

DROP FLAT OPTICAL FIBER CABLE (BULK FIBER)

GYFXTY

1. General

- 1.1 This specification covers the requirements for the supply of singlemode optical fiber cables.
- 1.2 The singlemode optical fiber cable complies with the requirements of this specification and generally meets the latest ITU-T Recommendation G.657A1.

2. Fiber Characteristics

2.1 G.657A1

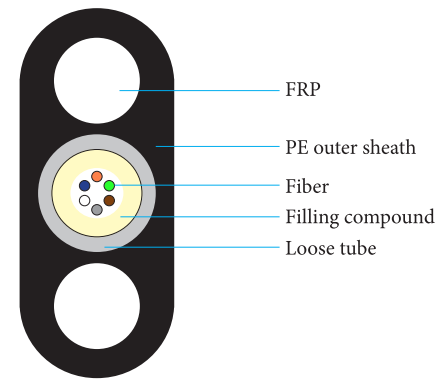
B6 Fiber Characteristics (Finished Optical Cable Test)		
Optics specifications		
Attenuation	@1310nm	≤0.35dB/km
	@1383nm	≤0.34dB/km
	@1490nm	≤0.24dB/km
	@1550nm	≤0.21dB/km
	@1625nm	≤0.24dB/km
Attenuation range	1285nm-1330nm	≤0.04dB/km
	1525nm-1575nm	≤0.03dB/km
Attenuation uniformity		≤0.05dB/km
Point discontinuity	@1310nm	≤0.05dB
	@1550nm	≤0.05dB
Macrobend loss (10mm radius, 1 turn)	@1550nm	≤0.75dB
	@1625nm	≤1.5dB
Macrobend loss (12.5mm radius, 1 turn)	@1550nm	≤0.75dB
	@1625nm	≤1.5dB
Macrobend loss (15mm radius, 10 turns)	@1550nm	≤0.25dB
	@1625nm	≤1.0dB
Rayleigh backscattering coefficients	@1310nm	-80dB
	@1550nm	-82dB
Fiber cutoff wavelength λ_{cc} (nm)		1150nm ≤ λ_{cc} ≤ 1330nm
Cable cutoff wavelength λ_{cc} (nm)		≤1260nm
Mode field diameter (MFD) @1310nm		8.6±0.4μm
Mode field diameter (MFD) @1550nm		9.8±0.4μm
Dispersion	@1285nm~1340nm	≤-3.5ps/(nm·km) ≤-3.5ps/(nm·km)
	@1550nm	≤18ps/(nm·km)
	@1625nm	≤22ps/(nm·km)
Zero-Dispersion slope		≤0.092ps/(nm²·km)
Typical Zero Dispersion Slope		0.086pd/(nm²·km)
Zero-Dispersion Wavelength		1300nm~1324nm

PMD	Max. Individual Fiber	0.14ps/km ^{1/2}
	Link Design 20 Sections	0.08ps/km ^{1/2}
Effective group index (Neff) @1310nm		1.4680
Effective group index (Neff) @1550nm		1.4686
Geometrical Characteristics		
Core Diameter		7.8μm
Cladding diameter		125±0.7μm
Cladding non-circularity		≤0.5%
Core/cladding concentricity error		≤0.5μm
Overall Coating Diameter		245±10μm
Cladding/coating concentricity error		≤12.0μm
Standard Length		2.1-50.4km
Maximum Length		50.4km
Fiber Curl-ROC		>4.0m
Mechanical Characteristics		
Proof Test Stress		>9.0N
Proof Test		0.69GPa
Proof Test		100kpsi
Dynamic Stress Corrosion Susceptibility Parameter		≥20
Coating Strip Force	Dry	3N
	Wet, 14 days room temp.	3N
	Typical	1.5N
Environmental Characteristics (@ 1310nm & 1550nm & 1625nm)		
Temperature induced attenuation (-60~+85°C)		≤0.05dB/km
Temp. Humidity Cycle (-10~+85, up to 98% RH)		≤0.05dB/km
Dry heat induced attenuation (85°C±2°C, 30 days)		≤0.05dB/km
Water immersion induced attenuation (23°C±2°C, 30 days)		≤0.05dB/km
Heat Aging (85°C±2°C)		≤0.05dB/km
Damp heat induced attenuation (85°C±2°C, RH85%, 30 days)		≤0.05dB/km

3. Optical Fiber Cable

3.1 GYFXTY

3.1.1 Cross section



3.1.2 Cable Dimensions

Fiber Count	Max. Fibers in one tube	Fiber thickness* mm	Overall diameter mm	Weight kg/km
6	6	1.0	4.3x9.4	45

3.2 Fiber & Loose Tube Color Codes

POSITION	FIBER COLOR
1	Blue
2	Orange
3	Green
4	Brown
5	Slate Gray
6	White

POSITION	LOOSE TUBE COLOR
1	White

3.3 Performance

NO.	ITEM	TEST METHOD	SPECIFICATIONS
1	Tensile performance IEC60794-1-21-E1	Load: 1000N Time: 1 minute	Loss change $\leq 0.10\text{dB}$ @1550nm Fiber strain $\leq 0.60\%$ No Fiber break No sheath damage
2	Crush test IEC60794-1-21-E3	Load: 1000N/100nm Time: 1 minute Length: 100nm	No fiber break No sheath damage
3	Impact test IEC60794-1-21-E4	Impact height: 1m Impact weight: 250g Number of impacts: 5 Impact rate: 3 sec/cycle	No fiber break No sheath damage
4	Repeated bending IEC60794-1-21-E6	Bending radius: $25 \times D^*$ Load: 250N Flexing rate: 3 sec/cycle No. of cycles: ≥ 30	No Fiber break No sheath damage
5	Water Penetration IEC60794-1-22-F5B	Height of water: 1m Sample length: 3m Time: 24hr	No drip through the cable core assembly
6	Twist/Torsion IEC60794-1-21-E7	Length: 1m Load: 250N Twist rate: 6 sec/cycle Twist angle: $\pm 180^\circ$ No. of cycles: 10	No fiber break No sheath damage
7	Temperature Cycling IEC60794-1-22-F1	Temperature step: $+20^\circ\text{C} - -20^\circ\text{C} - +60^\circ\text{C} - +20^\circ\text{C}$	Max. Loss change: $\leq 0.15\text{dB/km}$ @1550nm No fiber break No sheath damage

*D = Cable diameter

4. Sheath Marking

