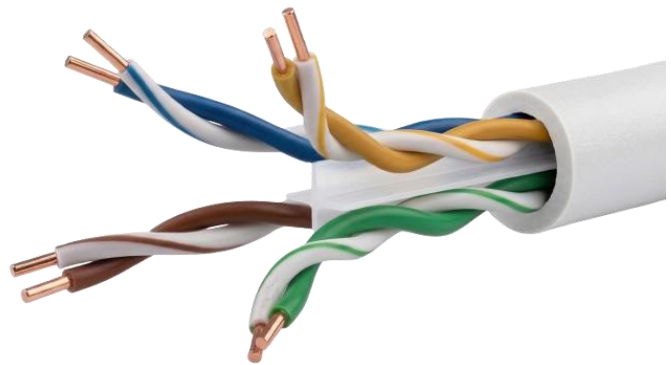
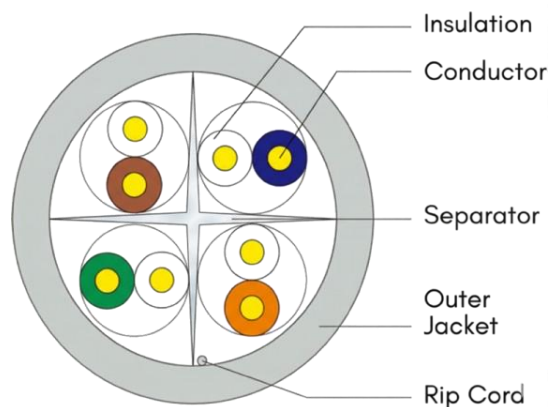


# Category 6

U/UTP 23 AWG FR PVC

## Cable Construction



**Genius** Category 6 U/UTP 1 Gigabit Ethernet cable is engineered with four balanced twisted copper pairs to ensure reliable signal integrity. It is designed to deliver Category 6 permanent link and channel performance up to 250 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. The cable supports data, voice, and video networks.

## Key Features

- Designed to Supports 10/100/1000Base-T with data rates up to 1 Gbps
- Cat 6 U/UTP cable compliant with TIA, ISO/IEC & EN standards
- Digital and analogue voice and video (RGB) signals on LANs
- Operates at bandwidth of 250MHz, Tested Up to 600MHz.
- Compatible with PoE, PoE+ and PoE++ (IEEE 802.3af/at/bt) applications
- RoHS Compliant & UL Listed
- 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 ± 0.05 mm
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
Outer Jacket Material	FR PVC
Jacket Thickness	0.5 mm (Nominal)
Outer Jacket Color	Grey - RAL7035
Cable Diameter	5.8 ± 0.2 mm
Nominal Weight	40 ± 5 Kg/Km
Min Bending Radius	4D (D - Cable Diameter)
Minimum Elongation at Break	≥300% (Typical)
Pulling Force	11.5 kg

## Environmental Specification

Installation Temperature	-40 °C to +75 °C
Operating Temperature	-20 °C to +70 °C
Storage Temperature	0 °C to +60 °C

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

Operating Frequency	250 MHz
Tested Frequency	Up to 600 MHz
Characteristic Impedance	100Ω ±15 Ω @ 1-250 MHz
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	535 ns/100 m at 250 MHz
Max operating Voltage	300 V
Insulation Resistance	500 MΩ Minimum
Dielectric Strength	1.2 kv DC for 1 sec

## Transmission Characteristics Per 90 Mtrs

Freq (MHz)	IL Max dB	NEXT Min dB	ACR-N Min dB	RL Min dB	PSNEXT Min dB	PS ACR-N Min dB	ACR-F Min dB	PS ACR-F Min dB
1	2	65.3	63.3	20	62.3	60.3	63.3	60.3
4	3.8	65.3	61.5	23	62.3	58.5	51.3	48.3
8	5.3	64.8	59.5	24.5	61.8	56.5	45.3	42.3
10	6	64.3	58.3	25	61.3	55.3	43.3	40.3
16	7.6	62.8	55.2	25	59.8	52.2	39.3	36.3
20	8.5	61.8	53.3	25	58.8	50.3	37.3	34.3
25	9.5	60.8	51.3	24.3	57.8	48.3	35.3	32.3
31.25	10.7	59.3	48.6	23.6	56.3	45.6	33.3	30.3
62.5	15.4	55.3	39.9	20.8	52.3	36.9	27.3	24.3
100	19.8	52.3	32.5	18	49.3	29.5	23.3	20.3
125	22.3	51.3	29	17	48.3	26	21.3	18.3
200	29.1	48.3	19.2	12	45.3	16.2	17.3	14.3
250	32.8	47.3	14.5	10	44.3	11.5	15.3	12.3

## 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
- UL Listed
- RoHS v3 Compliant
- Compliance with IEC 60332-1-2 for Flammability Test

## Packaging

Packaging

Reel in Box, 305 Meters

## Ordering Information

Part Number	Product Description
GC6CAUT3GFR3X	Genius Cat 6 U/UTP 23AWG LAN Cable FR PVC 305 Meters Gray

