



## MPO/MTP® FANOUT CABLE



### FEATURES

- MTP® (US Conec) brand or MPO standard compliant multifiber connector
- MPO/MTP® connector on one end, with LC or SC connectors on the other end
- 4, 8, 12 and 24-fiber with single mode and multimode options
- Connectors' designs comply with IEC standards (MPO/MTP®: IEC 61754-7; LC: IEC 61754-20; SC: IEC 61754-4)
- LSZH, OFNP, OFNR cable jacket types selection
- Rapid deployment, high density and high reliability
- Extremely low insertion loss and high return loss
- Telcordia GR-1435-CORE issue 2 compliant
- RoHS and REACH materials compliant

### OPTICAL CHARACTERISTICS (applied to 12c MPO/MTP® connector)

Item	Parameter		Reference
	Standard single mode	Standard multimode	
Insertion loss typ.	≤ 0.1dB	≤ 0.05dB	IEC 61300-3-4
Insertion loss max.	≤ 0.25dB	≤ 0.15dB	
Return loss	≥ 65dB (APC); ≥ 50dB (UPC)	≥ 40dB	IEC 61300-3-6

### OPTICAL CHARACTERISTICS (applied to LC and SC connector)

Item	Parameter		Reference
	Single mode	Multimode	
Insertion loss	Random mated average ≤ 0.07dB; Random mated for 97% ≤ 0.12dB	Random mated average ≤ 0.05dB; Random mated for 97% ≤ 0.10dB	IEC 61300-3-34
Return loss	≥ 70dB (APC); ≥ 55dB (UPC)	≥ 45dB	

### END-FACE GEOMETRY (applied to 12c MPO/MTP® connector)

Item	Parameter	Reference
Minus Coplanarity	≤ 200nm	IEC 61755-3-31:2015
Ferrule Surface X-Angle	-0.075° to +0.075°	
Ferrule Surface Y-Angle (SM)	7.85° to 8.15°	
Ferrule Surface Y-Angle (MM)	-0.075° to +0.075°	
Fiber Height	1100nm to 1500nm	
Fiber Differential Height-All	≤ 150nm	
Fiber Differential Height-Adj.	≤ 100nm	
Fiber Tip Spherical Radius	≥ 1mm	
Ferrule Surface X-Radius	≥ 2000mm	
Ferrule Surface Y-Radius	≥ 50mm	
Core Dip (MM)	0 to 100nm	
Geometry Limit	≤ 10	

### END-FACE GEOMETRY (applied to LC connector)

Item	PC (Ref: IEC 61755-3-1)	APC (Ref: IEC 61755-3-2)
Radius of curvature (mm)	7 to 15	6 to 12
Fiber height (nm)	-30 to 30	-30 to 30
Apex offset (µm)	0 to 30	0 to 30
APC angle (°)	/	7.8 to 8.2
Key error (°)	/	-0.2 to +0.2



**END-FACE GEOMETRY (applied to SC connector)**

Item	PC (Ref: IEC 61755-3-1)	APC (Ref: IEC 61755-3-2)
Radius of curvature (mm)	10 to 15	6.5 to 9
Fiber height (nm)	-30 to 30	-30 to 30
Apex offset (μm)	0 to 30	0 to 30
APC angle (°)	/	7.8 to 8.2
Key error (°)	/	-0.2 to 0.2

**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	

(Only Zone A and Zone B are applied to MPO/MTP® connector)

**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	

(Only Zone A and Zone B are applied to MPO/MTP® connector)

**CONNECTOR TYPES**

Type	Reference	Note	
MPO/MTP®	IEC 61754-7	Boot Color: Black Body Sleeve: MM (Beige, Aqua, Magenta), SM (Green, Yellow)	
LC	IEC 61754-20	Single mode simplex	APC: Green connectors, Green boots (for 0.9mm) / White boots (for 2.0/3.0mm) UPC: Blue connectors, White boots
		Single mode duplex	APC: Green connectors, Green boots (for 0.9mm) / White boots (for 2.0/3.0mm) UPC: Blue connectors, White boots
		Multimode simplex	PC: Grey Connectors, White boots
		Multimode duplex	PC: Grey Connectors, White boots
SC	IEC 61754-4	Single mode simplex	APC: Green connectors, Green boots UPC: Blue connectors, Blue boots
		Multimode simplex	PC: Grey Connectors, Grey boots

**MECHANICAL CHARACTERISTICS**

Item	Parameter
Mating cycles	ΔIL ≤ 0.2dB (for 500 mates)

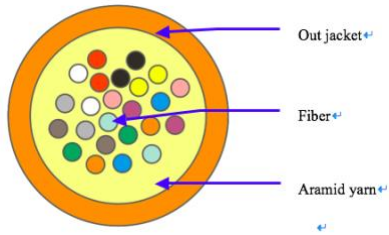
**ENVIRONMENTAL CHARACTERISTICS**

Item	Parameter
Operating temperature	-10°C to +60°C
Storage temperature	-20°C to +70°C



**CABLE SPECIFICATIONS (ROUND CABLE)**

**Cable Structure**

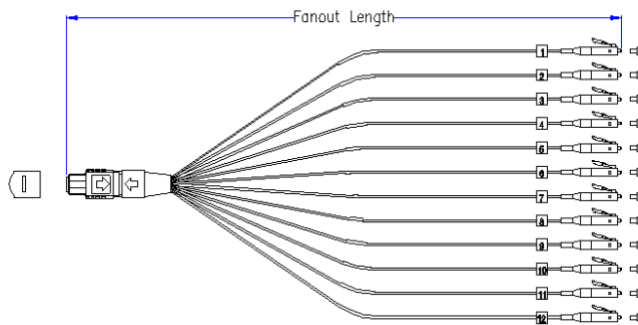


**Cable Parameters**

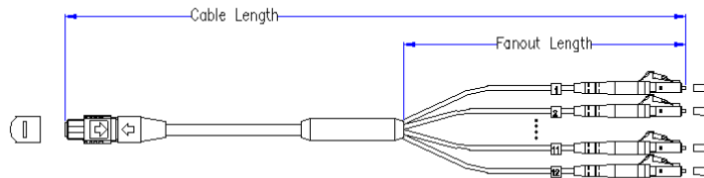
Fiber count	2 to 24		
Outer diameter (mm)	2.95±0.1		
Thickness (mm)	0.50±0.05		
Max. tensile strength (N)	Short-term	200	
	Long-term	100	
Max. crush resistance (N/100mm <sup>2</sup> )	Short-term	500	
	Long-term	150	
Min. bending radius (mm)	Short-term	20D	
	Long-term	10D	
Material	PVC	LSZH	OFNP
Nominal weight (kg/km)	7.2	7.6	8.1
Color	Customized		
Strength members	Aramid yarn		
Temperature (°C)	Storage or transportation	-20 to 70	
	Storage or transportation		

**CONFIGURATION DIAGRAMS**

Assembly style: **Straightway**



Assembly style: **Backstair**





**ORDER INFORMATION**

Assembly style: ***Straightway***

MPOFS	①	②	③	④	⑤	⑥	⑦		
① [Connector A]	1: MTP/UPC (Female)	2: MPO/UPC (Female)	3: MTP/APC (Female)	4: MPO/APC (Female)	5: MTP/UPC (Male)	6: MPO/UPC (Male)	7: MTP/APC (Male)	8: MPO/APC (Male)	
② [Connector B]	1: SC/UPC	2: SC/APC	3: Simplex LC/UPC	4: Simplex LC/APC	5: Duplex LC/UPC	6: Duplex LC/APC			
③ [Fiber type]	1: G652D	2: G657A1	3: G657A2	4: G657B3	5: OM1	6: OM2	7: OM3	8: OM4	
④ [Fiber count]	1: 4	2: 8	3: 12	4: 24					
⑤ [Fanout type]	1: Bare fiber	2: 0.9mm PVC	3: 0.9mm LSZH	4: Customized					
⑥ [Fanout color]	1: Single Yellow	2: Single Orange	3: Single Aqua	4: Single Magenta	5: 4 colors (Blue to Blown)	6: 8 colors (Blue to Black)	7: 12 colors (Blue to Aqua)	8: Customized	
⑦ [Fanout length]	00D5: 0.5m	01D5: 1.5m	0001: 1m	0010: 10m	0100: 100m				

Assembly style: ***Backstair***

MPOFB	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪
① [Connector A]	1: MTP/UPC (Female)	2: MPO/UPC (Female)	3: MTP/APC (Female)	4: MPO/APC (Female)	5: MTP/UPC (Male)	6: MPO/UPC (Male)	7: MTP/APC (Male)	8: MPO/APC (Male)			
② [Connector B]	1: SC/UPC	2: SC/APC	3: Simplex LC/UPC	4: Simplex LC/APC	5: Duplex LC/UPC	6: Duplex LC/APC					
③ [Fiber type]	1: G652D	2: G657A1	3: G657A2	4: G657B3	5: OM1	6: OM2	7: OM3	8: OM4			
④ [Fiber count]	1: 4	2: 8	3: 12	4: 24							
⑤ [Cable type]	1: Bare ribbon fiber	2: Ribbon cable	3: Round cable								
⑥ [Jacket type]	1: No jacket	2: PVC	3: LSZH	4: OFNR	5: OFNP						
⑦ [Jacket color]	1: Yellow	2: Orange	3: Aqua	4: Magenta	5: Customized	6: Bare					
⑧ [Cable length]	00D5: 0.5m	01D5: 1.5m	0001: 1m	0010: 10m	0100: 100m						
⑨ [Fanout type]	1: 0.9mm PVC	2: 0.9mm LSZH	3: 1.6mm PVC	4: 1.6mm LSZH	5: 2.0mm PVC	6: 2.0mm LSZH	7: Customized				
⑩ [Fanout color]	1: Single Yellow	2: Single Orange	3: Single Aqua	4: Single Magenta	5: 4 colors (Blue to Blown)	6: 8 colors (Blue to Black)	7: 12 colors (Blue to Aqua)	8: Customized			
⑪ [Fanout length]	00D5: 0.5m	01D5: 1.5m	0001: 1m	0010: 10m	0100: 100m						