

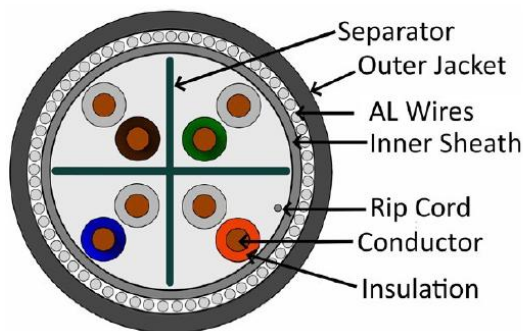
# Category 6A



**GENIUS**  
**NETWORK**  
EXTREME INTELLIGENCE

U/UTP 23 AWG LSZH - PE – AL Armoured

## Cable Construction



**Genius** Category 6A U/UTP 10 Gigabit Ethernet cable is engineered with Wire Armoured & Double jacketed, four balanced twisted copper pairs to ensure reliable signal integrity. It is designed to deliver Category 6A permanent link and channel performance up to 500 MHz, in alignment with internationally defined standards. This ensures integrated networking, high speed, superior data throughput, and high efficiency, making it ideal for modern LAN infrastructure.

## Key Features

- Designed for 10/100/1000BASE-T and 10GBASE-T, support up to 10 Gbps
- Cat 6A U/UTP cable compliant with TIA, ISO/IEC & EN standards
- Digital and analogue voice and video (RGB) signals on LANs
- Operates at bandwidth of 500 MHz
- Compatible with PoE, PoE+ and PoE++ (IEEE 802.3af/at/bt) applications
- RoHS Compliant
- Genius Network Brand Performance Warranty for 25 years

## Product Construction

Conductor Size	23 AWG
Conductor Material	Solid Bare Copper
Conductor Count	8 Nos
No of Pairs	4 Pairs
Insulation Diameter	1.05 mm (Nominal)
Insulation Material	HDPE
Pair Color	Blue-White with Blue Orange-White with Orange Green-White with Green Brown-White with Brown
Central Separator	X - Shaped
Central Separator Material	HDPE
Rip Cord	Yes
Inner Jacket Material	LSZH
Outer Jacket Material	PE
Outer Jacket Thickness	0.80 mm (Nominal)
Outer Jacket Color	Black
Inner Jacket Thickness	0.60 mm (Nominal)
Armouring Type	AL Wires, 0.8 mm Dia.
Cable Diameter	10.0 ± 0.3 mm
Nominal Weight	120 ± 10 Kg/Km
Min Bending Radius	8D (D - Cable Diameter)
Minimum Elongation at Break	≥300% (Typical)
Pulling Force	50 kg

## Environmental Specification

Installation Temperature	-40 °C to +75 °C
Operating Temperature	-20 °C to +60 °C
Storage Temperature	-40 °C to +70 °C

## Electrical Characteristics @20°C ±1°C

Operating Frequency	500 MHz
Characteristic Impedance	100 Ω ±15Ω
Conductor resistance (DC)	≤ 9.38 Ω / 100 m
Resistance unbalance	5% Max
Mutual Capacitance	≤ 5.6 nF / 100 m
Capacitance unbalance	330 pF/100 m
Cable Skew	≤ 45 ns / 100 m
NVP	69%
Max propagation delay	536 ns/100 m @ 250 MHz
Max operating Voltage	300 V
Insulation Resistance	500 MΩ Minimum
Dielectric Strength	1.2 kv DC for 1 sec

## Transmission Characteristics Per 70 Mtrs

Frequency MHz	IL max dB	NEXT min dB	ACR-N min dB	PSNEXT min dB	PS ACR- N min dB	ACRF min dB	PSACRF min dB	RL min dB
1	0.7	88.5	87.8	84.5	83.8	87	83	29
4	2	76.5	74.5	72.5	70.5	74	70	25
8	3.2	68.5	65.3	64.5	61.3	65	61	23
10	3.7	66.5	62.8	62.5	58.8	62	58	22
20	5.2	58.5	53.3	54.5	49.3	53	49	21
31.25	6.7	52.5	45.8	48.5	41.8	46	42	19
50	9.1	46.5	37.4	42.5	33.4	37	33	17
62.5	10.4	44.5	34.1	40.5	30.1	34	30	16
100	14	42.8	28.8	38.5	24.5	28.5	25	15
200	23	38.5	15.5	34.5	11.5	15.2	11.8	14
250	25.8	36.5	10.7	32.5	6.7	10.4	7.1	14
300	28.3	35	6.7	31.1	2.8	6.4	3.2	13.5
500	45.2	32.3	-12.9	30.3	-14.9	11.8	8.8	14.2

## Standards, Certifications & Compliances

- Compliance with Transmission Standards ANSI/TIA-568-C.2, ANSI/TIA-568.2-D, ANSI/TIA-568.2-E, ISO/IEC 11801, EN 50173
- Supports PoE++ in accordance with IEEE 802.3af / 802.3at / 802.3bt
- RoHS v3 Compliant
- Compliance with IEC 60332-1-2 for Flammability Test (only for LSZH)
- Compliance with IEC 60754-1/2 for acid gas emission (Only for LSZH)
- Compliance with IEC 61034-2 and ASTM D2843 for smoke density (Only for LSZH)
- Compliance with ASTM D2863 for minimum oxygen index (Only for LSZH)

## Packaging

Packaging

Wooden Bobbin, 305  
Meters

## Ordering information

Part Number	Product Description
GCTCADA3XLZ3X	Genius Cat 6A U/UTP 23AWG Armoured LAN cable LSZH-PE 305 Meters Black

