Fiber Optic Patch Cord

Technical Specification

1. Overview

This specification applies to Single Mode simplex patch cords. SC, LC and FC connectors are optional upon customer request.

SC/APC

SC/UPC

LC/APC

LC/UPC

FC/APC

FC/UPC

2. Fiber Optic Patch Cord

a. Connector Types

LC, SC, FC, ST, MU, DIN

b. Ferrule Polishing Types

UPC, APC

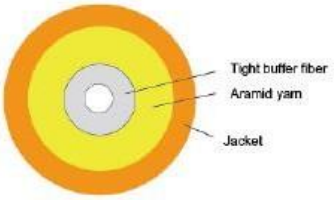
c. Cable Length Tolerance

Cable Length	Tolerance
L≤0.5m	+100mm/-0
0.5m<L≤5m	+150mm/-0
5m<L≤20m	+200mm/-0
L≥20m	+/- 1% of L mm

d. Optical Cable Specifications

Optical cable structure and specification are shown in Figure 1 and Table 2.

Figure 1. Cable Structure



Cable Structure

Table 2. Cable Specification

Item	Parameter	Description
Surface	Outer Diameter	1.8mm, 2.0mm or 3.0mm
	Cable Color	Yellow
Material	Fibers	0.9mm tight buffered fiber
	Strengthen Member	Aramid Yarn
	Outer Jacket	LSZH
Fibers	Type	G657A1 or G657A2
	Cores Count	1

e. Optical Specifications

Optical specifications are shown in Table 3.

Table 3. Optical Specifications

Item	Unit	Specifications		Remarks
Insertion Loss	dB	≤ 0.3		
Return Loss	dB	UPC	≥ 50	
		APC	≥ 55	

f. Ferrule End Face Geometry Parameters

Ferrule end face geometry parameters are shown in Figure 2 and Table 4.

Figure 2. Ferrule End Face Geometry

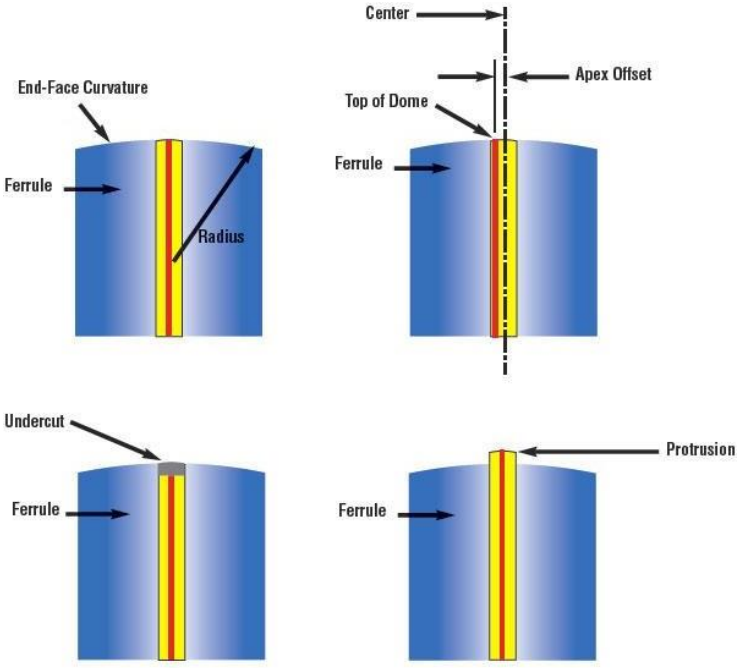


Table 4. Ferrule End Face Geometry Parameters

Parameters	UPC	APC
Radius of Curvature	10~25mm	5~12mm
Fiber Undercut or Protrusion	≤ 100 nm	≤ 100 nm
Apex Offset	≤ 50 μm	≤ 50 μm
Polishing Angle		8 +/- 0.3 degree

3. Requirements

a. Operating & Storage Temperature

-40°C ~ 85°C

b. Optical Performance Measurement

Insertion loss and return loss listed in Table 3 are measured at 1310/1550nm.

c. Connector Reliability Test

The environmental and mechanical test conditions are given in Table 5.

Table 5. Environmental and mechanical test conditions, Unit: dB

Environmental and Mechanical Tests	Test Conditions	Test Interval	IL Change (dB)	RL Change (dB)
Thermal Aging	85ºC, Duration: 168 hrs	Before, After	≤0.20	≤5
Thermal Cycling	-40ºC to 85°C, 68Cycles, Duration: 168 hrs	Before, After	≤0.20	≤5
Humidity Aging	85ºC, 85%RH, Duration: 168 hrs	Before, After	≤0.20	≤5
Humidity/Condensation Cycling	-40°C~+85°C, 90~100%RH, Duration: 68cycles 168hrs	Before, After	≤0.20	≤5
Dry-out Step	75℃；1day(24hr)	Before, After	≤0.20	≤5
Post-Condensation Thermal Cycling	-40℃＋85℃, 7 days(168hr)	Before, After	≤0.20	≤5
Vibration Test	Frequency: 10~55Hz, Amplitude: 1.5mm (peak to peak), Duration 2hrs	Before, After	≤0.20	≤5
Flex Test	Load: 0.9kgf, Flex Angles: 0~90°, 0~-90°, 0°,Number of Flex: 100 times	Before, After	≤0.20	≤5
Twist Test	Loading 1.35kg（φ3mm cable）, Distance between loading and plug: 22 ~28cm, Twist angle: ±90°, Times of Twist: 9 times	Before, After	≤0.20	≤5
Proof Test	Reference GR-326-Core 4.4.3.4	Before, After	≤0.20	≤5
Transmission with Applied Tensile Load	Reference GR-326-Core 4.4.3.5	During Test, Load	≤0.20	≤5
Impact Test	Length from clamp to plug 1.5meter, Number of impact: 8 times	Before, After	≤0.20	≤5

4. Packing and Labeling

a. Packing

One patch cord should be packed in one clear plastic bag. Test data should be attached with each bag. Appropriate cushions should be used in the cardboard box after multiple plastic bags are packed in the cardboard box. The patch cords should be protected well by the package during transportation.

b. Labeling

The content below shall be included in the label attached on the shipping carton. Other shipping mark is also available if requested by customer.

(1) Product Name
(2) Order No.
(3) Quantity
(4) Lot No.
(5) Country of Origin