



Optic Cable Connection Solutions

www.opticfibertech.com

MPO/MTP Connector

Specification

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1. Environmental Conditions

	Parameters	Min	Max	Units
1	Operating Temperature	-40	85	°C
2	Storage Temperature	-40	85	°C

2. Optical Performance Requirements

Two optical performance parameters are specified for optical fiber connector: *Insertion Loss (IL)* and *Return Loss (RL)*. The limits of compliance are shown in table.

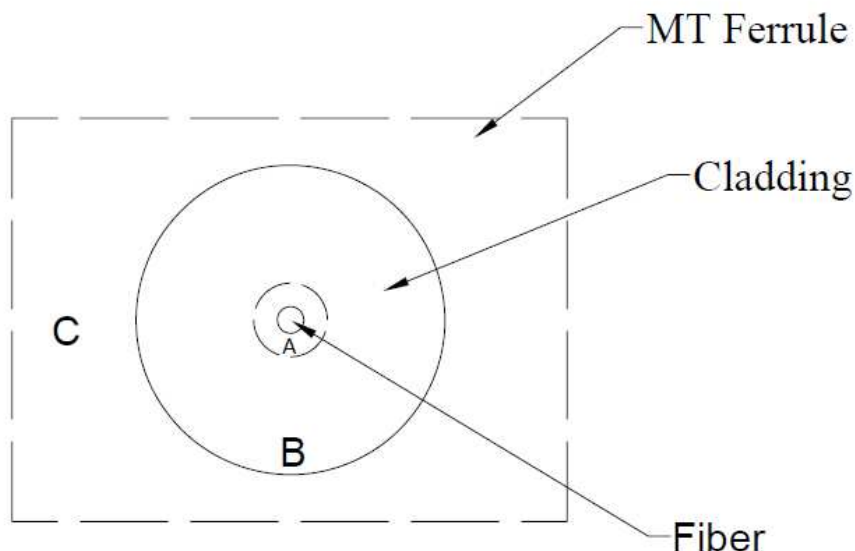
Type	Single Mode		Multi-Mode	
	1310nm/1550nm IL (dB)	1310nm/1550nm RL (dB)	850nm IL (dB)	850nm RL (dB)
PC	N/A	N/A	Low IL ≤ 0.35	N/A
			≤ 0.75	
APC	Low IL ≤ 0.35	≥ 60	N/A	N/A
	≤ 0.75	≥ 55		

3. Endface Geometry Parameters

Measurement			Pass/Fail Limits	
Parameters			Min	Max
Radius of Curvature	Long Axel		1000mm	∞
	Short Axel		50mm	∞
Angle	Long Axel		-0.2°	0.2°
	Short Axel	APC	7.8°	8.2°
		PC	-0.2°	0.2°
Fiber Height			1000nm	3500nm
Differential Fiber Height			N/A	500nm
Differential Adjacent Fiber			N/A	300nm
Ferrule Length			7.9mm	N/A
Multi-mode Fiber Core Intrusion			-200nm	300nm

4. Endface Inspection Criteria

Figure: Inspection Zones for single-mode fiber.



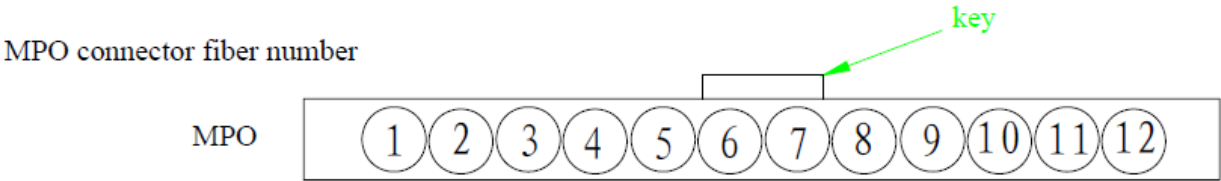
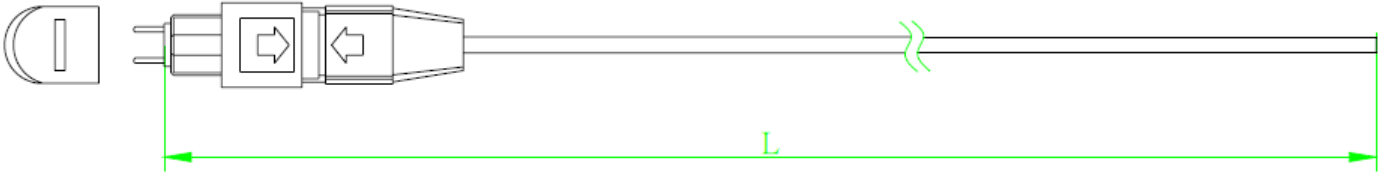
The Endface Inspection requirements are described as below:

Zone Diameter (μ m)		
Zone	Zone Size	Allowable Defects
Zone A	Single-mode 0~9um	Any defect, scratch, or contamination is not allowed.
	Multi-mode 0~62.5um	Scratch: width<3um, number≤7 (single fiber ≤2) Defect<3um, number≤7 (single fiber ≤2)
Zone B	Cladding to 125um	Scratch: width≤3um, number≤7 (single fiber ≤2) Defect≤5um, number≤7 (single fiber ≤2) Chips ≤5um, number≤7 (single fiber ≤2)
Zone C	Ferrule zone	N/A

Notes:

- 1) Observe the endface under the illuminated 200X magnifier or above.
- 2) Clean connector endface before viewing inspection. If a contamination can be removed with additional cleaning, it is no longer considered as a defect.
- 3) No film, streaks, grease or loose particles are allowed on the fiber endface.
- 4) Polished ferrule endface must meet the criteria listed in table.

5. Drawing



Length tolerances for jumper and pigtail assemblies:

Jumper/Pigtail Length(m)	Length Tolerance (cm)
<1.0	+5/0
1.0 – 4.99	+10/0
5.0 – 14.99	+15/0
≥15.0	+1%/0

6. Product Pictures

