop Resistance	≤ 18.0 Ω/100m
Resistance Unbalance	≤ 5%
Capacitance	≤ 5.6 nF/100m
Frequency Range	Up to 600 Mhz
Operating Voltage	IEEE 802.3 PoE / PoE+ / PoE++ (up to 57V DC)

4. Mechanical Characteristics

Parameter	Value
Minimum Bend Radius	4 × Cable Diameter
Pulling Force	≤ 110 N
Operating Temperature	-20°C to +60°C
Installation Temperature	0°C to +50°C
Flame Rating	Optional (IEC 60332-1 compliant upon request)
Shielding Effectiveness	High EMI/RFI suppression

5. Applications

- High-speed Structured Cabling Systems (Class F Networks)
 - 10 Gigabit Ethernet (10GBase-T) Networks
 - Data Centers & Core Backbone Networks
 - Industrial & High EMI/RFI Environments
 - IP CCTV & Security Systems
 - VoIP, PoE / PoE+ / PoE++ Systems
 - Smart Buildings & Enterprise Networks
 - High-frequency backbone infrastructure
- For full ISO/IEC Class F (Cat7) performance, this cable must be terminated with GG45 or TERA connectors. Standard RJ45 connectors will limit transmission to CAT6A performance levels.

Part Number: LSZH : PL-CA7STL PVC : PL-CA7STP

6. Technical Performance (100M)

The following table represents the baseline Cat7 S/FTP electrical performance at 100-meter channel up to 600 MHz. The fully shielded construction (S/FTP) with individually foil-shielded pairs and overall braid shield provides superior EMI immunity and excellent high-frequency stability. The cable is engineered with performance margins above standard requirements to ensure stable and reliable transmission in high-speed network applications.

Frequency (MHz)	RL (≥ dB)	ATT (≤ dB)	NEXT (≥ dB)	ACRF (≥ dB)	PS NEXT (≥ dB)	PS ACRF (≥dB)
4.00	23.0	3.7	78.0	78.0	75.0	75.0
8.00	24.5	5.2	78.0	75.9	75.0	74.2
10.00	25.0	5.9	78.0	74.0	75.0	72.3
16.00	25.0	7.4	78.0	69.9	75.0	68.2
20.00	25.0	8.3	78.0	68.0	75.0	66.3
25.00	24.3	9.3	78.0	66.0	75.0	64.3
31.25	23.6	10.4	78.0	64.1	75.0	62.4
62.50	21.5	14.9	75.5	58.1	72.5	56.4
100.00	20.1	19.0	72.4	54.0	69.4	52.3
200.00	18.0	27.5	67.9	48.0	64.9	46.3
250.00	17.3	31.0	66.4	46.0	63.4	44.3
300.00	17.3	34.2	65.2	44.5	62.2	42.8
400.00	17.3	40.0	63.4	42.0	60.4	40.3
500.00	17.3	45.3	61.9	40.0	58.9	38.3
600.00	17.3	50.1	60.7	38.4	57.7	36.7

Part Number: LSZH : PL-CA7STL PVC : PL-CA7STP

7. Transmission Performance

- Supports 10/100/1000 Mbps and 10Gbps Ethernet (10GBase-T)
- Bandwidth up to 600 MHz (Class F standard)
- Superior NEXT, FEXT, and Return Loss performance
- Extremely low crosstalk due to individual pair shielding
- Excellent EMI/RFI immunity for industrial environments
- Designed for horizontal cabling up to 100 meters (Class dependent)
- Optimized for high-density network environments

8. Key Features

- 23AWG Solid Bare Copper Conductors for maximum conductivity
- Individual foil shielding per pair for superior isolation
- Overall braided shielding for maximum EMI protection
- Designed for Class F (ISO/IEC 11801) performance
- High-frequency stable transmission up to 600–1000 MHz
- Optimized for 10G Ethernet applications
- Enhanced mechanical durability and signal stability
- Fully verified through Fluke testing (Channel & Permanent Link)

9. Standards Compliance

- ISO/IEC 11801 Class F
- ANSI/TIA-568.2-D (Category 7 equivalent performance mapping)
- IEC 61156-5
- EN 50173-1
- EN 50288-4-1
- RoHS Compliant
- CE Compliant
- CPR (EN 50575) – upon request
- UL / ETL Verified – upon request

10. Quality Assurance

Manufactured under strict quality control to ensure:

- Consistent high-frequency electrical performance
- Stable long-term transmission reliability
- Full shielding effectiveness validation
- Compliance with international structured cabling standards

Testing:

- 100% Fluke Tested (Channel & Permanent Link)

Part Number: LSZH : PL-CA7STL PVC : PL-CA7STP

11. Key Advantages

- Extremely high shielding efficiency (best among copper LAN cables)
- Superior performance in noisy EMI environments
- Ideal for 10G high-density networks
- Low attenuation and high signal integrity
- Professional-grade backbone cabling solution
- Maximum stability for enterprise infrastructure

12. Warranty

25-Year System Warranty

(Subject to proper installation and certified components usage)