

PATCH CORD &  
PIGTAILS

AR-PTC-PGT

## 1. CABLE DESCRIPTION

ARTIC provide complete varieties of optical fiber connector according to customer's requirements. From single core connector to high-density multi-fiber connector. ARTIC all products in the insertion loss and return loss are reaching or higher than all the industrial standards.

## 2. APPLICATION

- Connection between or within frames, connection between frames and devices.

## 3. CHARACTERISTICS

- Standard simplex/duplex LC connector, customized SC/FC etc
- Factory pre-termination, 100% tested to ensure the transmission performance
- Rapid configuration, reduce installation time
- Rapid upgrading, support parallel transmission
- Loose tube structure, OFNR, OFNP and LSZH materials are available for outer sheath

## 4. COMPLIED STANDARDS

- Comply with IEC 61754 series
- Telcodia GR-326-CORE Issue 4 standards.
- Fire resistance comply with low smoking (IEC 61304)
- Halogen free (IEC 60754-1)
- Flame retardant (IEC 60332-3C)
- Corrosion proof (IEC 60754-2)

## 5. CONNECTOR PERFORMANCE

Connector Type	IL(dB)	RL(dB)	500 times Durability $\Delta$ IL (dB)	Temperature Cycling $\Delta$ IL (dB)
LC/SC/FC/ST MM	0.22 (Typical) 0.30 (Max)	$\geq 36$	$\geq 0.20$	$\geq 0.20$
LC/SC/FC/ST SM	0.22 (Typical) 0.30 (Max)	PC $\geq 40$ UPC $\geq 50$ APC $\geq 60$	$\geq 0.20$	$\geq 0.20$

## 6. ENVIRONMENTAL PERFORMANCE

Fibre Count	Bending Radius (mm)		Temperature (°C)			Package
	Static	Dynamic	Operation	Installation	Storage	
1	10D	20D	-40~+75	-5~+50	-40~+80	PE bag
2	10D	20D	-40~+75	-5~+50	-40~+80	PE bag

## 7. OPTICAL PERFORMANCE (ITU-G.652D)

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 1310 nm	dB/km	$\leq 0.34$	$\leq 0.40$
	Attenuation at 1383 nm	dB/km	$\leq 0.34$	$\leq 0.40$
	Attenuation at 1550 nm	dB/km	$\leq 0.20$	$\leq 0.30$
	Attenuation at 1625 nm	dB/km	$\leq 0.23$	$\leq 0.30$
	Zero dispersion wavelength	nm	1312~12	
	Zero dispersion slope	ps/(nm <sup>2</sup> ·km)	$\leq 0.092$	
	Cable cut-off wavelength $\lambda_{cc}$	nm	$\leq 1260$	
	Mode field diameter (MFD) at 1310 nm	$\mu$ m	8.7~9.5	
	Mode field diameter (MFD) at 1550 nm	$\mu$ m	9.9~10.9	
	Group Index of Refraction (Typical) at 1310 nm	/	1.466	
	Group Index of Refraction (Typical) at 1550 nm	/	1.467	
	Macro-bend loss(1 turn, 16mm radius) at 1550nm	dB	$\leq 0.05$	
	Macro-bend loss(100 turns, 25mm radius) at 1310& 1550nm	dB	$\leq 0.05$	
	Macro-bend loss(100 turns, 30mm radius) at 1620nm	dB	$\leq 0.05$	

Category	Items	Unit	Description	
			Before cabled	After cabled
Geometrical Characteristics	Cladding diameter	$\mu\text{m}$	$125 \pm 0.7$	
	Cladding non-circularity	%	$\leq 1.0$	
	Coating diameter	$\mu\text{m}$	$245 \sim 7$	
	Coating/cladding concentricity error	$\mu\text{m}$	$\leq 12.0$	
	Coating non-circularity	%	$\leq 6.0$	
	Core/cladding concentricity error	$\mu\text{m}$	$\leq 0.6$	

## 8. OPTICAL PERFORMANCE (ITU-T G.657A2)

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 1310 nm	dB/km	$\leq 0.35$	$\leq 0.40$
	Attenuation at 1383 nm	dB/km	$\leq 0.35$	$\leq 0.40$
	Attenuation at 1550 nm	dB/km	$\leq 0.21$	$\leq 0.30$
	Attenuation at 1625 nm	dB/km	$\leq 0.23$	$\leq 0.30$
	Zero dispersion wavelength	nm	1300~1324	
	Zero dispersion slope	ps/(nm <sup>2</sup> ·km)	$\leq 0.092$	
	Cable cut-off wavelength $\lambda_{cc}$	nm	$\leq 1260$	
	Mode field diameter (MFD) at 1310 nm	$\mu\text{m}$	8.4~9.2	
	Mode field diameter (MFD) at 1550 nm	$\mu\text{m}$	9.3~10.3	
	Group Index of Refraction (Typical) at 1310 nm	/	1.466	
	Group Index of Refraction (Typical) at 1550 nm	/	1.467	
	Macro-bend loss(1 turn, 7.5mm radius) at 1550nm	dB	$\leq 0.2$	
	Macro-bend loss(1 turn, 10mm radius) at 1550nm	dB	$\leq 0.1$	
	Macro-bend loss(10 turns, 15mm radius) at 1550nm	dB	$\leq 0.03$	
	Geometrical Characteristics	Cladding diameter	$\mu\text{m}$	$125 \pm 0.7$
Cladding non-circularity		%	$\leq 0.7$	
Coating diameter		$\mu\text{m}$	$245 \sim 5$	
Coating/cladding concentricity error		$\mu\text{m}$	$\leq 12.0$	
Coating non-circularity		%	$\leq 6.0$	
Core/cladding concentricity error		$\mu\text{m}$	$\leq 0.5$	

## 9. OPTICAL PERFORMANCE (OM1 62.5/125)

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 850 nm	dB/km	≤2.7	≤ 3.5
	Attenuation at 1300 nm	dB/km	≤ 0.6	≤ 1.5
	Zero dispersion wavelength	nm	1320~1365	
	Zero dispersion slope at 1295nm~1310nm	/	≤ 0.11	
	Zero dispersion slope at 1300nm~1320nm	/	≤ 0.001 (1438 · λ o)	
	Group Index of Refraction (Typical) at 850 nm	/	1.496	
	Group Index of Refraction (Typical) at 1300 nm	/	1.491	
	Numeral Aperture	/	0.275 ± 0.015 NA	
	Bandwidth at 850 nm	Mhz ·km	≥ 200	
	Bandwidth at 1300 nm	Mhz ·km	≥ 500	
	Macro-bend loss (100 turns, 37.5mm radius) at 1300nm	dB	≤ 0.5	
Geometrical Characteristics	Core diameter	μm	62.5 ± 2.5	
	Cladding diameter	μm	125 ± 1.0	
	Core non-circularity	%	≤5.0	
	Cladding non-circularity	%	≤1.0	
	Coating diameter	μm	245 ±7	
	Coating/cladding concentricity error	μm	≤ 10.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 1.5	

## 10. OPTICAL PERFORMANCE (OM2 50/125)

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 850 nm	dB/km	≤2.3	≤ 3.5
	Attenuation at 1300 nm	dB/km	≤ 0.6	≤ 1.5
	Zero dispersion wavelength	nm	1295~1340	
	Zero dispersion slope at 1295nm~1310nm	/	≤ 0.105	
	Zero dispersion slope at 1300nm~1320nm	/	≤ 0.000375 (1590 · λ o)	
	Group Index of Refraction (Typical) at 850 nm	/	1.482	
	Group Index of Refraction (Typical) at 1300 nm	/	1.477	

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Numeral Aperture	/	0.200 ± 0.015 NA	
	Bandwidth at 850 nm	Mhz ·km	≥ 500	
	Bandwidth at 1300 nm	Mhz ·km	≥ 500	
	Macro-bend loss (100 turns, 37.5mm radius) at 1300nm	dB	≤ 0.5	
	Macro-bend loss(2turns,7.5mm radius) at 1300nm	dB	≤ 1.0	
Geometrical Characteristics	Core diameter	μm	50 ± 2.5	
	Cladding diameter	μm	125 ± 1.0	
	Core non-circularity	%	≤5.0	
	Cladding non-circularity	%	≤1.0	
	Coating diameter	μm	245 ±7	
	Coating/cladding concentricity error	μm	≤ 10.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 1.5	

## 11. OPTICAL PERFORMANCE (OM3)

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 850 nm	dB/km	≤2.3	≤ 3.5
	Attenuation at 1300 nm	dB/km	≤ 0.6	≤ 1.5
	Zero dispersion wavelength	nm	1295~1340	
	Zero dispersion slope at 1295nm~1310nm	/	≤ 0.105	
	Zero dispersion slope at 1300nm~1320nm	/	≤ 0.000375 (1590 · λ o)	
	Group Index of Refraction (Typical) at 850 nm	/	1.482	
	Group Index of Refraction (Typical) at 1300 nm	/	1.477	
	Numeral Aperture	/	0.200 ± 0.015 NA	
	Overfilled Bandwidth at 850 nm	Mhz ·km	≥ 1500	
	Overfilled Bandwidth at 1300 nm	Mhz ·km	≥ 500	
	Effective Modal Bandwidth at 850nm	MHz ·km	≥ 2000	
	Macro-bend loss (100 turns, 30mm radius) at 850nm	dB	≤ 0.5	
	Macro-bend loss (100 turns, 30mm radius) at 1300nm	dB	≤ 0.5	

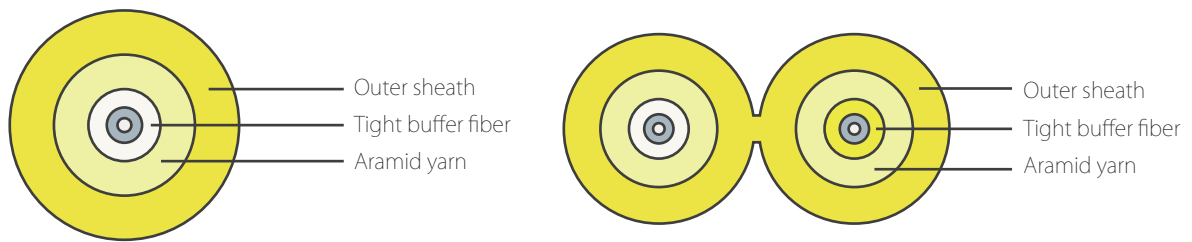
Category	Items	Unit	Description	
			Before cabled	After cabled
Geometrical Characteristics	Core diameter	$\mu\text{m}$	$50 \pm 2.5$	
	Cladding diameter	$\mu\text{m}$	$125 \pm 1.0$	
	Core non-circularity	%	$\leq 5.0$	
	Cladding non-circularity	%	$\leq 1.0$	
	Coating diameter	$\mu\text{m}$	$245 \pm 7$	
	Coating/cladding concentricity error	$\mu\text{m}$	$\leq 10.0$	
	Coating non-circularity	%	$\leq 6.0$	
	Core/cladding concentricity error	$\mu\text{m}$	$\leq 1.0$	

## 12. OPTICAL PERFORMANCE (BI OM4)

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 850 nm	dB/km	$\leq 2.3$	$\leq 3.5$
	Attenuation at 1300 nm	dB/km	$\leq 0.6$	$\leq 1.5$
	Zero dispersion wavelength	nm	1295~1340	
	Zero dispersion slope at 1295nm~1310nm	/	$\leq 0.105$	
	Zero dispersion slope at 1300nm~1320nm	/	$\leq 0.000375 (1590 \cdot \lambda o)$	
	Group Index of Refraction (Typical) at 850 nm	/	1.482	
	Group Index of Refraction (Typical) at 1300 nm	/	1.477	
	Numeral Aperture	/	$0.200 \pm 0.015 \text{ NA}$	
	Overfilled Bandwidth at 850 nm	Mhz · km	$\geq 3500$	
	Overfilled Bandwidth at 1300 nm	Mhz · km	$\geq 500$	
	Effective Modal Bandwidth at 850nm	MHz · km	$\geq 4700$	
	Macro-bend loss (100 turns, 30mm radius) at 850nm	dB	$\leq 0.5$	
	Macro-bend loss (100 turns, 30mm radius) at 1300nm	dB	$\leq 0.5$	
	Geometrical Characteristics	Core diameter	$\mu\text{m}$	$50 \pm 2.5$
Cladding diameter		$\mu\text{m}$	$125 \pm 1.0$	
Core non-circularity		%	$\leq 5.0$	
Cladding non-circularity		%	$\leq 1.0$	
Coating diameter		$\mu\text{m}$	$245 \pm 7$	
Coating/cladding concentricity error		$\mu\text{m}$	$\leq 10.0$	
Coating non-circularity		%	$\leq 6.0$	
Core/cladding concentricity error		$\mu\text{m}$	$\leq 1.0$	

## 13. CABLE PERFORMANCE

Cable structure



Simplex cable

Items		Descriptions
Tight buffer fiber	Buffer material	PVC / LSZH
	Color	White
	Diameter	$0.85 \pm 0.05\text{mm}$
Strength member		Aramid yarn
Outer Sheath	Material	PVC/LSZH
	Color code	Yellow
Cable Diameter		$1.9 \pm 0.2\text{mm}$

Zipcord cable

Items		Descriptions
Tight buffer fiber	Buffer material	LSZH
	Color	White/Yellow
	Diameter	$0.85 \pm 0.05\text{mm}$
Strength member		Aramid yarn
Outer Sheath	Material	LSZH
	Color code	Yellow
Cable Diameter		$(4.0 \pm 0.3) * (1.9 \pm 0.3) \text{ mm}$



## 14. ORDERING INFORMATION

### **PATCHCORDS :**

ARTIC : AR

PATCHCORDS : PTC

1° CONNECTOR TYPE / TERMINATION : Ej, SCUPC or SCAPC

2° CONNECTOR TYPE / TERMINATION : Ej, LCUPC or LCAPC

LENGHT (Mt) : Ej 2.5M

### **PIGTAILS**

ARTIC : AR

PIGTAILS : PGT

1° CONNECTOR TYPE / TERMINATION : Ej, SCUPC or SCAPC

LENGHT (Mt) : Ej 2.5M