

## Singlemode OS2 G.657.A1 6F Loose Tube Cable

## F-6CSMLT-XX

### Description

CERTECH bending insensitive single mode fibre encompasses all the features of FullBand® fibre and provides good resistance to macro-bending. It has low macro-bending sensitivity and low water-peak level. It is comprehensively optimized for use in O-E-S-C-L band (1260 -1625 nm).

It offers good resistance to additional losses due to low macrobending in the 1600 nm wavelength region. This not only supports L-band applications but also allows for easy installation without excessive care when storing the fibre, for example, in splicing cassettes. For cable use inside buildings, the fibre supports installation with small cable bending radii and compact organizers. The bending induced loss at 1625 nm no more than 0.5 dB for one wind with 10 mm radius.

CERTECH bending insensitive single mode fibre meets or exceeds the ITU-T Recommendation G.652.D/G.657.A1 including the IEC 60793-2-50 type B1.3 Optical Fibre Specification.

### Application

- Short pitch cables for special application
- High performance optical network operating in O-E-S-C-L band
- High speed optical routes in buildings (FTTx)
- Cables with low bending requirements

### Process

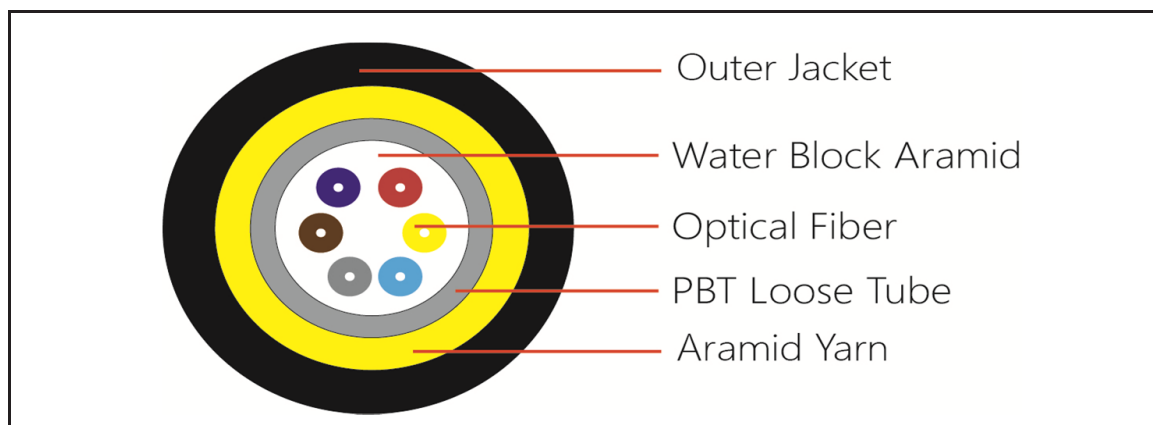
YOFC optical fibres are manufactured using the advanced Plasma Activated Chemical Vapor Deposition (PCVD) process. Because of the inherent advantages of the process, YOFC fibres show ultra accurate refractive index (RI) profile control, excellent geometrical performance, low attenuation and etc.

### Characteristics

- Low attenuation satisfying the operation demand in O-E-S-C-L band
- Good bending loss resistance at short radius bends
- Low micro-bending loss for highly demanding cable designs including ribbons
- Low PMD satisfying high bit-rate and long distance transmission requirements
- Accurate geometrical parameters that insure low splicing loss and high splicing efficiency

## F-6CSMLT-XX

### PRODUCT STRUCTURE DIAGRAM



### CONSTRUCTION

- |                                            |                   |
|--------------------------------------------|-------------------|
| 1. Optical Fiber: OS2 G.657.A1 Color Fiber | Fiber Brand: YOFC |
| Cladding Diameter: 125.0±1.0 um            |                   |
| Optical Fiber Diameter: 245.0±10 um        |                   |
| UV Color Fiber: Standard Chromatogram      |                   |
| -Blue, Orange, Green, Brown, Gray, White   |                   |
| 2. Water Block Aramid                      | OD: 0.9±0.05 mm   |
| 3. PBT Loose Tube                          | OD: 2.5±0.1 mm    |
| 4. Aramid Yarn                             | 1580D*8           |
| 5. Water Block Aramid                      | 300d*3            |
| 6. Outer Jacket: PE                        | OD: 7.0±0.2 mm    |
| Color: Black                               |                   |

### PARAMETERS OF FIBER

Optical Fiber Type	UNIT	OS2/G.657.A1
Waveband	nm	1310/1550
Attenuation	dB/Km	0.36/0.23

### PRODUCT PARAMETERS

Performance	Long-Term	Short-Term
Max. Tension(N)	150	300
Max. Crush Resistance (N/100mm)	200	500
Min. Bend Radius	30D (Dynamic)	15D (Static)
Storage and Operating Temperature	-20°C ~ + 60°C	

### PART No. & UPC CODE

Part No.	UPC Code
F-6CSMLT-200	325918691
F-6CSMLT-300	325918692
F-6CSMLT-500	325918693
F-6CSMLT-1KM	329518694

### APPEARANCE AND PACKING

1. No Damage On The Surface.
2. Wooden Drum Packing.
3. Segment Length: Usually 1000/2000/3000M Length of Each Drum Shall Be Similar As Much As Possible. Other Lengths Can Be Customized By Clients

Characteristics	Conditions	Specified Values	Units
<b>Optical Characteristics</b>			
Attenuation	1310 nm	≤0.35	[dB/km]
	1383 nm (after H <sub>2</sub> -aging)	≤0.35	[dB/km]
	1460 nm	≤0.25	[dB/km]
	1550 nm	≤0.21	[dB/km]
	1625 nm	≤0.23	[dB/km]
Attenuation vs. Wavelength	1285 ~ 1330 nm	≤0.03	[dB/km]
Max. α difference	1525 ~ 1575 nm	≤0.02	[dB/km]
Dispersion coefficient	1285 ~ 1340 nm	≥ -3.4 ≤3.4	[ps/(nm · km)]
	1550 nm	≤18	[ps/(nm · km)]
	1625 nm	≤22	[ps/(nm · km)]
Zero dispersion wavelength		1300 ~ 1324	[nm]
Zero dispersion slope		≤0.092	[ps/(nm <sup>2</sup> · km)]
Typical value		0.086	[ps/(nm <sup>2</sup> · km)]
<b>PMD</b>			
Maximum Individual Fibre		≤0.1	[ps/√km]
Link Design Value (M=20, Q=0.01%)		≤0.06	[ps/√km]
Typical value		0.04	[ps/√km]
Cable cutoff wavelength λ <sub>cc</sub>		≤1260	[nm]
Mode field diameter (MFD)	1310 nm	8.4 ~ 9.2	[μm]
	1550 nm	9.3 ~ 10.3	[μm]
Effective group index of refraction (N <sub>eff</sub> )	1310 nm	1.466	
	1550 nm	1.467	
Point discontinuities	1310 nm	≤0.05	[dB]
	1550 nm	≤0.05	[dB]
<b>Geometrical Characteristics</b>			
Cladding diameter		125.0 ± 0.7	[μm]
Cladding non-circularity		≤0.7	[%]
Coating diameter		245 ± 5	[μm]
Coating-cladding concentricity error		≤12.0	[μm]
Coating non-circularity		≤6.0	[%]
Core-cladding concentricity error		≤0.5	[μm]
Curl (radius)		≥4	[m]
Delivery length		2.1 to 50.4	[km/reel]
<b>Environmental Characteristics (1310 nm, 1550 nm &amp; 1625 nm)</b>			
Temperature dependence			
Induced attenuation at	-60°C to +85°C	≤0.05	[dB/km]
Temperature-humidity cycling			
Induced attenuation at	-10°C to +85°C, 98% RH	≤0.05	[dB/km]
Watersoak dependence			
Induced attenuation at	23°C, for 30 days	≤0.05	[dB/km]
Damp heat dependence			
Induced attenuation at	85°C and 85% RH, for 30 days	≤0.05	[dB/km]
Dry heat aging at	85°C	≤0.05	[dB/km]
<b>Mechanical Specification</b>			
Proof test		≥9.0	[N]
		≥1.0	[%]
		≥100	[kpsi]
<b>Macro-bend induced attenuation</b>			
10 turns around a mandrel of 30 mm diameter	1550 nm	≤0.25	[dB]
10 turns around a mandrel of 30 mm diameter	1625 nm	≤1.0	[dB]
1 turn around a mandrel of 20 mm diameter	1550 nm	≤0.75	[dB]
1 turn around a mandrel of 20 mm diameter	1625 nm	≤1.5	[dB]
Coating strip force	typical average force	1.5	[N]
	peak force	≥1.3 ≤8.9	[N]
Dynamic stress corrosion susceptibility parameter (n <sub>a</sub> , typical)		27	