

FC Fiber Optic Patch Cord Specification



Application

- 1.Optical fiber communication systems engineering
- 2.Fiber optic data communication network
- 3.Fiber CATV engineering
- 4.Other optical technology tests

Features

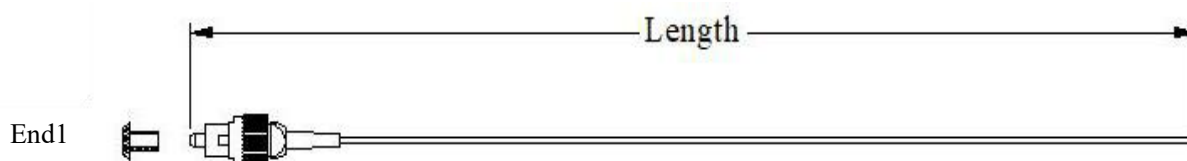
- 1.The style is diverse, the interface is complete
- 2.Low insertion loss and added loss
- 3.Height of attenuation
- 4.High back loss, small volume, light weight
- 5.End-face geometry and quality superior than IEC and Telcordia standards.
- 6.LSZH, OFNP, OFNR cable jacket.
- 7.Mechanical performance: IEC 61754-13 standard.
- 8.RoHS and REACH materials compliant.

Connector Types

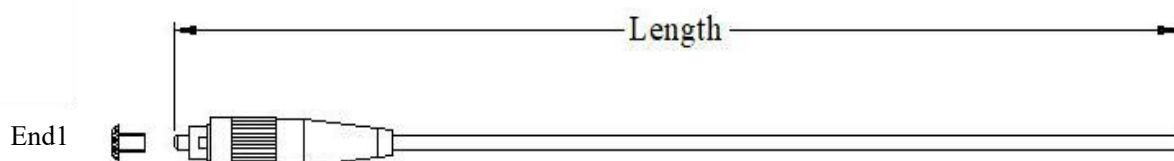
Type	Reference	Note	
FC	IEC 61754-13	Single mode simplex	APC: Green boots UPC: Black boots
		Single mode duplex	APC: Green boots UPC: Black boots
		Multimode simplex	UPC: Black boots
		Multimode duplex	UPC: Black boots

Dimensional Diagrams

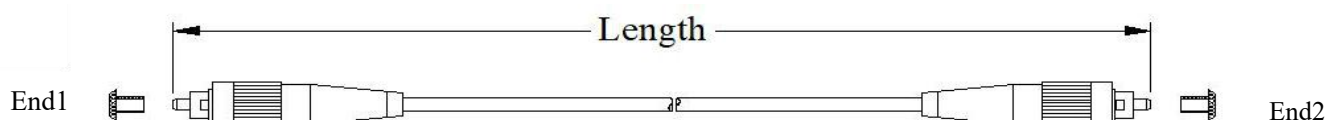
1.FC 0.9mm simplex pigtail



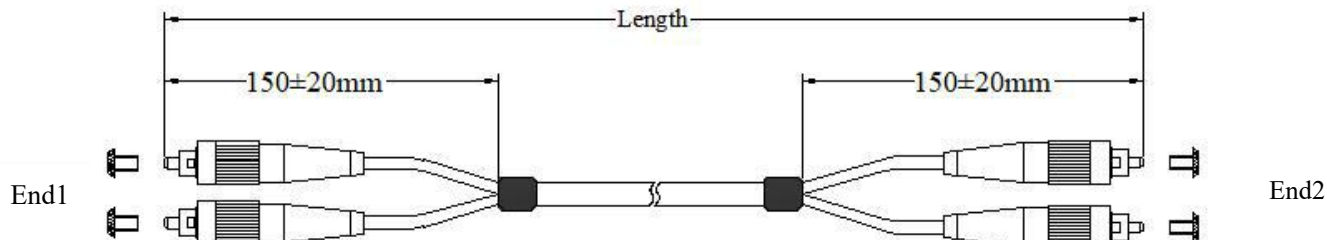
2.FC 2.0mm&3.0mm simplex pigtail



3.FC 2.0mm&3.0mm simplex patchcord



4.FC 2.0mm&3.0mm duplex patchcord



Patch cord versions

Jumper tolerance requirement	
Overall length (L) (M)	length of tolerance (CM)
$0 < L \leq 20$	$+10/-0$
$20 < L \leq 40$	$+15/-0$
$L > 40$	$+0.5\%L/-0$

Optical Characteristics

Item	Parameter		Reference
	Single mode	Multimode	
Insertion loss	Typical value $\leq 0.15\text{dB}$; Maximum ≤ 0.30	Typical value $\leq 0.15\text{dB}$; Maximum ≤ 0.30	IEC 61300-3-34
Return loss	$\geq 60\text{dB}$ (APC); $\geq 50\text{dB}$ (UPC)	$\geq 30\text{dB}$ (UPC)	IEC 61300-3-6

End-Face Geometry

Item	UPC (Ref: IEC 61755-3-1)	APC (Ref: IEC 61755-3-2)
Radius of curvature (mm)	10 to 25	5 to 12
Fiber height (nm)	-100 to 100	-100 to 100
Apex offset (μm)	0 to 50	0 to 50
APC angle (°)	/	8° ±0.2°
Key error (°)	/	0.2° max

End-Face Quality (SM)

Zone	Range (μm)	Scratches	Defects	Reference
A: Core	0 to 25	None	None	IEC 61300-3-35:2015
B: Cladding	25 to 115	None	None	
C: Adhesive	115 to 135	None	None	
D: Contact	135 to 250	None	None	
E: Rest of ferrule		None	None	

End-Face Quality (MM)

Zone	Range (μm)	Scratches	Defects	Reference
A: Core	0 to 65	None	None	IEC 61300-3-35:2015
B: Cladding	65 to 115	None	None	
C: Adhesive	115 to 135	None	None	
D: Contact	135 to 250	None	None	
E: Rest of ferrule		None	None	

Mechanical Characteristics

Test	Conditions	Reference
Endurance	500 matings	IEC 61300-2-2
Vibration	Frequency: 10 to 55Hz, Amplitude: 0.75mm	IEC 61300-2-1
Cable retention	100N (patch cable); 5N (pigtail)	IEC 61300-2-4
Strength of coupling mechanism	80N for 2 to 3mm cable	IEC 61300-2-6
Cable torsion	15N for 2 to 3mm cable	IEC 61300-2-5
Fall	10 drops, 1m drop height	IEC 61300-2-12
Static lateral load	1N for 1h (patch cable); 0.2N for 5min (pigtail)	IEC 61300-2-42
Cold	-25°C, 96h duration	IEC 61300-2-17
Dry heat	+70°C, 96h duration	IEC 61300-2-18
Change of temperature	-25°C to +70°C, 12 cycles	IEC 61300-2-22
Humidity	+40°C at 93%, 96h duration	IEC 61300-2-19