

Multi Core Fibre (MCF)

Description

Multi Core fibre(MCF) is a new kind 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 sever-core structure and F-doped caldding, 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.

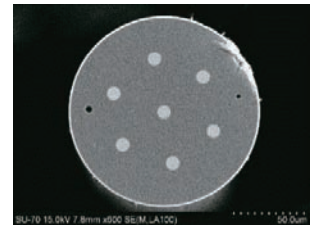
With the development of SDM (Space Division Multiplexing) and multi-core fibre sensor technology, multi-core fibre would be a vital branch of fibre development. The level of crosstalk and fibre coating of MCF can also be customization to fulfill your use in transmission, sensor, industry ,medical equipment fields and so on.

Characteristics

- Single fibre with spatial superchannels
- Ultra-low cross talk between cores
- Excellent fibre geometric consistency
- Low and consistent attenuation char

Application

- Extremely large capacity transmission system
- Large-Capacity Multi-Task Access
- Distributed fibre sensors
- Medical Equipments



MCF Specifications

Fibre Type	MCF-7-42/150/250	
Type Description	Low Crosstalk Seven Core MCF	
Optical Properties	Value	Typical
Cross Talk (Adjacent Core) (dB/ km)	<-45	-50
Attenuation@ 1310nm (dB/km)	< 0.45	0.4
Attenuation @ 1550nm (dB/km)	< 0.30	0.25
Zero Dispersion Wavelength (nm)	1290 ~ 1320	1308
Dispersion@ 1550nm (ps/nm · km)	17 ± 1.0	17.1
PMD ps/sqrt (km)	< 2	< 1.5
Cable Cutoff 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 Distance (μm)	41.5 ± 1.5	
Coating Description		
Coating Type	UV-Acylate	High temperature resist coating and low refractive index coating can be customization
Operating Temperature Range(°C)	-40 ~ +70	
Mechanical Properties		
Short Term Bend Radius(mm)		≥ 7.5
Long Term Bend Radius (mm)		≥ 15
Proof Test Level (kpsi)	≥50	

Multi-core Fibre Fan-in & Fan-out Module

Description

Multi-core fibre fan-in and fan-out module is a device to realize the high coupling efficiency between the multi-core fibre and several single-mode fibre, to realize the channel space division multiplexing and demultiplexing function in the application. The optical fibre coupling technology is used to realize the optical power coupling between multi-core fibre and a few single mode fibre with low insertion loss, low echo reflection and low core crosstalk. YOFC multi-core fibre fan-in and fan-out module adopts seven channel structure, with the corresponding parameters of seven core optical fibre communication and sensor can be used to build a complete system. It has the broad application prospect.

Characteristics

- Encapsulated in box
- Low and consistent insertion loss
- Ultra low crosstalk and echo
- FC/PC, FC/APC or bare fibre



Specifications

Fibre Type	FAN-7-42	
Type Description	7-cores fibre fan-in & fan-out module	
Optical Properties	Value	Typical
Average Insertion Loss@ 1550nm (dB)	<1.5	1.0
Max. Insertion Loss@ 1550nm (dB)	< 2.0	1.5
Average Echo Reflection (dB)	< -50	-55
Max. Echo Reflection (dB)	< -45	-50
Crosstalk Index-Adjacent Core (dB)	< -50	-55
Geometrical Properties		
Multi-core Pigtail Length (m)	>1.0	1.5
Single-mode Pigtail Length (Bare Fibre) (m)	>1.0	2.0
Single-mode Pigtail Length (Patch-cord) (m)	>0.5	1.0
Encapsulation Box Description		
Encapsulation Material	ABS Plastic	
Box Size (mm)	100 × 80 × 10	
Operating Temperature(°C)	-40 ~ +70	