



## 1.2. TECHNICAL SPECIFICATION

Fiber count		2~30	32~36	38~60	62~72	74~84
Loose Tube	OD(mm):	1.8 <sup>±0.1</sup>	1.8 <sup>±0.1</sup>	2.0 <sup>±0.1</sup>	2.0 <sup>±0.1</sup>	2.0 <sup>±0.1</sup>
	Material:	PBT				
Max fiber count/tube		6	6	12	12	12
Core unit		6	6	6	6	7
FRP/Coating (mm)		1.8	1.8	2.0	2.0	2.0/2.7
Water Block Material:		Water blocking Compound				
Armored		Aluminum tape				
Sheath	Thickness:	Non. 1.5mm				
	Material:	PE				
OD of cable (mm)		9.4	9.4	10.0	10.0	10.7
Net weight (kg/km)		78	76	84	83	95
Fiber count		86~96	98~108	110~120	122~132	134~144
Loose Tube	OD(mm):	2.0 <sup>±0.1</sup>	2.0 <sup>±0.1</sup>	2.0 <sup>±0.1</sup>	2.0 <sup>±0.1</sup>	2.0 <sup>±0.1</sup>
	Material:	PBT				
Max fiber count/tube		12	12	12	12	12
Core unit		8	9	10	11	12
Steel/Coating (mm)		2.5/3.4	2.5/3.4	3.0/4.7	3.0/5.3	3.0/6.0
Water Block Material:		Water blocking Compound				
Armored		Aluminum tape				
Sheath	Thickness:	Non. 1.5mm				
	Material:	PE				
OD of cable (mm)		11.6	12.2	12.9	13.5	14.2
Net weight (kg/km)		109	120	136	147	162

## FIBER AND LOOSE BUFFER TUBE IDENTIFICATION

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

### Single Mode Fiber

LTEMS	UNITS	SPECIFICATION	
Fiber type		G652D	G657A
Attenuation	dB/km	1310nm ≤ 0.36 1550nm ≤ 0.22	
Chromatic Dispersion	ps/nm.km	1310nm ≤ 3.5 1550nm ≤ 18 1625nm ≤ 22	
Zero Dispersion Slope	ps/nm <sup>2</sup> .km	≤ 0.092	
Zero Dispersion Wavelength	nm	1300 ~ 1324	
Cut-off Wavelength (λ <sub>cc</sub> )	nm	≤ 1260	
Attenuation vs. Bending (60mm x100turns)	dB	(30mm radius, 100ring) ≤ 0.1 @ 1625nm	(10mm radius, 1ring) ≤ 1.5 @ 1625nm
Mode Field Diameter	μm	9.2 ± 0.4 at 1310nm	9.2 ± 0.4 at 1310nm
Core-Clad Concentricity	μm	≤ 0.5	≤ 0.5
Cladding Diameter	μm	125 ± 1	125 ± 1
Cladding Non-circularity	%	≤ 0.8	≤ 0.8
Coating Diameter	μm	245 ± 5	245 ± 5
Proof Test	Gpa	≥ 0.69	≥ 0.69

### Multi Mode Fiber

LTEMS	UNITS	SPECIFICATION					
		62.5/125	50/125	OM3-150	OM3-300	OM4-550	
Fiber Core Diameter	μm	62.5 ± 2.5	50.0 ± 2.5	50.0 ± 2.5			
Fiber Core Non-circularity	%	≤ 6.0	≤ 6.0	≤ 6.0			
Cladding Diameter	μm	125.0 ± 1.0	125.0 ± 1.0	125.0 ± 1.0			
Cladding Non-circularity	%	≤ 2.0	≤ 2.0	≤ 2.0			
Coating Diameter	μm	245 ± 10	245 ± 10	245 ± 10			
C0at-Clad Concentricity	μm	≤ 12.0	≤ 12.0	≤ 12.0			
Coating Non-circularity	%	≤ 8.0	≤ 8.0	≤ 8.0			
Core-Clad Concentricity	μm	≤ 1.5	≤ 1.5	≤ 1.5			
Attenuation	850nm	dB/km	3.0	3.0	3.0		
	1300nm	dB/km	1.5	1.5	1.5		
OFL	850nm	MHz · km	≥ 160	≥ 200	≥ 700	≥ 1500	≥ 3500
	1300nm	MHz · km	≥ 300	≥ 400	≥ 500	≥ 500	≥ 500
The biggest theory numerical aperture	/	0.275 ± 0.015	0.200 ± 0.015	0.200 ± 0.015			

## Mechanical and Environmental Performance of the Cable

NO.	ITEMS	TEST METHOD	ACCEPTANCE CRITERIA
1	Tensile Loading Test	#Test method: IEC 60794-1-E1 -. Long-tensile load: 600N -. Short-tensile load: 1500N -. Cable length: ≥ 50m	-. Attenuation increment @ 1550nm: ≤ 0.1dB -. No jacket cracking and fiber breakage
2	Crush Resistance Test	#Test method: IEC 60794-1-E3 -. Long load: 300 N/100mm -. Short load: 1000 N/100mm Load time: 1 minutes	-. Attenuation increment @ 1550nm: ≤ 0.1dB -. No jacket cracking and fiber breakage
3	Impact Resistance Test	#Test method: IEC 60794-1-E4 -. Impact height: 1 m -. Impact weigh: 450 g	-. Attenuation increment @ 1550nm: ≤ 0.1dB -. No jacket cracking and fiber breakage
		-. Impact point: ≥ 5 -. Impact frequency: ≥ 3/point	
4	Repeated Bending	#Test method: IEC 60794-1-E6 -. Mandrel diameter: 20D (D = cable diameter) -. Subject weight: 15kg -. Bending frequency: 30 times -. Bending speed: 2s/time	-. Attenuation increment @ 1550nm: ≤ 0.1dB -. No jacket cracking and fiber breakage
5	Torsion Test	#Test method: IEC 60794-1-E7 -. Length: 1m -. Subject weight: 25kg -. Angle: ± 180 degree -. Frequency: ≥ 10/point	-. Attenuation increment @ 1550nm: ≤ 0.1dB -. No jacket cracking and fiber breakage
6	Water Penetration Test	#Test method: IEC 60794-1-F5B -. Height of pressure head: 1m -. Length of specimen: 3m -. Test time: 24 hours	-. No leakage through the open cable end
7	Temperature Cycling Test	#Test method: IEC 60794-1-F1 -. Temperature steps: +20°C, -40°C, +70°C, +20°C -. Testing Time: 24 hours/step -. Cycle index: 2	-. Attenuation increment @ 1550nm: ≤ 0.1dB -. No jacket cracking and fiber breakage
8	Drop Performance	#Test method: IEC 60794-1-E14 -. Testing length: 30cm -. Temperature range: 70 ± 2°C -. Testing Time: 24 hours	-. No filling compound drop out
9	Temperature		Operating: -40°C ~ +60°C Store/Transport: -50°C ~ +70°C Installation: -20°C ~ +60°C