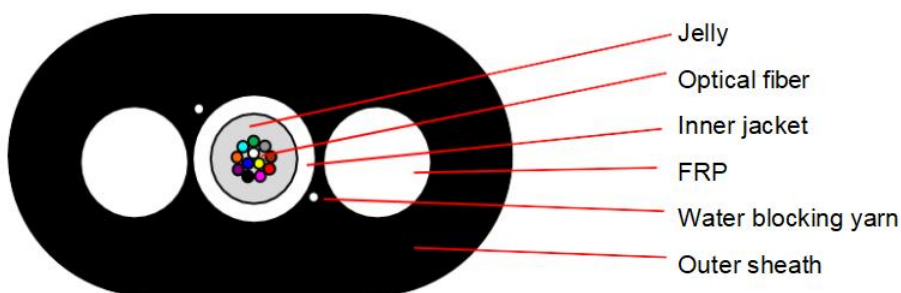


GYFXBY

All dielectric non-metallic flat self-supporting single tube optical cable

Cable cross-section:



Cable Specification

1 Introduction

Flat optical cable uses several fibers as optical communication medium. Widely used in Metro ODN network especially inside buildings which have multi-floors and room and two parallel fiber reinforced plastics (FRP) are its strength member. The cable is completed with a PE jacket.

2 Fiber color code

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

3 Optical fiber type and properties

			Specification
			G. 652D
Mode field diameter	1310nm	μm	9.2 ± 0.4
	1550nm	μm	10.4 ± 0.5
Cladding diameter		μm	124.3~125.0
Cladding non-circularity		%	≤1.0
Core concentricity error		μm	≤0.5
Coating diameter		μm	245 ± 5
Coating/cladding concentricity error		μm	≤10

Cable cut-off wavelength		nm	≤ 1260
Attenuation Coefficient	1310nm	dB/km	≤0.35
	1550nm	dB/km	≤0.21
Proof stress level		kpsi	100

Other parameters meet standard ITU-T G.652

Item		Unit	Specification
			G. 657A1
Mode field diameter	1310nm	μm	9.2 ± 0.4
	1550nm	μm	10.4 ± 0.5
Cladding diameter		μm	124.3~125.0
Cladding non-circularity		%	≤1.0
Core concentricity error		μm	≤0.5
Coating diameter		μm	245 ± 5
Coating/cladding concentricity error		μm	≤10
Cable cut-off wavelength		nm	≤ 1260
Attenuation Coefficient	1310nm	dB/km	≤0.35
	1550nm	dB/km	≤0.21
Macro-bend loss (1 turn, 10mm radius)	1550nm	dB	≤0.75
	1625nm	dB	≤1.5
Proof stress level		kpsi	100

Other parameters meet standard ITU-T G.657

4 Cable structure and parameter

Item	Contents	Unit	Value
Optical Fiber	/	/	4-12
Strength member	Material	/	FRP (*2)
	Diameter	mm	1.6
Inner jacket	Diameter	mm	3.0±0.1
	Material	/	PBT
	Filler	/	Jelly
	Color	/	Natural
Outer jacket	Diameter	mm	8.1(±0.4)×4.5 (±0.3)
	Material	/	PE
	Color	/	Black
Tensile performance	Short term	N	1350
	Long term	N	400
Crush	Short term	N/100mm	2000
	Long term	N/100mm	1000
Cable attenuation		dB/km	SM: ≤ 0.4 at 1310nm, ≤ 0.3 at 1550nm
Cable weight (Approx.)		kg/km	38

Characteristic of Optical Cable

1 Min. bending radius

Static: 20 x Cable height

Dynamic: 40 x Cable height

2 Application temperature range

Operation: -40°C ~ +70°C

Installation: -30°C ~ +70°C

Storage/transportation: -40°C ~ +70°C

3 Main mechanical & environmental performance test

Item	Test Method	Acceptance Condition
Tensile Strength IEC 60794-1-2-E1	- Load: Short term tension - Length of cable: ≥ 50m - Load time: 5min	- Fiber strain ≤ 0.6% - Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
	- Load: Long term tension - Length of cable: ≥ 50m - Load time: 5min	- Fiber strain ≤ 0.2% - Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Crush Test IEC 60794-1-2-E3	- Load: Short term crush - Load time: 1min	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
	- Load: Long term crush - Load time: 10min	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Impact Test IEC 60794-1-2-E4	- Points of impact: 3 - Times of per point: 1 - Impact energy: 1J	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Repeated Bending IEC 60794-1-2-E6	- Bending radius: 20 x OD - No. of cycle: 100 - Load: 20N	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Torsion IEC 60794-1-2-E7	- Length: 1m - Twist angle: ±180° - No. of cycle: 10 - Load: 20N	- Loss change ≤ 0.1dB@1550nm after test. - No fiber break and no sheath damage.
Kink IEC 60794-1-2-E10	- Loop diameter: 20 x OD	- No kink occurs.
Temperature Cycling IEC 60794-1-2-F1	- Temperature: -40°C~+70°C - Time of each step: 8h - Number of cycle: 2	- Loss change ≤ 0.5dB@1550nm. - No fiber break and no sheath damage.
Water penetration	-Time: 24h -H: 1m -L: < 3m	-No water leakage

Packing

Optional 2Km 3Km 4Km 5Km