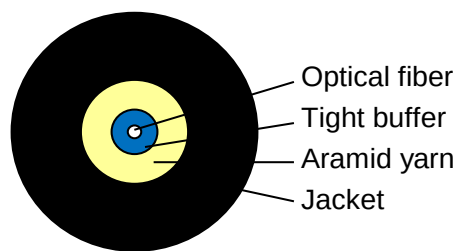


GJFJH



2. Cable Specification

2.1 Introduction

Simplex cable use single tight buffer fiber as optical communication medium, the tight buffer fiber wrapped with a layer of aramid yarn as strength member units, and the cable is completed with LSZH jacket.

2.2 Fiber color code

No.	1
Color	Natural

2.3 Tight buffer color code

No.	1
Color	Blue

2.4 Optical fiber type and properties

Item		Unit	Specification
			G. 657B3
Mode field diameter	1310nm	μm	8.6 ± 0.4
	1550nm	μm	9.6 ± 0.5
Cladding diameter		μm	124.3~125.0
Cladding non-circularity		%	≤0.8
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,5mm radius)	1550nm	dB	≤0.15
	1625nm	dB	≤0.45
Proof stress level		kpsi	100

Other parameters meet standard ITU-T G.657

2.5 Cable structure and parameter

Item	Contents	Unit	Value				
Document Type	Spec. No.		Approved by	Prepared by	Date	Rev	Page
Tech. Specification				Shencx	2023-09-25	1.0	1 / 3

Tight buffer fiber	Diameter	mm	0.9±0.05	
	Material	/	LSZH	
Strength member	Material	/	Water blocking aramid yarn	
Outer jacket	Diameter	mm	3.0±0.1	4.8±0.2
	Material	/	LSZH (OFNR material)	
	Color	/	Black	
Tensile performance	Short term	N	220	440
	Long term	N	66	130
Crush	Short term	N/100mm	350	
	Long term	N/100mm	100	
Cable attenuation		dB/km	≦ 0.4 at 1310nm, ≦ 0.3 at 1550nm	
Cable weight (Approx.)		kg/km	10	25

3. Characteristic of Optical Cable

3.1 Min. bending radius

Static: 10 x cable diameter

Dynamic: 20 x cable diameter

3.2 Application temperature range

Operation: - 40℃ ~ +70℃

Installation: 0℃ ~ +40℃

Storage/transportation: - 40℃ ~ +70℃

3.3 Main mechanical & environmental performance test

Item	Test Method	Acceptance Condition
Tensile Strength IEC 60794-1-21-E1	- Load: Short term tension - Length of cable: ≥ 50m - Load time: 5min	- 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	- No change attention after test. - No fiber break and no sheath damage.
Crush Test IEC 60794-1-21-E3A	- Load: Short term crush - Load time: 1min	- Loss change ≤ 0.1dB@1550nm during 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 60794-1-21-E4	- Radius of striking surface: 12.5 mm - Points of impact: 3 - Impact energy: 1J	- No fiber break and no sheath damage.
Repeated Bending IEC 60794-1-21-E6	- Bending radius: 20 x OD - No. of cycle: 100 - Load: 20N	- No fiber break and no sheath damage.
Torsion IEC 60794-1-21-E7	- Length: 1m - Twist angle: ±180°	- No fiber break and no sheath damage.

Document Type	Spec. No.
Tech. Specification	

Approved by	Prepared by	Date	Rev	Page
	Shencx	2023-09-25	1.0	2 / 3

	- No. of cycle: 10 - Load: 20N	
Kink IEC 60794-1-21-E10	- Loop diameter:20 x OD	- No kink occurs.
Cable bend IEC 60794-1-21-E11A	- Diameter of mandrel:20 x OD - Number of turns: 6 - Number of cycles: 10	- No fiber break and no sheath damage.
Temperature Cycling IEC 60794-1-22-F1	- Temperature: -40℃~+70℃ - Time of each step: 8h - Number of cycle: 2	- Loss change ≤ 0.4 dB@1550nm. - No fiber break and no sheath damage.

Document Type	Spec. No.
Tech. Specification	

Approved by	Prepared by	Date	Rev	Page
	Shencx	2023-09-25	1.0	3 / 3