



Bending Insensitive Single-mode Fibre (BI-SMF)

YOFC bending insensitive single-mode fibre are particularly developed for applications with very small bending radius. The fibre has excellent bending resistance by the special design of waveguide structure, and the minimum bending radius can reach 5mm. By strictly controlling of preform raw materials and drawing process, the fibre has excellent mechanical properties and can meet high proof test level and long spool length requirements.

In this fibre series, BI1011-A is suitable for optical fibre guidance, and BI1015-A and BI1015-B are suitable for fibre hydrophone. BI1015-B is a small-diameter fibre with a cladding diameter of 80 μ m, serving the application of compact components.

Characteristics

- Low macro-bending loss including L-band
- Low micro-bending induced loss
- Superior geometry
- Excellent mechanical properties, proof test level can reach 200 kpsi
- The cladding diameter is 80 μ m, realizing the miniaturization of optical fibre

Applications

- Small-sized optical component
- Optical-fibre guidance
- Hydrophone

Specifications

Fibre Type		BI 6/125-18/250* ^①	BI 7/125-18/250	BI 7/80-18/170* ^②
Part No.		BI1011-A	BI1015-A	BI1015-B
Optical Properties				
Attenuation (dB/km)	1310nm	≤ 0.39		-
	1490nm	≤ 0.26		-
	1550nm	≤ 0.24	≤ 0.26	≤ 0.28
	1625nm	≤ 0.25	≤ 0.27	≤ 0.29
Zero Dispersion Wavelength (nm)	-	≤ 1420	-	-
Cable Cut-off Wavelength λ_{cc} (nm)	-	≤ 1260	1350 - 1500	1350 - 1500
Mode Field Diameter (μm)	1310nm	6.5 ± 0.4	-	-
	1550nm	7.4 ± 0.5	7.5 ± 0.4	7.0 ± 0.4
Geometrical Properties				
Cladding Diameter (μm)* ^③	-	124.7 ± 0.5	124.7 ± 0.5	80.0 ± 1.0
Cladding Non-circularity (%)	-	≤ 1.0	≤ 1.0	≤ 1.0
Coating Diameter (μm)	-	240.0 ± 5.0	240.0 ± 5.0	170.0 ± 5.0
Core/Cladding Concentricity (μm)	-	≤ 0.6	≤ 0.6	≤ 0.6
Macro-bending Induced Loss				
Φ10mm-25turn (dB)	1550nm	-	≤ 0.02	≤ 0.02
Φ15mm-1turn (dB)	1550nm	≤ 0.05	-	-
Φ15mm-1turn (dB)	1625nm	≤ 0.10	-	-
Φ20mm-10turns (dB)	1550nm	≤ 0.02	-	-
Φ20mm-10turns (dB)	1625nm	≤ 0.05	-	-
Φ30mm-10turns (dB)	1550nm	≤ 0.01	-	-
Φ30mm-10turns (dB)	1625nm	≤ 0.02	-	-
Environmental Properties				
1310nm, 1550nm and 1625nm				
Temperature Induced Loss (dB/km)	-60°C to 85°C	≤ 0.05	≤ 0.05	≤ 0.05
Mechanical Properties				
Proof Test Level (kpsi)	Offline	150	200	200

*^①200 μm outer diameter fibre is available

*^②135 μm outer diameter fibre is available

*^③Reducing-cladding diameter fibre such as 60 μm , 100 μm , and other non-standard size fibre are available