



# Photonic Single-mode Fibre Series for Component Use (PH-SMF)

YOFC Photonic single-mode fibres are specially developed for optical components. The fibre has a Ge/F codoped material system and special fibre waveguide structure by PCVD process. It is suitable for FBT coupler. For the tighter geometric characteristics and optimized-optical specifications, the fibre is good performance in pigtails use. It is compatible with G.652 fibre and has good macro-bending performance which makes it very suitable for the mini components. The fibre meets the standards of G.652/G.657 of ITU-T and so on. It suits the full range application from 1260nm to 1625nm.

## Characteristics

- Tighter geometric and optic specifications
- Good splicing performance
- Full compatibility with the G.652 fibre
- Good anti-macrobend performance
- Good anti-microbend performance
- High reliability enhanced by 200kpsi

## Application

- Bending sensitive condition/mini component
- Pigtails/Patch cords
- Connectors
- Couplers
- Miniaturized integrated Erbium-doped Fibre Amplifier (EDFA)
- DWDM Components

## Standards

- YOFC photonic single-mode fibre series for component meets the ITU-TG.652&G.657 and IEC60973-2-50 or exceeding.

## Specifications

Fibre Type		PH 9/125-13/250A	PH 9/125-13/250B	PH 9/125-13/250C	PH 9/125-14/250	PH 8/125-14/250
<b>Part No.</b>		PH1010-A	PH1010-B	PH1010-C	PH1011-A	PH1012-A
<b>Optical Properties</b>						
Ref.Standards		G.652.D	G.652.B	G.652.B	G.657.A1	G.657.B3
Attenuation	@1310 (dB/km)	≤0.35	≤0.35	≤0.35	≤0.35	≤0.35
	@1383(dB/km)	≤0.35			≤0.35	≤0.35
	@1550 (dB/km)	≤0.20	≤0.20	≤0.20	≤0.20	≤0.22
	@1625(dB/km)	≤0.23	≤0.24	≤0.24	≤0.23	≤0.24
Zero Chromatic Dispersion Wavelength (nm)		1312±12	1312±12	1312±12	1312±12	1312±12
Zero Chromatic Dispersion Slopeps/ (nm <sup>2</sup> · km)		≤0.091	≤0.091	≤0.091	≤0.089	≤0.092
Dispersion	@1550 nm ps/ (nm · km)	≤18.0	≤18.0	≤18.0	≤18.0	
	@1625 nm ps/ (nm · km)	≤22.0	≤22.0	≤22.0	≤22.0	
PMD(PS/√ km)		≤0.1	≤0.1	≤0.1	≤0.1	≤0.1
PMDQ(PS/√ km)		≤0.06	≤0.06	≤0.06	≤0.06	≤0.06
Cutoff Wavelength (nm)		≤1280(λc)	≤1260(λcc)	≤1260(λcc)	≤1260(λcc)	≤1260(λcc)
1310 MFD(μm)		8.7~9.5	8.7~9.5	8.4~9.2	8.4~9.2	8.0~9.2
1550 MFD(μm)		9.9~10.9	9.9~10.9	9.9~10.9	9.3~10.3	9.1~10.1
<b>Geometrical Properties</b>						
Clad Diameter (μm)		124.5±0.5	124.5±0.5	124.5±0.5	124.5±0.5	124.5±0.5
Non-circularity of Cladding (%)		≤0.5	≤0.5	≤0.5	≤0.5	≤0.5
Core/Clad Concentricity(μm)		≤0.5	≤0.5	≤0.5	≤0.5	≤0.5
Coating Diameter (μm)		242±5	242±5	242±5	242±5	242±5
Coating /Clad Concentricity Error (μm)		≤8	≤8	≤8	≤8	≤8
Warpage Degree(Radius)(m)		≥4	≥4	≥4	≥4	≥4
<b>Macrobend Loss</b>						
ΦD32 mm/1circle@1550nm(dB)		≤0.03	≤0.05			
Φ50 mm/100circle@1310/1550nm(dB)		≤0.03	≤0.05			
Φ60 mm/100circle@1625nm(dB)		≤0.03	≤0.05			
Φ20 mm/1circle@1550nm(dB)				≤0.5	≤0.5	≤0.03
Φ20 mm/1circle@1625nm(dB)				≤1.5	≤1.5	≤0.10
Φ15 mm/1circle@1550nm(dB)						≤0.08
Φ15 mm/1circle@1625nm(dB)						≤0.25
Φ10 mm/1circle@1550nm(dB)						≤0.15
Φ10 mm/1circle@1625nm(dB)						≤0.45
<b>Environmental Properties</b>						
<b>Item</b>	<b>Condition</b>	<b>1310nm, 1550nm and 1625nm Additional Attenuation</b>				
Temp.Circulation	-60°C~ +85°C	≤0.05			(dB/km)	
Temp.-humidity Circulation	-10°C~ +85°C, Relative Humidity 98%	≤0.05			(dB/km)	
Water Soaking	23°C, 30Days	≤0.05			(dB/km)	
Damp and Hot	85°C, Relative Humidity 85%, 30Days	≤0.05			(dB/km)	
Dry and Hot	85°C, 30Days	≤0.05			(dB/km)	
<b>Mechanical Properties</b>						
Proof Test		100 ~ 200			(kpsi)	
		1.0 ~2.0			(%)	
		9 ~18			(N)	
n <sub>d</sub>	≥20					