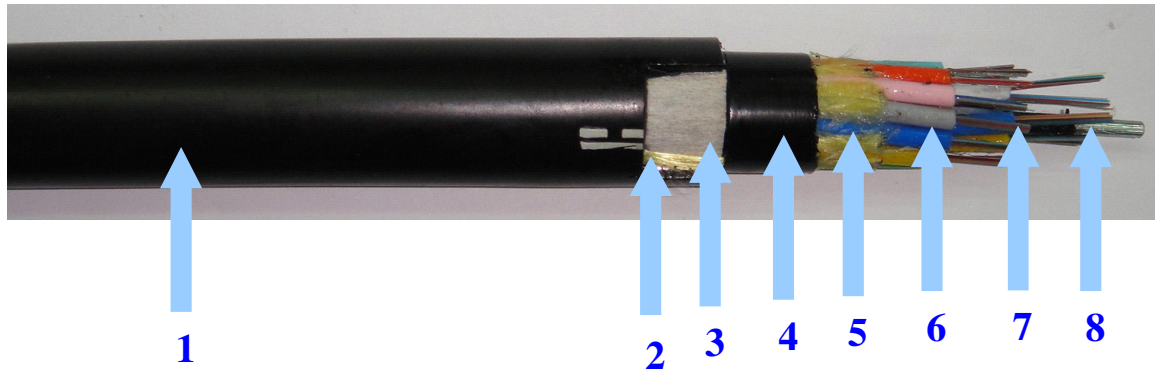


## Loose Tube Type Fiber Optic Cables

**Application :** Primarily for carrier-class fixed line, mobile communications networks, CATV fiber-optic backbone network, used for the core and aggregation network and access network for base stations connected.

**Construction :**



- ❶ Outer sheath
- ❷ Ripcord
- ❸ Water blocking element
- ❹ Inner sheath
- ❺ Peripheral strength element-Aramid yarn
- ❻ Loose tube
- ❼ Colour fibers
- ❽ Center strength member(CSM)- Galvanized steel wire with overshath

**Features and Benefits :**

- ◆ CSM: Galvanized steel wire with overshath could provide efficient tension for cable.
- ◆ Loose Tube: 6 or 12 fiber per loose tube and filled with a suitable jelly compound.
- ◆ Filler: Thermoplastic rods, where needed.
- ◆ Stranding: Loose tubes (and filler), SZ stranded around the CSM.
- ◆ Longitudinal water tightness : (Option)
  - The core is water blocked using jelly.
  - Water blocking element used for eliminates the need for traditional flooding compound and provides efficient and craft-friendly cable preparation.
- ◆ Peripheral Strength Element: (Option)
  - Aramid yarns could be used if required.
  - Non-strength
- ◆ Inner Sheath: Only for double sheath. (Option)
- ◆ Water Blocking Element: Only for double sheath, between outer & inner sheath. (Option)
- ◆ Ripcord: Nylon thread or Aramid yarn for the sheath can be easily strip.
- ◆ Outer Sheath: (Option)
  - LAP sheath: Laminated Aluminum sheath for moisture berry.
  - PE sheath

**Specification :** 6C~288C , Detail specification

## 1. Configuration

No. of Fibers	Unit	6	12	18	24	36	48	72	96	
Tubes xFibers	NO.xC	1x6	2x6	3x6	4x6	6x6	8x6	6x12	8x12	
Loose Tube/Filler- $\phi$	mm	2.5					3.1			
CSM- $\phi$	mm	1.8				2.0	2.3	2.6		
CSM-Over sheath- $\phi$	mm	2.2				2.7	4.2	3.3	5.5	
Inner Sheath	mm	1.0								
LAP Outer sheath	mm	1.7								
Cable Diameter	mm	14.5				14.8	16.3	17.0	20.5	
Cable weight(App.)	kg/m	0.19				0.21	0.24	0.22	0.26	

No. of Fibers	Unit	120	144	168	192	216	288		
Tubes xFibers (1 <sup>st</sup> layer)	NO.xC	10x12	12x12	6x12	6x12	6x12	9x12		
Tubes xFibers (2 <sup>nd</sup> layer)	NO.xC	----	----	8x12	10x12	12x12	15x12		
Loose Tube/Filler- $\phi$	mm	3.1							
CSM- $\phi$	mm	2.6							
CSM-Over sheath- $\phi$	mm	7.0	9.0	3.3	3.3	3.3	6.2		
Inner Sheath	mm	1.0							
LAP Outer sheath	mm	1.7							
Cable Diameter	mm	21.0	22.5				26.0		
Cable weight(App.)	kg/km	0.37	0.43	0.46			0.58		

## 2. Application

Temperature Range	Minimum Bending Radius
Transportation&Storage: -30~+60°C Installation: 0~+60°C Operation: -30~+60°C	Under Maximum Tension : 20xCable- $\phi$ Without Tension: 10xCable- $\phi$

### 3. Mechanical and Environmental Characteristics :

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile Loading and Bending Test	EIA-455-33A	Mandrel diameter: 20D (D = cable diameter) Tensile load: 273kgf for 10 minutes	(1) Attenuation Increment $\leq 0.2$ dB (2) No jacket cracking and fiber breakage
Cyclic Flexing Test	TIA/EIA-455-104A	Sheave diameter: 20D (D=cable diameter) No. of flexing cycles: 25 cycles Flexing speed: 30 cycles/minute	
Repeated Impact Test	TIA/EIA-455-25B	Height of impact: 150mm No. of impact cycles: 20 cycles Cycle speed: 30 $\pm$ 1 cycle / min.	
Cable Twist Test	TIA/EIA-455-85A	Cable length twisted: 4m No. of twist cycles: 10 cycles for 10 min. Twist angle: $\pm 180^\circ$ /cycle	
Compressive Loading Resistance Test	TIA/EIA-455-41A	Applied load: 4.54kgf/mm Duration of loading: 10 minutes Load length: more than 100 mm Compressive speed: 2.54 mm/min.	
Water Penetration	TIA/EIA-455-82B/ IEC 60794-1-2F5B	Length of specimen: 1m Height of pressure head: 1m Test time: 4 hours	No leakage through the open cable end

This section shall be performed at 1550nm.

#### 4. Optical Characteristics

##### 4.1 Maximum Attenuation

Wavelength	Attenuation(dB/km)
1260nm	$\leq 0.45$
1310nm	$\leq 0.40$
1383nm $\pm$ 3nm	$\leq 0.35$
1550nm	$\leq 0.25$ (90%) $\leq 0.30$ (100%)
1625nm	$\leq 0.35$

##### 4.2 Chromatic Dispersion

Wavelength	Specification (ps/km-nm)
1260nm	$\leq 6.21$
1310nm	$\leq 1.14$
1383nm	$\leq 7.05$
1550nm	$\leq 18.21$
1625nm	$\leq 22.31$

##### 4.3 Polarization Mode Dispersion , PMD

Individual Polarization Mode Dispersion	0.2 ps / $\sqrt$ km
Linked Polarization Mode Dispersion , PMD <sub>Q</sub> 20 Cables(M=20) 0.01% Probability level(Q=0.01%)	0.1ps / $\sqrt$ km

4.4 Cut-off Wavelength of Cabled : Less than 1260nm ◦

##### 4.5 Mode Field Diameter

1310nm	9.0~9.4 $\mu$ m $\pm$ 0.4 $\mu$ m
1550nm	10.0~10.7 $\mu$ m $\pm$ 0.7 $\mu$ m

## 5. Identification

### 5.1 Fiber Colours

Fiber No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	Blue	Yellow	Green	Red	Violet	White	Brown	Black	Aqua	Orange	Pink	Grey

### 5.2 Loose Tube Colours

#### 1<sup>ST</sup> Layer

Fiber No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	Blue	Yellow	Green	Red	Violet	White	Brown	Black	Aqua	Orange	Pink	Grey

#### 2<sup>nd</sup> Layer

Fiber No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	Blue	Yellow	Green	Red	Violet	White	Brown	Black	Aqua	Orange	Pink	Grey

Fiber No.	13	14	15
Colour	Light yellow	Dark blue	Light green

### 5.3 Sheath Colour: Black

### 5.4 Sheath Marking

**PACIFIC** 《year of manufacture》《Cable type and fiber count》《length marking in meter》

## 6. Packing

Metal or Wooden drums with protection.

## 7. Delivery Lengths

Standard delivery length are 2000 meters.