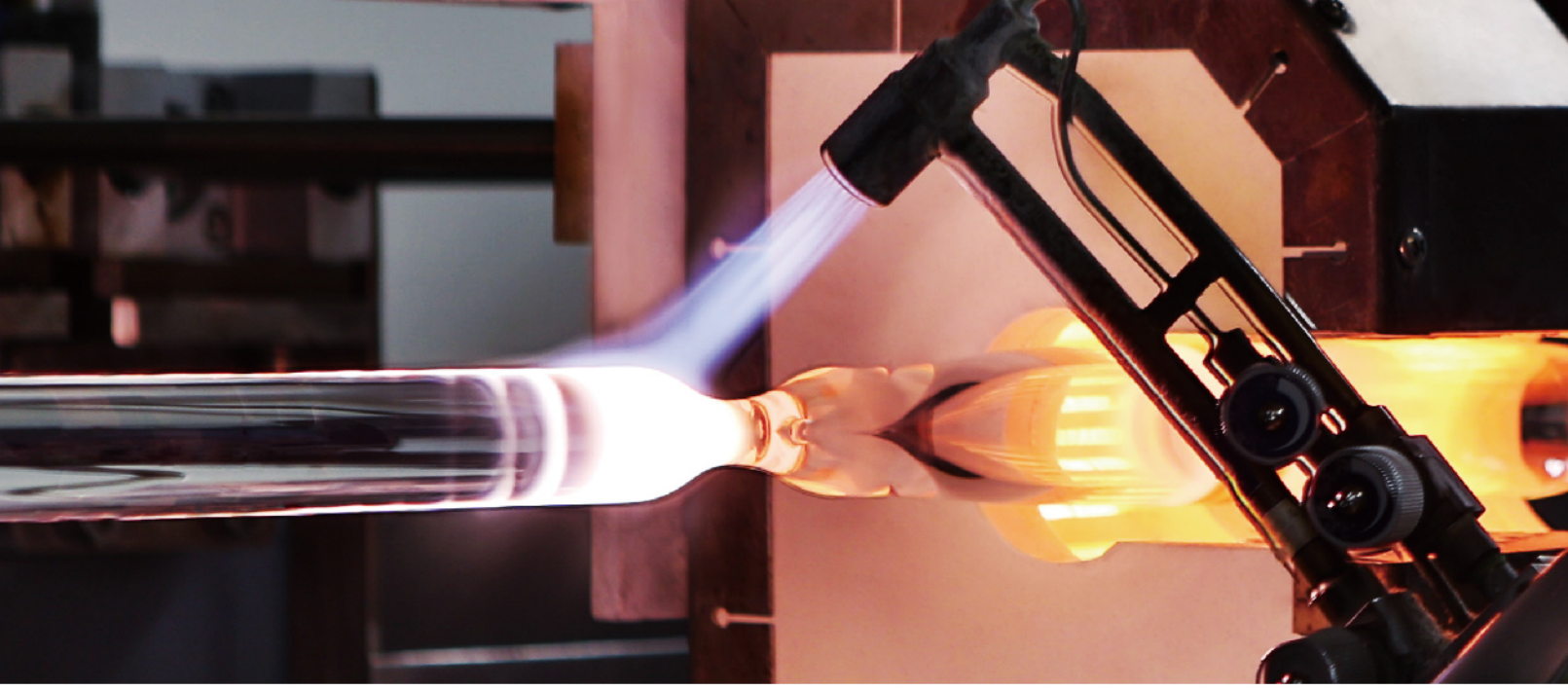


High Temperature Fibre

YOFC has developed HTF for communication and sensing in high-temperature and other harsh environments. With high-temperature resistant polyester coating and polyimide coating, the YOFC HTF can work properly at the temperatures below 150°C and 300°C.

Features

- Excellent high-temperature working stability
- Excellent optical and geometrical properties
- Customized refractive index profile of

Applications

- Mining industry
- Oil/gas
- Medical care that requires a maximum protection of the fibre at very high temperatures
- Laser radars

Standard Products

1. HTF with special polyester coating

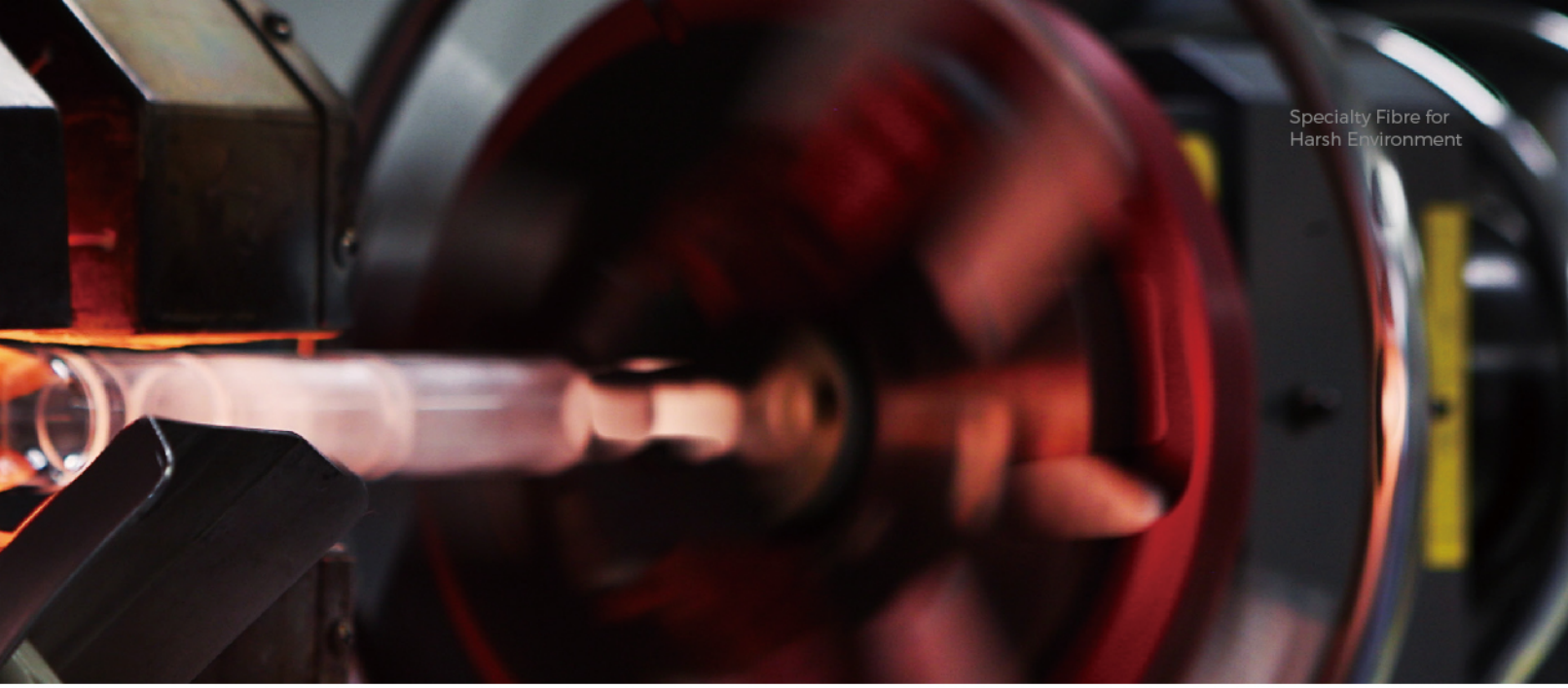
Operating temperature: -65°C~+150°C (long-term), 200°C (short-term)

- Standard-sized HTF: glass cladding diameter: 125 μm; coating diameter: 245±10 μm
- Cladding diameter, NA, and coating thickness: customizable according to customer requirements

2. Optimized HTF with polyimide coating

Operating temperature: -65°C~+300°C (long-term), 350°C (short-term);

- Standard-sized HTF: glass cladding diameter: 125 μm; coating diameter: 155±5 μm
- Cladding diameter, NA, and coating thickness: customizable according to customer requirements



Specifications–1

Fibre type	HT 9/125-14/250(150)	HT 9/125-14/250(150)_Y	HT 9/125-14/155(300)	HT 8/80-12/105(300)
Part No.	HT1210-A	HT1210-B	HT1510-B	HT1511-B
Optical propertiesaa				
Mode field diameter @1310 nm (μm)	9.2±0.4	9.2±0.4	9.2±0.4	9.1±0.5
Mode field diameter @1550 nm (μm)	10.4±0.8	10.4±0.8	10.4±0.8	10.4±0.8
Cable cutoff wavelength (λcc) (nm)	≤1300	≤1300	≤1300	≤1290
Attenuation @1310 nm (dB/km)	≤0.40	≤0.40	≤1.00	≤3.00
Attenuation @1550 nm (dB/km)	≤0.25	≤0.25	≤0.80	-
Geometrical properties				
Cladding diameter (μm)	125.0±1.0	125.0±1.0	125.0±2.0	80.0±2.0
Coating diameter (μm)	245.0±10.0	245.0±10.0	155.0±5.0	105.0±5.0
Cladding non-circularity (%)	≤1.0	≤1.0	≤1.0	≤1.0
Core/cladding concentricity (μm)	≤0.8	≤0.8	≤0.8	≤1.0
Coating/cladding concentricity (μm)	≤12	≤12	≤10	≤10
Mechanical performance				
Proof test level (kpsi)	100	100	100	100
Operating temperature range (°C)	-65 ~ 150, 200 (short-term)	-65 ~ 150, 200 (short-term)	-65 ~ 150, 200 (short-term)	-65 ~ 150, 200 (short-term)
Coating material	Special polyester	Special polyester	polyimide	polyimide

Specifications–2

Fibre type	HTBI 9/125-14/250+(150)	HTBI 9/125-14/250+(150)_Y	HTBI 8/125-14/250(150)	HTBI 8/125-14/250(150)_Y
Part No.	HT1211-A	HT1211-B	HT1213-C	HT1213-B
Optical propertiesaa				
Mode field diameter @ 1310 nm (μm)	8.8±0.4	8.8±0.4	8.6±0.4	8.6±0.4
Mode field diameter @ 1550 nm (μm)	9.8±0.5	9.8±0.5	9.6±0.5	9.6±0.5
Cable cutoff wavelength (λcc) (nm)	≤1260	≤1260	≤1260	≤1260
Attenuation @ 1310 nm (dB/km)	≤0.35	≤0.35	≤0.35	≤0.35
Attenuation @ 1383 nm (dB/km)	≤0.35	≤0.35	≤0.35	≤0.35
Attenuation @ 1550 nm (dB/km)	≤0.21	≤0.21	≤0.21	≤0.21
Attenuation @ 1625 nm (dB/km)	≤0.23	≤0.23	≤0.23	≤0.23
Zero dispersion wavelength (nm)	1300 ~ 1324	1300 ~ 1324	1300 ~ 1324	1300 ~ 1324
Zero dispersion slope (ps/(nm²·km))	≤0.092	≤0.092	≤0.092	≤0.092
Geometrical properties				
Core diameter (μm)	124.8±0.7	124.8±0.7	124.8±0.7	124.8±0.7
Coating diameter (μm)	245.0±5.0	245.0±5.0	245.0±5.0	245.0±5.0
Cladding non-circularity error (%)	≤0.7	≤0.7	≤0.7	≤0.7
Core/cladding concentricity (μm)	≤0.5	≤0.5	≤0.5	≤0.5
Coating/cladding concentricity (μm)	≤12	≤12	≤12	≤12
Cladding non-circularity (%)	≤6.0	≤6.0	≤6.0	≤6.0
Macro-bending performance				
Macro-bending loss (dB) @ 1550nm, 1 turn, 10mm radius	≤0.1	≤0.1	≤0.03	≤0.03
Macro-bending loss (dB) @ 1625nm, 1 turn, 10mm radius	≤0.2	≤0.2	≤0.1	≤0.1
Macro-bending loss (dB) @ 1550 nm, 1 turn, 7.5mm radius	-	≤0.5	≤0.08	≤0.08
Macro-bending loss (dB) @ 1625 nm, 1 turn, 7.5mm radius	-	≤1.0	≤0.25	≤0.25
Macro-bending loss (dB) @ 1550 nm, 1 turn, 5mm radius	-	-	≤0.15	≤0.15
Macro-bending loss (dB) @ 1625 nm, 1 turn, 5mm radius	-	-	≤0.45	≤0.45
Mechanical performance				
Proof test level (kpsi)	100	100	100	100
Operating temperature range (℃)	-65 ~ 150, 200 (short-term)	-65 ~ 150, 200 (short-term)	-65 ~ 150, 200 (short-term)	-65 ~ 150, 200 (short-term)
Coating material	Special polyester	Special polyester	Special polyester	Special polyester

Specifications–3

Fibre type	HTG 50/125-20/250(150)	HTG 50/125-20/250(150)_Y	HT 50/125-20/155(300)
Part No.	HT2312-B	HT2211-A	HT2512-B
Optical propertiesaa			
Attenuation @ 850 nm (dB/km)	⩽3.0	⩽2.4	⩽4.0
Attenuation @ 1300 nm (dB/km)	⩽0.8	⩽0.6	⩽2.0
Overfilled modal bandwidth @ 850 nm (MHz·km)	⩾150	⩾150	⩾150
Overfilled modal bandwidth @ 1300 nm (MHz·km)	⩾300	⩾300	⩾300
NA	0.200±0.015	0.200±0.015	0.200±0.015
Geometrical properties			
Core diameter (μm)	50±2.5	50±2.5	50±3.0
Cladding diameter (μm)	125.0±1.0	125.0±1.0	125.0±2.0
Coating diameter (μm)	245.0±10.0	245.0±10.0	155.0±5.0
Cladding non-circularity (%)	⩽1.0	⩽1.0	⩽1.0
Core/cladding concentricity error (μm)	⩽1.5	⩽1.5	⩽1.5
Coating/cladding concentricity deviation (μm)	⩽12	⩽12	⩽10
Mechanical performance			
Proof test level (kpsi)	100	100	100
Operating temperature range (℃)	-65 ~ 150, 200 (short-term)	-65 ~ 150, 200 (short-term)	-65 ~ 150, 200 (short-term)
Coating material	Special polyester	Special polyester	Special polyester

Specifications–4

Fibre type	HTG 62.5/125-27/250(150)	HTG 62.5/125-27/250(150)_Y	HT 62.5/125-27/155(300)
Part No.	HT2215-A	HT2215-B	HT2515-B
Optical propertiesaa			
Attenuation @ 850 nm (dB/km)	⩽3.0	⩽3.0	⩽4.0
Attenuation @ 1300 nm (dB/km)	⩽1.0	⩽1.0	⩽2.0
Overfilled modal bandwidth @ 850 nm (MHz·km)	⩾150	⩾150	⩾150
Overfilled modal bandwidth @ 1300nm (MHz·km)	⩾300	⩾300	⩾300
NA	0.275±0.015	0.275±0.015	0.275±0.015
Geometrical properties			
Core diameter (μm)	62.5±2.5	62.5±2.5	62.5±3.0
Cladding diameter (μm)	125.0±1.0	125.0±1.0	125.0±2.0
Coating diameter (μm)	245.0±10.0	245.0±10.0	155.0±5.0
Cladding non-circularity (%)	⩽1.0	⩽1.0	⩽1.0
Core/cladding concentricity error (μm)	⩽1.5	⩽1.5	⩽1.5
Coating/cladding concentricity deviation (μm)	⩽12	⩽12	⩽10
Mechanical performance			
Proof test level (kpsi)	100	100	100
Operating temperature range (℃)	-65 ~ 150, 200 (short-term)	-65 ~ 150, 200 (short-term)	-65 ~ 150, 200 (short-term)
Coating material	Special polyester	Special polyester	Special polyester

- During attenuation test, the optical fibre with polyimide coating shall be wound with near zero tension on an optical fibre spool greater than 36 cm in diameter.
- Optical fibres with different core diameters (e.g. 100 μm, 200 μm, and 300 μm) can be equipped with a high-temperature resistant coating according to customer requirements.

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