

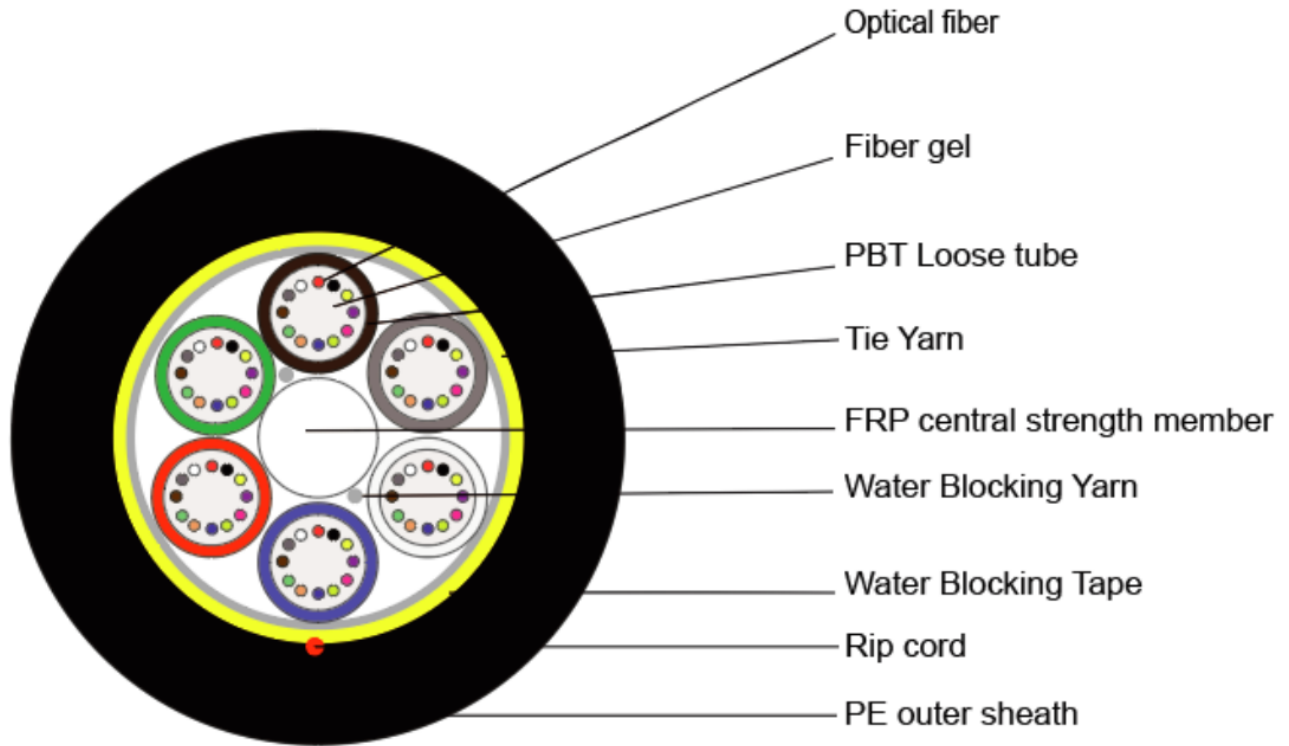
TECHNICAL DATA SHEET

for

Single Mode Optical Fiber Cable

Type: All Dielectric Self-Supporting 6KN

Cable Construction



Technical parameter

Fiber count (Core)	144	
OD of Loose Tube	2.0± 0.1 mm	
Max Fiber Counts	12	
Outer diameter	13.6± 0.3 mm	
Weight	~98 Kg/Km	
Central strength member	3.5/5.9± 0.1 mm (FRP)	
Water Blocking Material	Water Blocking Tape/Yarn	
Outer Sheath Thickness	1.6 mm± 0.1 mm	
Outer Sheath Material	Black PE	
Span	100 M	
Rated Tensile Strength	6000 N	
Bending radius	Static	≥ 12.5 times of diameter
	Dynamic	≥ 25 times of diameter
Operating temperature range	-40°C to +70°C	
Storage / Transport temperature range	-30°C to +70°C	
Installation temperature	-20°C to +60°C	

Fiber Color Identification

Fiber color and Binder color code: according to EIA/TIA 598B

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

The properties of single mode optical fiber (ITU-T Rec. G.652D)

Parameter	Specification
Fiber type	Single mode G.652D
Fiber material	Doped silica
Attenuation coefficient @ 1310 nm @ 1383 nm @ 1550 nm @ 1625 nm	≤ 0.36 dB/km ≤ 0.36 dB/km ≤ 0.22 dB/km ≤ 0.30 dB/km
Point discontinuity	≤ 0.05 dB
Cable cut-off wavelength	≤ 1260 nm
Zero-dispersion wavelength	1300 ~ 1324 nm
Zero-dispersion slope	≤ 0.093 ps/(nm ² .km)
Chromatic dispersion @ 1288 ~ 1339 nm @ 1271 ~ 1360 nm @ 1550 nm @ 1625 nm	≤ 3.5 ps/(nm. km) ≤ 5.3 ps/(nm. km) ≤ 18 ps/(nm. km) ≤ 22 ps/(nm. km)
PMD _Q (Quadrature average*)	≤ 0.2 ps/km ^{1/2}
Mode field diameter @ 1310 nm	9.2±0.4 μm
Core/Clad concentricity error	≤ 0.5 μm
Cladding diameter	125.0 ± 0.7 μm
Cladding non-circularity	$\leq 1.0\%$
Primary coating diameter	245 ± 10 μm
Proof test level	≥ 0.69 Gpa
Temperature dependence 0°C~ +70°C @ 1310 & 1550nm	≤ 0.1 dB/km

Main mechanical & environmental characteristics test

NO	ITEM	TEST METHOD	ACCEPTANCE REQUIREMENTS
1	Tensile Strength IEC 794-1-E1	- Load: 6, 000 N - Length of cable under load: 50m	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
2	Crush Test IEC 60794-1-E3	- Load: 1, 000 N/100mm - Load time: ≥ 1 min	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
3	Impact Test IEC 60794-1-E4	- Points of impact: 5 - Times of per point: 5 - Impact energy: 4.5Nm - Radius of hammer head: 12.5mm - Impact rate: 2sec/cycle	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
4	Repeated Bending IEC 60794-1-E6	- Bending Dia.: 20 x OD - Load: 150N - Flexing rate: 3sec/cycle - No. of cycle: 30	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
5	Torsion IEC 60794-1-E7	- Length: 1m - Load: 150N - Twist rate: 1min/cycle - Twist angle: $\pm 180^\circ$ - No. of cycle: 10	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
6	Water Penetration IEC 60794-1-F5B	- Height of water: 1m - Sample length: 3 m - Time: 24 hour	- No water shall have leaked from the opposite end of cable
7	Temperature Cycling IEC 60794-1-F1	- Temperature step: +20°C $\rightarrow$ -40°C $\rightarrow$ +60°C $\rightarrow$ +20°C - Time per each step: 24 hrs - Number of cycle: 2	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
8	Compound Flow IEC 60794-1-E14	- Sample length: 30 cm - Temp: 70°C $\square$ 2°C - Time: 24 hours	- No compound flow
9	Sheath High Voltage Test	- On line test - 9t KV (t-sheath thickness)	- No sheath breakdown

Reference Standard

ITU-T G.652 : Characteristics of a single-mode optical fibre and cable
IEC 60794-4-2018--Optical fibre cables. Sectional specification. Aerial op.