Introduction

Category 3 (Cat3) cables are the type of twisted pair cables primarily used for voice communication and low-speed data transmission. They were widely adopted in residential and small business settings for telephone systems and networking before the advent of higher-speed cabling standards. Cat3 cables come in two main types: Unshielded Twisted Pair (UTP) and Shielded Twisted Pair (STP). The shielded variant is used in environments with significant electromagnetic interference (EMI) or radio frequency interference (RFI).

Application

UTP Cat3:
Voice Communication: Used in older telephone systems for voice communication.
Data Transmission: Suitable for low-speed data applications, such as 10Base-T Ethernet networks.
Residential and Small Business: Commonly used in residential phone lines and small business PBX systems.
STP Cat3:
High-Interference Environments: Shielded versions are used in areas with significant electromagnetic interference (EMI) or radio frequency interference (RFI).
Industrial Settings: Suitable for installations where electrical noise is prevalent.
Voice and Data: Useful in older telephone systems and low-speed data applications requiring extra protection against interference.

Construction

Conductors: Typically 24 AWG solid copper wires.
Insulation: Each conductor is insulated with polyethylene or PVC.
Twisting: Pairs of wires are twisted together to reduce crosstalk and electromagnetic interference (EMI).
Sheathing: Outer jacket made from PVC or low-smoke zero halogen (LSZH) for fire safety.
Unshielded (UTP): No additional shielding around the pairs or the cable.
Shielded (STP): Each pair or the overall cable is shielded with a metallic foil or braid to protect against EMI and RFI.

Advantages

UTP Cat3:
Cost-Effective: Inexpensive and widely available.
Ease of Installation: Flexible and easy to work with.
Basic Needs: Sufficient for basic voice communication and low-speed data applications.
STP Cat3:
Improved EMI Protection: Provides better protection against electromagnetic and radio frequency interference.
Enhanced Signal Integrity: Reduces signal degradation in noisy environments.
Industrial Use: Ideal for areas with high levels of interference, such as factories or near heavy machinery.

Performance

Max Data Rate: Supports up to 10 Mbps data transmission.
Bandwidth: Up to 16 MHz.
Distance: Suitable for distances up to 100 meters for data transmission; longer distances possible for voice communication.
EMI Protection:
UTP Cat3: Low, due to the lack of shielding.
STP Cat3: High, due to the presence of shielding.

Specification

-TIA/EIA-568: Telecommunications cabling standards.
-ISO/IEC 11801: International standard for structured cabling.

Eastful Cable Lab

We have CNAS Accredited Facility to assure conformity assessment services with a focus on quality, expertise, and customer satisfaction.
CNAS has international mutual recognition among IAF, ILAC, APLAC and PAC.

Accreditation

We meet the requirements of ISO9001, ISO14001, ISO45001 and ISO50001 and our cables have certificate of CCC, RoHS, CASC, UL, cUL, TÜV Rhineland and CCS.

National Green Factory

Our facility has been awarded of National Green Factory by Ministry of Industry and Information Technology of China.
We are committed to the development of high-end, intelligent and green manufacturing industry.

*The overall energy consumption level of green factories is better than the energy efficiency benchmark level.

Technical Parameters

Frequency	Impedance	Attenuation	NEXT	Nominal Velocity of Propagation
MHz	Ω	dB/100m	dB	-
1MHz	85~115	2.1	64	NVP 69%
4MHz		4.3	55	
10MHz		6.6	49	
16MHz		8.2	46	
20MHz		9.2	44	
31.25MHz		11.8	42	
62MHz		17.1	37	
100MHz		22.0	34	