



3 OPTICAL FIBER: Type G. 657A1

The properties of single mode optical fiber (ITU-T Rec. G.657A1)

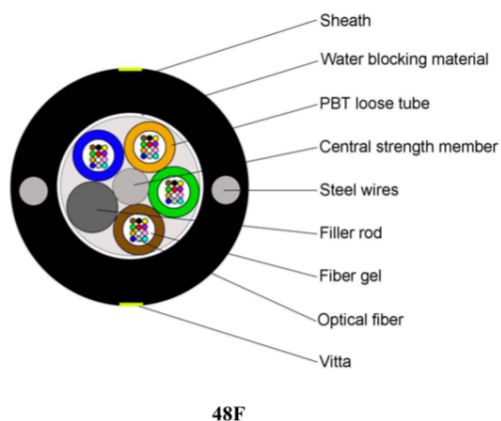
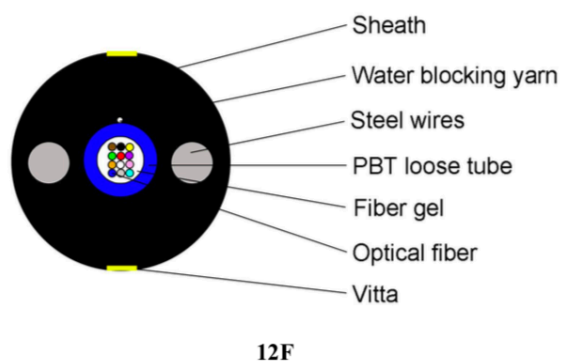
Items	Specification
Attenuation coefficient @ 1310 nm @ 1550 nm	$\leq 0.40\text{dB/km}$ $\leq 0.30\text{dB/k}$
Cable cut-off wavelength	$\leq 1260\text{ nm}$
Zero-dispersion wavelength	1300 ~ 1324 nm
Zero-dispersion slope	$\leq 0.092\text{ ps}/(\text{nm}^2.\text{km})$
Chromatic dispersion @ 1285 ~ 1330nm @ 1550 nm	$\leq 3.5/(\text{nm}^2.\text{km})$ $\leq 18.0\text{ ps}/(\text{nm}^2.\text{km})$
Mode field diameter @ 1310 nm	$8.8 \pm 0.4\text{ }\mu\text{m}$
Core/Clad concentricity error	$\leq 0.5\text{ }\mu\text{m}$
Cladding diameter	125.0 ± 0.7
Cladding non-circularity	$\leq 0.5\%$
Primary Coating diameter	$245 \pm 10\text{ }\mu\text{m}$
Proof test level	100 kpsi, 1%
Attenuation with bending Loss(State of optical fiber) 20mm radius, 1 turn 30mm radius, 1 turn	$1550\text{nm} \leq 0.75\text{dB}$ $1625\text{nm} \leq 1.5\text{dB}$ $1550\text{nm} \leq 0.25\text{dB}$ $1625\text{nm} \leq 1.0\text{dB}$

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4 CONSTRUCTION AND SPECIFICATION FOR GJFJH

	FTTX SELF SUPPORTING CABLE	Serial No:	
		Bid No:	

Cross section



Technical data:

Fiber count	12Fiber	48Fiber
Fiber type	G657A1	G657A1
Tension strength (N)	1250N (short term) 650N (Long term)	1250N (short term) 650N (Long term)
Crush resistance (N)	2000N	2000N
Minimum bending radius(mm)	10*D	10*D
Outer sheath diameter (mm)	2.0mm	2.0mm



Steel strength diameter(mm)	1.0mm	1.0mm
Nominal diameter(mm)	6mm	9.7mm
Nominal weight (kg/km)	40kg/km	80kg/km
Standard packaging	2,4,6 or 8km per drum	
Marking of outer sheath	2019-CMW Ltd-COF215 ULTRA LIGHT WEIGHT OH FIBRE CABLE **F OS2 ***M	

5. PERFORMANCE OF OPTICAL FIBER CABLE

- 5.1 Cable bending radius: 10 x cable diameter (during operation)
15 x cable diameter (during installation)

- 5.2 Storage temperature range: -30°C to +70°C
Operating temperature range: -30°C to +70°C
Installation temperature range: -20°C to +50°C

6 TEST REQUIREMENTS

NO	ITEM	TEST METHOD	ACCEPTANCE REQUIREMENTS
1	Tensile Strength IEC60 794-1-E1	- Load:Short 1250N Long 650N - Length of cable under load: 55m - Load time:10 min.	- Loss change ≤ 0.1 dB @1550 nm - No damage to outer jacket and inner elements.
2	Crush Test IEC 60794-1-E3	- Load: 2000N - Plate: 50*50mm - Load time: 5min	- Loss change ≤ 0.1 dB @1550 nm - No damage to outer jacket and inner elements.
3	Impact Test IEC 60794-1-E4	-Radius of impacted surface: 25mm - Impact load: 1N -Falling height: 1000mm - Times:3	- Loss change ≤ 0.1 dB @1550 nm - No damage to outer jacket and inner elements.
4	Repeated Bending IEC 60794-1-E11A	- Mandrel dia. - Angle: $\pm 180^\circ$ - No. of cycle: 20	- Loss change ≤ 0.1 dB @1550 nm - No damage to outer jacket and inner elements.
5	Torsion IEC 60794-1-E7	- Length: 1m - Load: 20N - Twist angle: $\pm 180^\circ$ - No. of cycle: 10	- Loss change ≤ 0.1 dB @1550 nm - No damage to outer jacket and inner elements.



6	Water Penetration IEC 60794-1-F5B	- Height of water: 1m - Sample length: 3 m - Time: 24 hour	- No water shall have leaked from the opposite end of cable
7	Temperature Cycling IEC 60794-1-F1	- Temperature step: +20°C→-20°C→+70°C →+20°C - Time per each step: 12 hrs - Number of cycle: 2	- Loss change ≤ 0.1 dB @1550 nm - No damage to outer jacket and inner elements.

7. Packing and Marking

7.1 Packing

7.1.1 Each single length of cable shall be reeled on **Non-fumigated Wooden Drum** suitable for long-distance shipment.

7.1.2 Covered by plastic buffer sheet.

7.1.3 Sealed by strong wooden battens.

7.1.4 At least 1 m of inside end of cable will be reserved for testing.

7.1.5 Drum length

7.1.5.1 Standard drum length is **4000m±5%**;

7.1.5.2 Single length not less than 90% of standard length per drum shall be permitted for quantity not exceeding 10% of the total supply;

7.1.5.3 Total quantity is at least the ordered quantity.

7.2. Marking

7.2.1 Cable drum

- Manufacturer brand;
- Roll-direction arrow;
- Cable outer end position indicating arrow;
- The word “**OPTICAL FIBER CABLE**”;
- Origin, The word “**MADE IN CHINA**”;
- Caution plate indicating the correct method for loading, unloading and convey the cable;
- *Other customer information such as contract no., project no., and delivery destination. (if needed)*

7.2.2 Marking plate

- Product name;
- Cable type and size;



Stream

go with the flow

Tech Data

Date: 11 June 2019

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- Drum length;
 - Gross / Net weight in kilograms;
 - Drum number in meters;
 - Manufacturer's name;

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