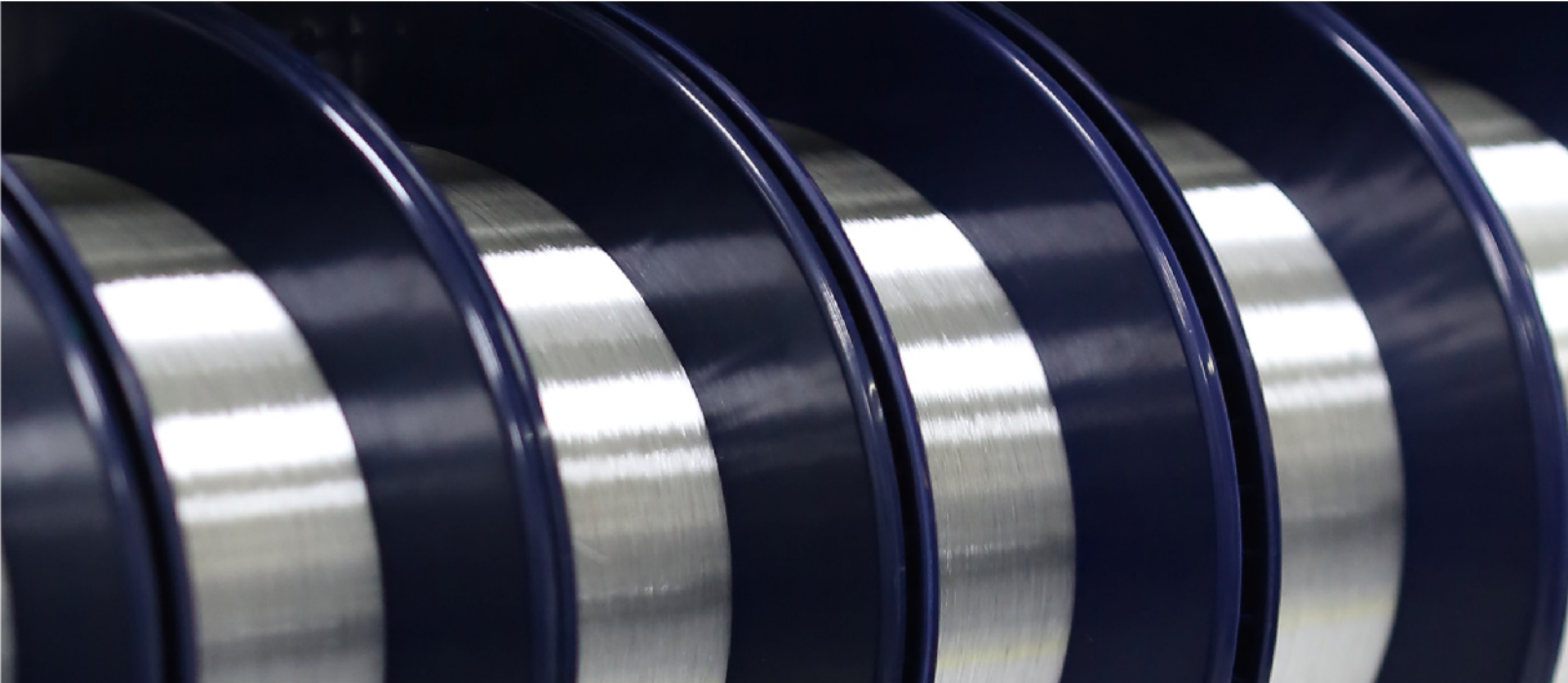




Bending Insensitive Single-mode Fibre

The YOFC bending insensitive single-mode fibre (BI-SMF) is a specialty optical fibre developed for applications demanding exceptionally high levels of bending insensitiveness. With a special waveguide structure design, the optical fibre demonstrates excellent bending insensitiveness, with the minimum bending radius up to 5 mm. Through strict control of the raw materials and drawing process of fibre preform, the optical fibre exhibits reliable mechanical performance, meeting the requirements of high proof test level and long spool length. In this series, BI1011-A is suitable for optical-fibre guidance, while BI1015-A, BI1015-B, and BI1017-A are suitable for optical fibre hydrophones. BI1015-B is a fine-diameter optical fibre with a cladding diameter of 80 μm , while BI1017-A is a fine-diameter optical fibre with a cladding diameter of 60 μm , serving miniaturized optical devices.

Features

- Excellent macro-bending performance including L-band
- Low micro-bending loss
- Accurate geometrical parameters
- Excellent mechanical performance, with the proof test level up to 200 kpsi
- 60 μm cladding diameter, realizing the miniaturization of optical fibre

Applications

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

Specifications

Fibre type	BI 6/125-18/250 ^①	BI 6/100-18/200	BI 7/125-18/250	BI 7/80-18/170 ^②	BI 7/80-19/170	BI 8/125-14/250	BI 4/60-30/100
Part No.	BI1011-A	BI1011-C	BI1015-A	BI1015-B	BI1015-F	BI1016-A	BI1017-A
Optical properties							
Fibre Cutoff wavelength (nm)	-	-	1350~1500	1350~1500	1350~1500	-	1350~1520
Cable Cutoff wavelength (nm)	≤1260	≤1260	-	-	-	≤1260	-
Zero dispersion wavelength (nm)	≤1420	≤1420	-	-	-	1300~1324	-
Mode field diameter @ 1310 nm (μm)	6.5±0.4	6.5±0.4	-	-	-	8.6±0.4	-
Mode field diameter @ 1550 nm (μm)	7.4±0.5	7.4±0.5	7.5±0.4	7.0±0.4	6.6±0.4	9.6±0.5	4.0~4.5
Attenuation @ 1310 nm (dB/km)	≤0.39	≤0.42	-	-	-	≤0.35	-
Attenuation @ 1383 nm (dB/km)	-	-	-	-	-	≤0.35	-
Attenuation @ 1490 nm (dB/km)	≤0.26	≤0.32	-	-	-	-	-
Attenuation @ 1550 nm (dB/km)	≤0.24	≤0.30	≤0.26	≤0.28	≤0.28	≤0.21	≤1.0
Attenuation @ 1625 nm (dB/km)	≤0.25	≤0.31	≤0.27	≤0.29	≤0.29	≤0.23	-
Geometrical properties							
Cladding diameter (μm)	124.7±0.5	100.0±1.0	124.7±0.5	80.0±1.0	80.0±1.0	124.4±0.4	60.0±1.0
Coating diameter (μm)	240.0±5.0	198.0±5.0	240.0±5.0	170.0±5.0	170.0±5.0	240.0±5.0	100.0±5.0
Cladding non-circularity (%)	≤1.0	≤1.0	≤0.7	≤0.7	≤0.7	≤0.7	≤1.0
Core/cladding concentricity (μm)	≤0.6	≤0.6	≤0.6	≤0.6	≤0.6	≤0.6	≤0.5
Macro-bending induced attenuation							
1 turn, Φ10 mm (dB)	1550nm	-	≤0.05	-	-	≤0.15	-
	1625nm	-	≤0.15	-	-	≤0.45	-
1 turn, Φ15 mm (dB)	1550nm	≤0.05	-	-	-	≤0.05	-
	1625nm	≤0.10	-	-	-	≤0.25	-
1 turn, Φ20 mm (dB)	1550nm	≤0.02	-	-	-	≤0.03	-
	1625nm	≤0.05	-	-	-	≤0.10	-
25 turns, Φ10 mm (dB)	1550nm	-	≤0.02	≤0.02	≤0.02	-	≤0.01
10 turns, Φ30 mm (dB)	1550nm	≤0.01	-	-	-	-	-
	1625nm	≤0.02	-	-	-	-	-
Mechanical performance							
Proof test level (kpsi)	150	150	150	200	200	100	200
Environmental properties							
Temperature (°C)	-60 ~ 85	-60 ~ 85	-60 ~ 85	-60 ~ 85	-60 ~ 85	-60 ~ 85	-60 ~ 85

① An optical fibre with an outer diameter of 200 μm is available.

② An optical fibre with an outer diameter of 135 μm is available.

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