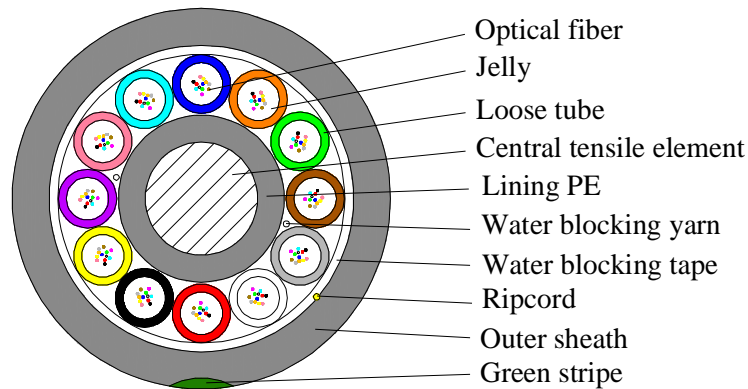


Air Blowing Micro Optical Fiber Cable (GYCFY-144F)



1. Cable Construction and Parameter

Items		Descriptions
Optical fiber		144F
Loose tube	Fibers per tube	12
	Numbers	12
Filler	Numbers	0
Central strength member	Material	FRP coated PE
Water blocking material		Water blocking yarn & tape
Ripcord	Numbers	1
	Breaking load	150N
Outer jacket	Material	Black HDPE with one green stripe (Approx.3.2mm)
Cable nominal diameter ($\pm 0.3\text{mm}$)		9.5mm
Cable approx. weight (kg/km)		75 kg/km
Max. tensile strength	Short time	500N
Max. crush resistance	Short time	800N/100mm
Minimum Bending radius	Dynamic	20 times of cable diameter
	Static	15 times of cable diameter
Temperature range	Installation	$-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$
	Storage	$-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$
	Operation	$-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$

2. Fiber and Loose Tube Color Identification

The individual fiber and loose tubes shall accordance with standard TIA/EIA-598-A and the color code as below.

Fiber Colors per tube

NO.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Violet	Pink	Aqua

Tube Colors

NO.	1	2	3	4	5	6	7	8	9	10	11	12
144F	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Violet	Pink	Aqua

3. Optical Fiber Characteristics

The optical, geometrical, mechanical and environment characteristics of the ITU-T G.652.D optical fiber shall be accordance with below table:

Characteristics		Specified Values	Units
Optical Characteristics			
Mode field diameter	at 1310nm	9.1±0.5	μm
	at 1550nm	10.3 ± 0.7	μm
Attenuation coefficient	at 1310nm	≤0.35	dB/km
	at 1550nm	≤0.22	dB/km
Attenuation non-uniformity		≤0.05	dB
Zero dispersion wavelength (λ_0)		1300 ~ 1324	nm
Max zero dispersion slope (S_{0max})		≤0.092	ps/(nm ² ·km)
Polarization mode dispersion coefficient(PMD)		≤0.2	ps / \sqrt{km}
Cut-off wavelength (λ_{cc})		≤1260	nm
Dispersion coefficient	1288~1340nm	≤3.5	ps/(nm·km)
	1550nm	≤18	ps/(nm·km)
Geometric characteristic			
Cladding diameter		125.0±0.7	μm
Cladding non-circularity		≤0.8	%
Coating diameter		245.0±10.0	μm
Coating-cladding concentricity error		≤12.0	μm
Coating non-circularity		≤6.0	%
Core-cladding concentricity error		≤0.6	μm
Mechanical characteristic			
Curling		≥4	m
Proof stress		≥0.69	GPa
Coating strip force	Average value	1.0-5.0	N
	Peak value	1.3-8.9	N
Macro bending loss	Φ60mm, 100 circles, at 1550nm	≤0.05	dB
	Φ32mm, 1 circles, at 1550nm	≤0.05	dB

4.Mechanical and Environmental Test.

Item	Details
Tensile loading test	Test Method: Accordance with IEC60794-1-21-E1 Tensile force : 500N Length: 50-100m Holding time : 1 minutes Diameter of mandrel: 30 x cable diameter Test result: After test additional attenuation ≤ 0.1 dB at 1550nm. After test the fiber and cable no damage and no obvious change in attenuation
Crush / Compression test	Test Method: Accordance with IEC 60794-1-21-E3A Test Length: 100 mm Load: 800 N Holding time: 1 minutes Test result: After test additional attenuation ≤ 0.1 dB at 1550nm. After test no sheath cracking and no fiber breakage.
Impact resistance test	Test Method: Accordance with IEC 60794-1-21-E4 Impact energy : According to Table 1 of EIA/TIA-455-25C Energy:1J Number of impcats :3 Striking surface radius:300mm Test result: After test additional attenuation ≤ 0.1 dB at 1550nm. After test no sheath cracking and no fiber breakage.
Flexing / Repeated Bending test	Test Method: Accordance with IEC 60794-1-21- E8/E6 load :50N Bending diameter : 40 x diameter of cable Impact rate : ≤ 2 sec / cycle Number of cycles : 25 Test result: After test no sheath cracking and no fiber breakage.

Twisted/ Torsion test	Test Method: Accordance with IEC 60794-1-21-E7 Sample length : 2 m Number of turn : ± 180 degrees Mass of the weight : 5.0 kg Number of cycles : 10 Test result: After test no sheath cracking and no fiber breakage.
Kink	Test Method: Accordance with IEC 60794-1-21-E10 Minimum diameter : 40 x diameter of cable Test result: After test no sheath cracking and no fiber breakage.
Temperature cycling test	Test Method: Accordance with IEC 60794-1-22-F1 Variation of temperature : -20°C to $+60^{\circ}\text{C}$ Number of cycles : 2 Holding time per each step : 12 hours Test result: Additional attenuation ≤ 0.1 dB/km at 1550nm.
Water penetration test	Test Method: Accordance with IEC 60794-1-22-F5B Sample length: 3 m Water height : 1 m Holding time : 24 hours No water leak from end of cable.

5. Cable Marking

Unless otherwise required the sheath will be use inkjet marked at intervals of 1m, containing:

- Customer name
- Manufacture's name
- Date of manufacture
- Type and number of fiber cores
- Length marking
- Other requirements

6.Environmentally

Full comply with **ISO14001, RoHS and OHSAS18001**

7.Cable Packing

The cable shall be installed on hard plywood, wooden or steel-wooden drum with order length per drum. The both ends shall be fitted with a suitable cap to prevent ingress of moisture.