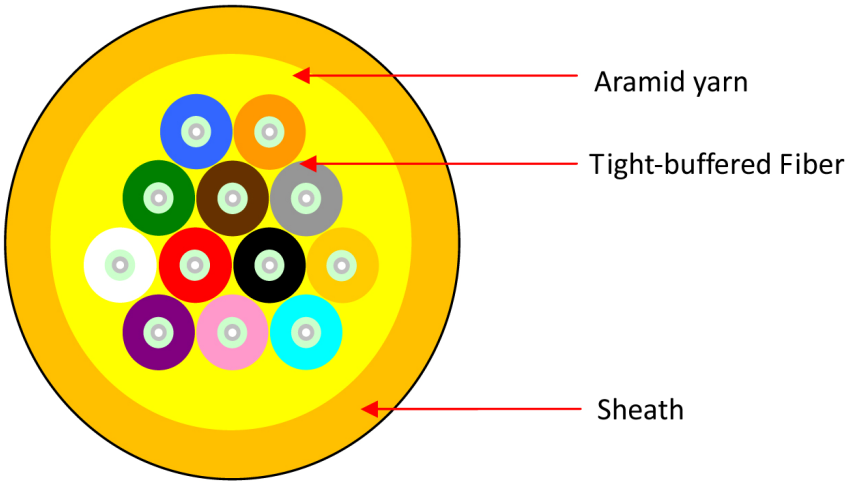
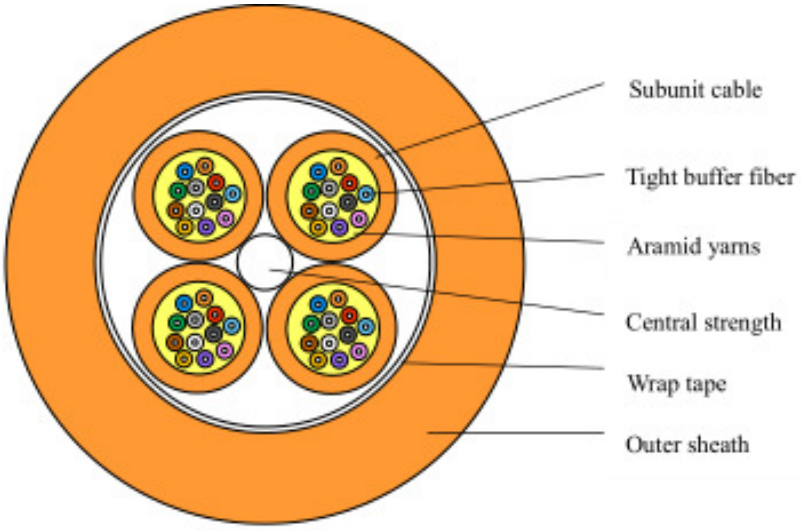
Xlight Indoor Tight Buffer Multi-Fiber Cables
Features





Xlight Indoor Tight Buffer Multi-Fiber Cables
Specifications

Optical Fibers supplied in this specification meet the requirements of Multimode Fibres and Singlemode Fibers.

Parameters		Specification			
		OM1	OM2	OM3	OM4
		62.5/125μm	50/125μm	50/125μm	50/125μm
Attenuation (after cable)	850 nm	≤ 3.5 dB/km	≤ 3.0 dB/km	≤ 3.0 dB/km	≤ 3.0 dB/km
	1300 nm	≤ 1.0 dB/km	≤ 1.0 dB/km	≤ 1.0 dB/km	≤ 1.0 dB/km
Modal Bandwidth (after cable)	850 nm	≥200 MHz.km	≥500 MHz.km	≥1500 MHz.km	≥3500 MHz.km
	1300 nm	≥600 MHz.km	≥500 MHz.km	≥500 MHz.km	≥500 MHz.km

Parameters		Specification			
		G.652D	G.657A1	G.657A2	G.657B3
Attenuation (after cable)	1310 nm	≤ 0.4 dB/km	≤ 0.4 dB/km	≤ 0.4 dB/km	≤ 0.4 dB/km
	1550 nm	≤ 0.3 dB/km	≤ 0.3 dB/km	≤ 0.3 dB/km	≤ 0.3 dB/km

Xlight Indoor Tight Buffer Multi-Fiber Cables
Specifications

Cable Dimensions and Constructions

Items		Descriptions						
Optical Fiber	Fiber count	2	4	6	8	12	24	48
No. fibers of per unit	/	2	4	6	8	12	24	12
No. of units	/	1						4
Tight buffer fibers	Material	LSZH						
	Diameter	0.85±0.05mm						
Subunit Cable	Material	LSZH						
	Diameter (mm)	/						6.2±0.3
	Strength member	Aramid yarn						
Central Strength Member	Material	FRP & LSZH						
	Diameter	/						2.6mm
Sheath	Material	LSZH						
Diameter of cable (±0.3mm)		4.1	4.8	5.1	5.6	6.2	8.1	14.8
Cable Weight (kg/km) approx		12	17	22	30	35	55	165

Fibre and Loose Tube Identification

The color code of tight buffer fibres and unit color will be identification in accordance with the following color sequence, other sequence also is available.

Tight buffer Color Code	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Grey	White
	7	8	9	10	11	12
	Red	Black	Yellow	Violet	Pink	Aqua

Xlight Indoor Tight Buffer Multi-Fiber Cables
Specifications

Mechanical and Environmental Characteristics

Items	Standard	Descriptions		
Tensile Strength	IEC 60794-1-E1	short-term	660N(≤24F)	1320N (48F)
		long-term	165N(≤24F)	400N (48F)
Crush Resistance	IEC 60794-1-E3	short-term	1000N	
		long-term	300N	
Cable Impact	IEC 60794-1-E4	No obvious change after test		
Repeat Bending	IEC 60794-1-E6			
Torsion	IEC 60794-1-E7			
Operation Temperature	IEC 60794-1-2-F1	-20℃-+60℃		
Storage Temperature	IEC 60794-1-2-F1	-40℃-+65℃		
Installation temperature	IEC 60794-1-2-F1	-10℃～+60℃		
Bending Radius	Static	10×Cable Diameter		
	Dynamic	20×Cable Diameter		

Xlight Indoor Tight Buffer Multi-Fiber Cables
Specifications

Optical Fiber Characteristic

G.652D

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 1310 nm	dB/km	≤ 0.34	≤0.40
	Attenuation at 1383 nm	dB/km	≤ 0.34	≤0.45
	Attenuation at 1550 nm	dB/km	≤ 0.20	≤0.30
	Attenuation at 1625 nm	dB/km	≤ 0.23	≤0.40
	Zero dispersion wavelength	nm	1300~1324	
	Zero dispersion slope	ps/(nm^2·km)	≤ 0.091	
	Cable cut-off wavelength λcc	nm	≤ 1260	
	Mode field diameter (MFD) at 1310 nm	μm	8.7~9.5	
	Mode field diameter (MFD) at 1550 nm	μm	9.9~10.9	
	Group Index of Refraction (Typical) at 1310 nm	/	1.466	
	Group Index of Refraction (Typical) at 1550 nm	/	1.467	
	Macro-bend loss(1 turn, 16mm radius) at 1550nm	dB	≤ 0.05	
	Macro-bend loss(100 turn, 25mm radius) at 1550nm	dB	≤ 0.05	
	Macro-bend loss(100turns, 30mm radius) at 1550nm	dB	≤ 0.05	
Geometrical Characteristics	Cladding diameter	μm	125 ± 1.0	
	Cladding non-circularity	%	≤ 1	
	Coating diameter	μm	245 ± 7	
	Coating/cladding concentricity error	μm	≤ 12.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 0.5	

Xlight Indoor Tight Buffer Multi-Fiber Cables
Specifications

G.657A2

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 1310 nm	dB/km	≤ 0.35	≤0.40
	Attenuation at 1383 nm	dB/km	≤ 0.35	≤0.40
	Attenuation at 1550 nm	dB/km	≤ 0.21	≤0.30
	Attenuation at 1625 nm	dB/km	≤ 0.23	≤0.30
	Zero dispersion wavelength	nm	1300~1324	
	Zero dispersion slope	ps/(nm^2·km)	≤ 0.092	
	Cable cut-off wavelength λcc	nm	≤ 1260	
	Mode field diameter (MFD) at 1310 nm	μm	8.4~9.2	
	Mode field diameter (MFD) at 1550 nm	μm	9.3~10.3	
	Group Index of Refraction (Typical) at 1310 nm	/	1.466	
	Group Index of Refraction (Typical) at 1550 nm	/	1.467	
	Macro-bend loss(1 turn, 7.5mm radius) at 1550nm	dB	≤ 0.2	
	Macro-bend loss(1 turn, 10mm radius) at 1550nm	dB	≤ 0.1	
	Macro-bend loss(10turns, 15mm radius) at 1550nm	dB	≤ 0.03	
Geometrical Characteristics	Cladding diameter	μm	125 ± 0.7	
	Cladding non-circularity	%	≤ 0.7	
	Coating diameter	μm	245 ± 5	
	Coating/cladding concentricity error	μm	≤ 12.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 0.5	

Xlight Indoor Tight Buffer Multi-Fiber Cables
Specifications

G.657B3

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 1310 nm	dB/km	≤ 0.35	≤0.40
	Attenuation at 1383 nm	dB/km	≤ 0.35	≤0.40
	Attenuation at 1550 nm	dB/km	≤ 0.21	≤0.30
	Attenuation at 1625 nm	dB/km	≤ 0.23	≤0.30
	Zero dispersion wavelength	nm	1300~1324	
	Zero dispersion slope	ps/(nm^2·km)	≤ 0.092	
	Cable cut-off wavelength λcc	nm	≤ 1260	
	Mode field diameter (MFD) at 1310 nm	μm	8.4~9.3	
	Mode field diameter (MFD) at 1550 nm	μm	9.3~10.3	
	Group Index of Refraction (Typical) at 1310 nm	/	1.466	
	Group Index of Refraction (Typical) at 1550 nm	/	1.467	
	Macro-bend loss(1 turn, 5mm radius) at 1550nm	dB	≤ 0.15	
	Macro-bend loss(1 turn, 7.5mm radius) at 1550nm	dB	≤ 0.08	
	Macro-bend loss(1 turn, 10mm radius) at 1550nm	dB	≤ 0.03	
Geometrical Characteristics	Cladding diameter	μm	125 ± 0.7	
	Cladding non-circularity	%	≤ 0.7	
	Coating diameter	μm	245 ± 5	
	Coating/cladding concentricity error	μm	≤ 12.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 0.5	

Xlight Indoor Tight Buffer Multi-Fiber Cables
Specifications

OM3

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 850 nm	dB/km	≤ 2.3	≤3.5
	Attenuation at 1300 nm	dB/km	≤ 0.6	≤ 1.5
	Zero dispersion wavelength	nm	1295～1340	
	Zero dispersion slope at 1295nm~1310nm	/	≤ 0.105	
	Zero dispersion slope at 1300nm~1320nm	/	≤ 0.000375 (1590·λo)	
	Group Index of Refraction (Typical) at 850 nm	/	1.482	
	Group Index of Refraction (Typical) at 1300 nm	/	1.477	
	Numerical Aperture	/	0.200 ± 0.015 NA	
	Overfilled Bandwidth at 850 nm	MHz·km	≥ 1500	
	Overfilled Bandwidth at 1300 nm	MHz·km	≥ 500	
	Effective Modal Bandwidth at 850 nm	MHz·km	≥ 2000	
	Macro-bend loss(100turns, 30mm radius) at 850nm	dB	≤ 0.5	
	Macro-bend loss(100turns, 30mm radius) at 1300nm	dB	≤ 0.5	
Geometrical Characteristics	Core diameter	μm	50 ± 2.5	
	Cladding diameter	μm	125.0 ± 1.0	
	Core non-circularity	%	≤ 5.0	
	Cladding non-circularity	%	≤ 1.0	
	Coating diameter	μm	245 ± 7	
	Coating/cladding concentricity error	μm	≤ 10.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 1.0	

Xlight Indoor Tight Buffer Multi-Fiber Cables
Specifications

OM4

Category	Items	Unit	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 850 nm	dB/km	≤ 2.3	≤3.5
	Attenuation at 1300 nm	dB/km	≤ 0.6	≤ 1.5
	Zero dispersion wavelength	nm	1295～1340	
	Zero dispersion slope at 1295nm~1310nm	/	≤ 0.105	
	Zero dispersion slope at 1300nm~1320nm	/	≤ 0.000375 (1590·λo)	
	Group Index of Refraction (Typical) at 850 nm	/	1.482	
	Group Index of Refraction (Typical) at 1300 nm	/	1.477	
	Numerical Aperture	/	0.200 ± 0.015 NA	
	Overfilled Bandwidth at 850 nm	MHz·km	≥ 3500	
	Overfilled Bandwidth at 1300 nm	MHz·km	≥ 500	
	Effective Modal Bandwidth at 850 nm	MHz·km	≥ 4700	
	Macro-bend loss(100turns, 30mm radius) at 850nm	dB	≤ 0.5	
	Macro-bend loss(100turns, 30mm radius) at 1300nm	dB	≤ 0.5	
Geometrical Characteristics	Core diameter	μm	50 ± 2.5	
	Cladding diameter	μm	125.0 ± 1.0	
	Core non-circularity	%	≤ 5.0	
	Cladding non-circularity	%	≤ 1.0	
	Coating diameter	μm	245 ± 7	
	Coating/cladding concentricity error	μm	≤ 10.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 1.0	

Xlight Indoor Tight Buffer Multi-Fiber Cables
Specifications

Reference Standard

IEC60794-2-20/21
IEC11801
ITU-T G.652D; G.657A1; G.657A2; G.657B3
EIA/TIA
RoHS Compliant, UL 1666

Packing
Wooden Drums Protection

Marking

Cable Marker every Meter by:

- Project name or Project owner
- Year of manufacture
- Type of Cable
- Number of fiber
- Cable length
- Etc

Delivery Length

Standard delivery length is 1km/drum, other lengths available on request.

Xlight Indoor Tight Buffer Multi-Fiber Cables

Ordering Information

Part Number
R290FXX0

F - Fiber Type
0 - SM, G.652D
1 - SM, G.657A2
3 - MM, OM3
4 - MM, OM4
9 - SM, G.657B3

XX- Number of Fibers
02
04
06
08
12
24
48