

FIBER
PATCH CORD

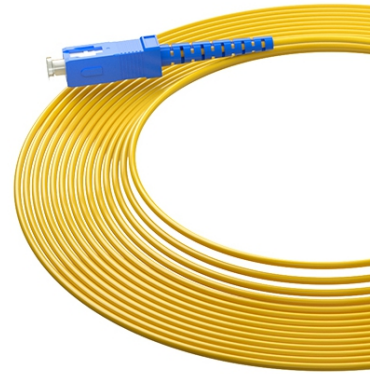


INTRODUCTION OF ZION COMMUNICATIONS

HANGZHOU ZION COMMUNICATION CO., LTD is a manufacturer and supplier of Optical fiber cables and Fiber Patch Cords (SC, LC, FC, ST, etc.)

We keep on investing and building strong R&D capabilities for new technology and innovation. We have a strong R&D team and skilled workers, also with the advanced machines and modern factories which can provide our customers with outstanding quality, service.

Our experienced team of experts strives to service every inquiry, quote, and order quickly and efficiently, meeting and often exceeding customers' expectations.



Fiber Cable Mode

F

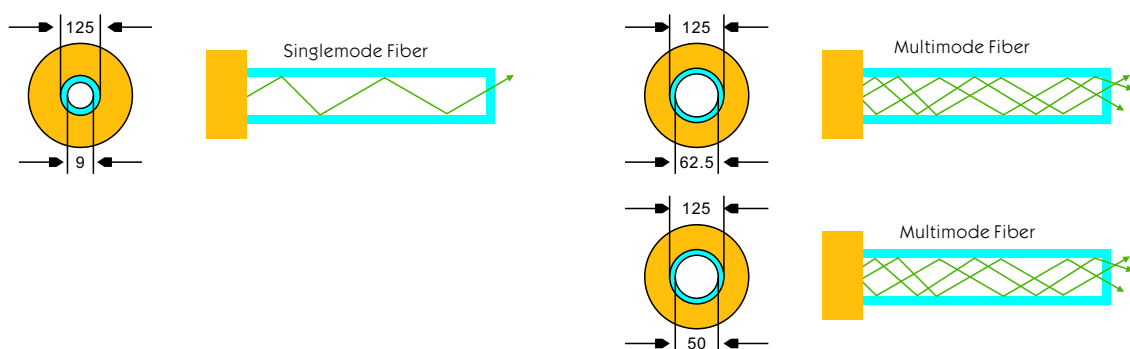
Single Mode or Multimode

Single mode fiber patch lead only allows one mode of light to pass along its length with a very thin diameter of 8-10 microns, thus it can carry signals at much higher speeds with lower attenuation. Single mode fiber has two varieties: OS1 and OS2, which are different in construction and application. In general, OS1 and OS2 are both applicable for long-haul transmission but OS2 is more suitable for long-haul transmission by offering better performance with fewer losses.

The core of the multimode fiber patch cord is bigger, typically 50 or 62.5 microns, which enables multiple light modes to be transmitted. It comes in five varieties supporting different transmission rates or distances: 62.5-micron OM1, 50-micron OM2, 50-micron OM3, 50-micron OM4, and 50-micron OM5, which can be differentiated by standard jacket colors. Since multiple light paths travel down the cable, the distance which multimode fiber jumpers can reach is usually short. For short-distance transmission within a building or campus, multimode fiber patch cords are the best-suited type.

Fiber patch cord is seeing broad adoption in applications spanning telecommunication and data communication. With numerous business and enterprise reaping great benefits from it, fiber patch cord represents by far the most sufficient and prevalent bandwidth feeder.

As those gigabit-capable networks proliferate, the fueling capacity and speed quest further drive fiber patch cord deployment. When facing various fiber patch cord types on the market, how can we make a valid choice? Some basic understanding of the fiber patch cord would be helpful.



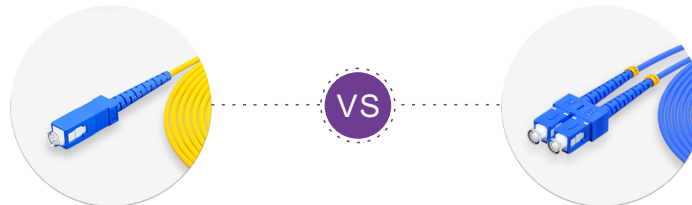


Number of Fiber Strands

N

Simplex or Duplex

According to the number of fiber strands, there are simplex and duplex fiber patch cord. As shown in Figure, simplex fiber patch cord contains one single strand of fiber with one simplex connector on each end. It can be linked with a pair of BiDi transceiver modules featuring with one port. Whereas duplex fiber patch cord consists of two strands of glass or plastic with one duplex connector (or considered as two simplex connectors). It is often linked with common transceivers or dual fiber BiDi transceivers.



Polishing Type

P

PC, UPC or APC

Fiber optic connectors are designed and polished to different shapes to minimize back reflection, which is particularly important in single mode applications. According to this connector polish types, there are PC, UPC, and APC fiber patch cords. This post PC vs UPC vs APC Connector: Selecting the Right Fiber Connector Type presents the difference of PC, UPC, and APC. Nowadays PC polish type has been replaced by UPC type. Whether you choose UPC or APC depends on your actual application. Since APC provides less insertion loss than UPC, the APC fiber patch cables are more applicable for high bandwidth applications and long-distance links, such as FTTx, passive optical network (PON) and wavelength division multiplex (WDM). Whereas UPC fiber patch cords apply to optical systems that are less sensitive to insertion loss such as digital TV and telephony.

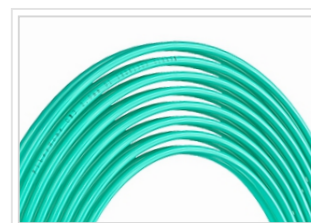
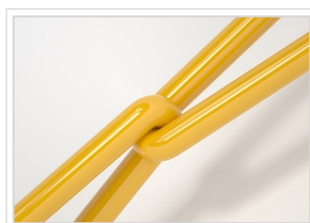


Jacket Type

J

PVC or LSZH

PVC and LSZH are used to describe the common jacket material of fiber patch cord. Fiber patch cables covered with PVC jacket are flexible at normal installation temperatures. Compared with PVC patch cords, LSZH patch cords are more rigid and less flexible but they contain the flame retardant compound that doesn't emit toxic fumes if it burns. PVC fiber optic patch cord is usually used for indoor applications such as horizontal runs from the wiring center. While LSZH cable is used in unventilated areas exposed to public, such as subways and tunnels and also used for rooms that are not easy to get out quickly.





INTRODUCTION FIBER PATCH CORD

Fiber patch cord, often called fiber patch cable, fiber jumper, or fiber patch lead is a length of fiber cable that terminated with fiber optic connectors (LC, SC, MTRJ, ST and etc.) at each end. The connectors allow the fiber optic patch cord to be rapidly connected to an optical switch or other telecommunications/computer device. Fiber jumper is a key player for indoor use, like in server rooms or in data centers. Featuring excellent reliability, superior adaptability, and improved security, the fiber patch cord has ranked the best choice for applications where conventional copper cables fail to reach.

SC Connector

The SC is a snap-in connector that also features a 2.5mm ferrule much like the ST connector and is known for its excellent performance. The connector is simple, rugged, and low cost. Its simple push on/pull off operations makes it a popular choice.



LC Connector

The LC connectors are highly popular within single-mode networks. It is known for its good performance and small size. LC connectors have a 1.25mm ferrule, approximately half the size of SC connectors. It's also commonly referred to as the "little connector".



FC Connector

The FC connector was widely popular within fiber optic networks however its use has been dwindling in recent times replaced with SC and LC. The connector uses a threaded container and aligned key. Once positioned it can remain in place with perfect precision.



ST Connector

The ST connector remains one of the most widely used connectors especially for multimode networks such as college campuses and most buildings. The connector is very easy to use due to its spring-loaded, keyed, and "push in and twist" mechanism within its design. The ST connector features a bayonet mount and a long cylindrical 2.5mm ceramic or polymer ferrule to hold the fiber.



D4 Connector

The D4 connectors used in our patch cords belong to an older generation of connectors that are keyed and spring-loaded. The zirconia ferrules are 2mm in diameter and fully compatible with existing D4 hardware.



E2000 Connector

The E2000 connector is mainly used in modern telecommunication networks. The connector features a unique spring-loaded shutter that protects the ferrule from dirt, dust, and scratches. Since the connector uses a monobloc ceramic ferrule, problems related to different coefficients of expansion are nonexistent. The E2000 utilizes a push-pull locking connector. The E2000's return loss is one of the lowest in the industry at just 0.1 dB.



MU Connector

MU connectors resemble a miniature version of SC with a 1.25mm ferrule. Its small size allows the MU connector to have a reduced footprint and are used in dense applications. The connector is square and uses a push-pull mechanism to lock. This type of connector is more popular in countries such as Japan.





FIBER PATCH CORD COMPOSITION DETAILS

Based on different specifications and standards, the common fiber patch cords can be categorized from the perspective of fiber cable mode, transmission mode, jacket type, connector type, and polishing type.

- Connector Type A
- Polishing Type A
- Connector Type B
- Polishing Type B
- Fiber Model
- Cable Diameter
- Cable Length
- Cable Type
- Jacket Type
- Jacket Color



Ordering Information

ZC FPC A11 B22 C1 D1 E1 F2 G1 H1
1 2 3 4 5 6 7 8 9 10

1 ZC=ZION COMMUNICATION

5 C1=SM 9/125 G652D

9 G1=PVC H1=Yellow

2 FPC=Fiber Patch Cord

6 D1=OD 0.9mm

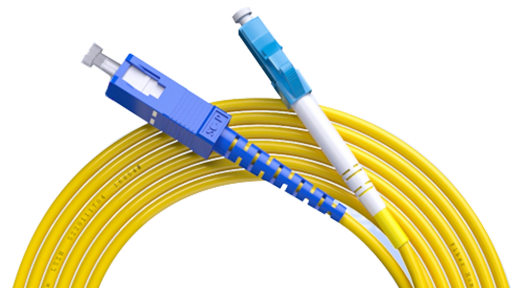
10 Z=Customized

3 A11= A side SC/UPC

7 E1=Length 1m

4 B22=B side LC/APC

8 F2=Duplex

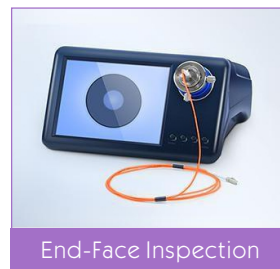
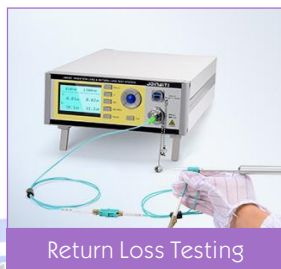


Connector Type	Polishing Type	Connector Type	Ferrule Type	Fiber Model	Cable Diameter	Cable Length	Cable Type	Jacket Type	Jacket Color
1=SC 2=LC 3=ST 4=FC 5=D4 6=E2000 7=MU	1=UPC 2=APC	1=SC 2=LC 3=ST 4=FC 5=D4 6=E2000 7=MU	1=UPC 2=APC	1=SM 9/125 G652D 2=SM 9/125 G657A 3=MM OM1 4=MM OM2 5=MM OM3 6=MM OM4 7=MM OM5	1=0.9mm 2=2.0mm 3=3.0mm	0=0.5m 1=1m 2=2m 3=3m	1=Simplex 2=Duplex 3=Armoured 4=Water-proof 5=Break-out 6 Ribbon 7 Bundle	1=PVC 2=LSZH 3=OFNP 4=OFNR 5=PE 6=TPU	1=Yellow 2=Blue 3=Green
1	2	3	4	5	6	7	8	9	10



TEST CENTER PROFESSIONAL TEST EQUIPMENT

A comprehensive performance testing system ensures a more secure operation and keeps a more stable and reliable data connection. The IL & RL of fiber optic patch cable is tested to ensure stable network performance. Clean optical connectors are paramount in providing a reliable, high-performance fiber optic infrastructure.



STANDARD FIBER PATCH CORD

Fiber optic patch cables are ideal for supporting high speed telecommunication network fiber applications. They are manufactured and tested in compliance with TIA 604 (FOCIS), IEC 61754 and YD/T industry standards. OM1, OM2, OM3, OM4, OM5 or OS2 fiber types are available to meet the demand of Gigabit Ethernet, 10 Gigabit Ethernet and high speed Fiber Channel. Every termination is through rigorous parameter test to ensure the highest network performance.

- RoHS, ISO 9001 Compliant
- TIA 604 (FOCIS)

- TIA/EIA 492AAAE
- IEC 61754

- IEC 60793-2-10
- IEC 61300-3-35

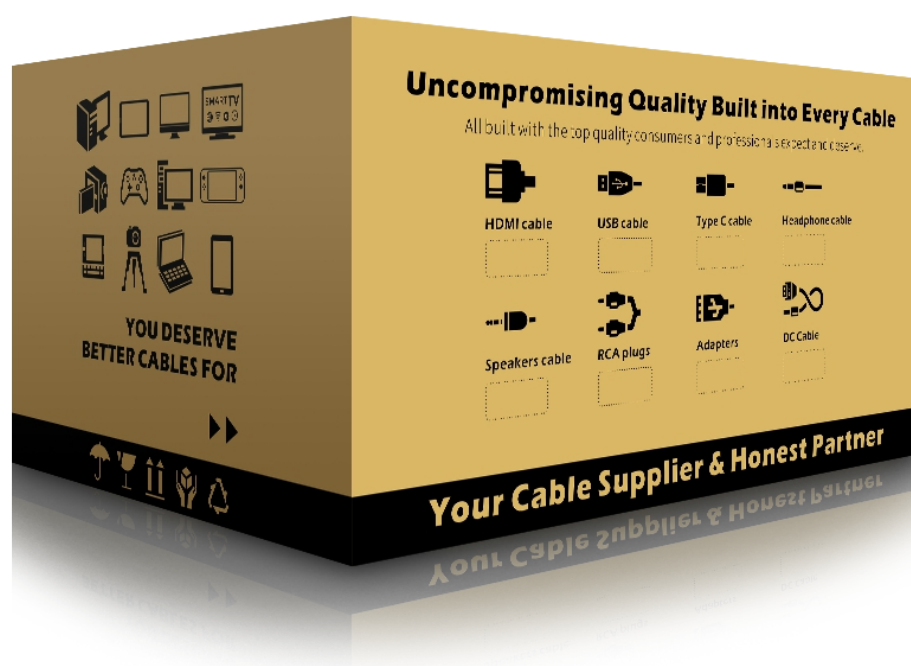
- YD/T1272.1-2003

Parameter	FC,SC,LC				ST,MU		MTRJ	
	SM		MM		SM	MM	SM	MM
	UPC	APC	UPC	APC	UPC	UPC	UPC	UPC
Operating Wavelength (nm)	1310-1550		850-1300		1310-1550	850-1300	1310-1550	850-1300
Insertion Loss (dB)	≤0.3	≤0.3	≤0.3		≤0.3	≤0.3	≤0.3	≤0.3
Return Loss (dB)	≥55	≥60	≥35		≥50	≥35	≥50	≥35
Repeatability (dB)			≤0.1					
Interchangeability (dB)			≤0.2					
Tensile Strength (N)			≥1000					
Operating Temperature (°C)			-20~+85					
Storage Temperature (°C)			-40~+85					



CABLE Packing Solution

CUSTOMIZED DESIGN, SAMPLE DESIGN



■ China - Head office

Email: info@zion-communication.com

Mobile/WhatsApp: 0086 15088607575

ADD: ZION Industrial Park, Huaqiao Road,
Jincheng, Lin'an, Zhejiang, China

www.zion-communication.com

