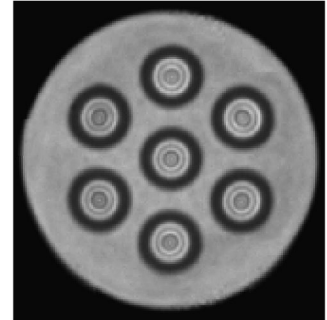


Customized Single/Multi-mode Fibre

Multi Core Fibre (MCF)

Multi core fibre(MCF) is a new kind of fibre with several separate fibre cores co-existed in the same cladding. YOFC MCF can achieve low inter-crosstalk in long SDM optical transmission by adopting the seven-core structure and F-doped cladding, which has a typical promising future in optical transmission field. Based on the concept of space division multiplexing (SDM), multi-core fibre can realize transmitting several light signals through different channels and is expected as a breakthrough technology against capacity crunch of optical transmission system over a single-mode fibre. With the development of SDM and multi-core fibre sensor technology, multi-core fibre would be a vital branch of fibre development. The level of crosstalk and fibre coating of MCF can also be customization to fulfill your use in transmission, sensor, industry, medical equipment fields and so on.



Characteristics

- Single fibre with spatial superchannels
- Ultra-low cross talk between cores
- Excellent fibre geometric consistency
- Low fibre loss

Applications

- Extremely large capacity transmission system
- Large-capacity multi-task access
- Distributed fibre sensors
- Medical equipments

Specifications

Fibre Type	MCF 7-42/150/250(SM)	
Part No.	MC1010-A	
Type Description	Low Crosstalk Seven Core MCF	
Optical Properties	Value	Typical
Cross Talk (Adjacent Core) (dB/100km)	< -45	-50
Attenuation@ 1310nm (dB/km)	≤ 0.45	0.4
Attenuation@ 1550nm (dB/km)	≤ 0.30	0.25
Zero Dispersion Wavelength (nm)	1290 - 1330	1296
Dispersion@ 1550nm (ps/nm · km)	≤ 22.0	20.0
PMD (ps/km ^{1/2})	≤ 2	1.5
Cable Cut off Wavelength λ _{cc} (nm)	≤ 1300	1250
Mode Field Diameter @1310nm (μm)	8.5 ± 0.5	8.4
Mode Field Diameter @1550nm (μm)	9.5 ± 0.5	9.5
Geometrical Properties		
Core Diameter (μm)	8.0 ± 0.5	7.9
Core-to-core (adjacent) Distance (μm)	41.5 ± 1.5	-
Cladding Diameter (μm)	150.0 ± 2.0	-
Coating Diameter (μm)	245.0 ± 10.0	-
Coating Description		
Coating Type	UV-acylate	High temperature coating is available.
Operating Temperature Range (°C)	-40 to +70	-
Mechanical Properties		
Short Term Bend Radius (mm)	≥ 7.5	-
Long Term Bend Radius (mm)	≥ 15	-
Proof Test (kpsi)	≥ 50	-

Few-mode Fibre (FMF)

The MDM transmission system uses the limited orthogonal modes in few mode fibre (FMF) as the independent channels to carry out information transmission in order to multiply the transmission capacity of the system. The few mode optical fibre uses different modes in the fibre as a new degree of freedom, the spectrum efficiency of the system can be improved successfully by FMF. As FMF has large mode field areas, its nonlinear tolerance is always better than that of SMF. It not only improves the capacity of optical transmission system, but also avoid the nonlinear effects. The MDM system based on FMF can solve the future single mode fibre bandwidth crisis.

YOFC FMFs taking advantages of PCVD process which is able to manufacture complex index-profile accurately, can get various types of core layer structure, such as Step-Index, Graded-Index etc. According to different design, 2-mode, 4-mode, 6-mode, 9-mode FMFs and even Ultra-low-loss (ULL) FMFs can be realized.

Characteristics

- Strictly controlled optical and geometrical parameters
- Customized waveguide is available
- Low macro-bending loss
- Low DMD for graded index fibre
- Low crosstalk for step index fibre

Applications

- Mode division multiplexing (MDM)
- Communication
- Sensing

Specifications

Two Mode Fibre (Graded-Index)

Fibre Type		FM GI-2	
Part No.		FM2010-A	
Optical Characteristics@1550nm		Range	Typical Value
Core Diameter (μm)		20.0 ± 0.3	-
Cladding Diameter (μm)		125.0 ± 0.5	-
Cladding Non-circularity (%)		< 0.7	-
Wavelength (nm)		1450 - 1700	-
Coating Diameter (μm)		245.0 ± 10.0	-
Dispersion ($\text{ps}/(\text{nm} \cdot \text{km})$)	LP01	≤ 23	21.2
	LP11	≤ 23	20.5
Dispersion Slope ($\text{ps}/(\text{nm}^2 \cdot \text{km})$)	LP01	≤ 0.11	0.098
	LP11	≤ 0.11	0.096
Effective Area (μm^2)	LP01	≥ 100	112
	LP11	≥ 140	152
Attenuation (dB/km)	LP01	≤ 0.21	0.19
	LP11	≤ 0.21	0.20
Differential Group Delay (ps/m)	LP11-LP01	- 0.3 to 0.3	-0.14