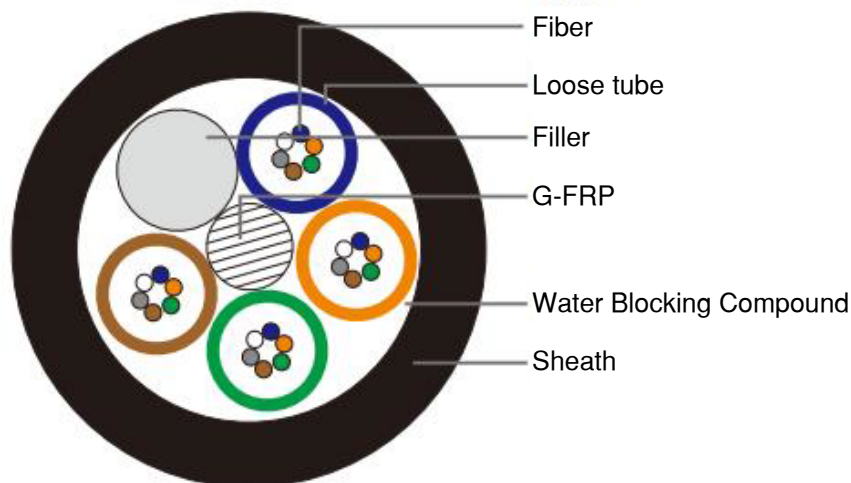


Cable Construction

Cross Section Diagram



Technical Specification

Fiber count		2~30	32~36	38~60	62~72	74~84
Loose Tube	OD(mm):	1.7 ^{±0.1}	1.7 ^{±0.1}	1.9 ^{±0.1}	1.9 ^{±0.1}	1.9 ^{±0.1}
	Material:	PBT				
FRP/Coating (mm)		1.8 ^{±0.1}	1.8 ^{±0.1}	2.0 ^{±0.1}	2.0 ^{±0.1}	2.5 ^{±0.1}
Water Blocking Material		Gel Jelly				
Sheath	Thickness:	1.8 ^{±0.1}				
	Material:	PE				
OD of cable (mm)		8.8 ^{±0.2}	8.8 ^{±0.2}	9.4 ^{±0.2}	9.4 ^{±0.2}	9.9 ^{±0.2}
Net Weight (kg/km)		69 ^{±3}	69 ^{±3}	74 ^{±3}	74 ^{±3}	82 ^{±3}
Fiber count		86~96	98~108	110~120	122~132	134~144
Loose Tube	OD(mm):	2.5/3.1 ^{±0.1}	2.5/3.7 ^{±0.1}	3.0/4.2 ^{±0.1}	3.0/4.8 ^{±0.1}	3.0/5.4 ^{±0.1}
	Material:	PBT				
FRP/Coating (mm)		1.8 ^{±0.1}	1.8 ^{±0.1}	2.0 ^{±0.1}	2.0 ^{±0.1}	2.5 ^{±0.1}
Water Blocking Material		Gel Jelly				
Sheath	Thickness:	1.8 ^{±0.1}				
	Material:	PE				
OD of cable (mm)		10.5 ^{±0.2}	11.1 ^{±0.2}	11.6 ^{±0.2}	12.2 ^{±0.2}	12.8 ^{±0.2}
Net Weight (kg/km)		92 ^{±3}	101 ^{±3}	115 ^{±3}	125 ^{±3}	137 ^{±3}

Fiber and loose tube identification

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

Optical Fiber

Single mode fiber

ITEMS	UNITS	SPECIFICATION	
		G652D	G657A
Fiber Type		G652D	G657A
Attenuation	dB/km	1310nm ≤ 0.36 1550nm ≤ 0.22	
Chromatic Dispersion	ps/nm ² .km	1310nm ≤ 3.5 1550nm ≤ 18 1625nm ≤ 22	
Zero Dispersion Slope	ps/nm ² .km	≤ 0.092	
Zero Dispersion Wavelength	nm	1300~1324	
Cut-off Wavelength(λ _{cc})	nm	≤ 1260	
Attenuation vs. Bending (60mm x 100turns)	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

ITEMS	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			
Coat-Clad Concentricity	μm	≤12.0	≤12.0	≤12.0			
Fiber Core Diameter	%	≤ 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: 300N/100mm -. Short load: 1000N/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: 1m -. Imapct weigh: 450g -. Impact point: ≥ 5 -. Impact frequency: ≥3/point	-.Attenuation increment@1550nm: ≤0.1dB -.No jacket cracking and fiber breakage
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: ≤ 0.1 dB -.No jacket cracking and fiber breakage
6	Water Penetration Test	#Test method:IEC 60794-1-F58 -. 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: ≤ 0.1 dB -.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	

Fiber optic cable bending radius

Static bending: ≥ 10 times than cable out diameter.

Dynamic bending: ≥ 20 times than cable out diameter.

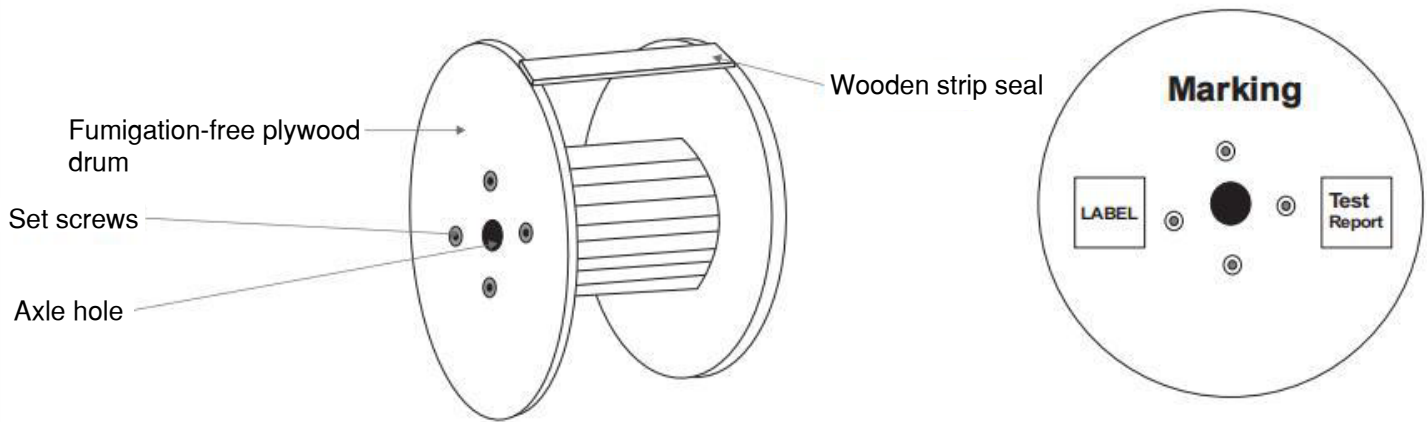
Mark and Package

Cable Mark

- Manufacturing year, fiber count, fiber type, sheath material, meter mark for without especial request.
- Customized printing by order request.

Drum Mark

- Drum size according to the length of cable packed.
- Logo will be print on both side of drum, size will be according to customer request.
- Label including manufacturing date, item numer, length, description of cable, drum number. Format and information available be customized.



Package

- Packing length, 3k m/plywood reel, the other packed available.
- Packing material, cable on drum wrapped by protective foil, plywood reel as usual package, metal reel available but shall be noted individually if required specially.