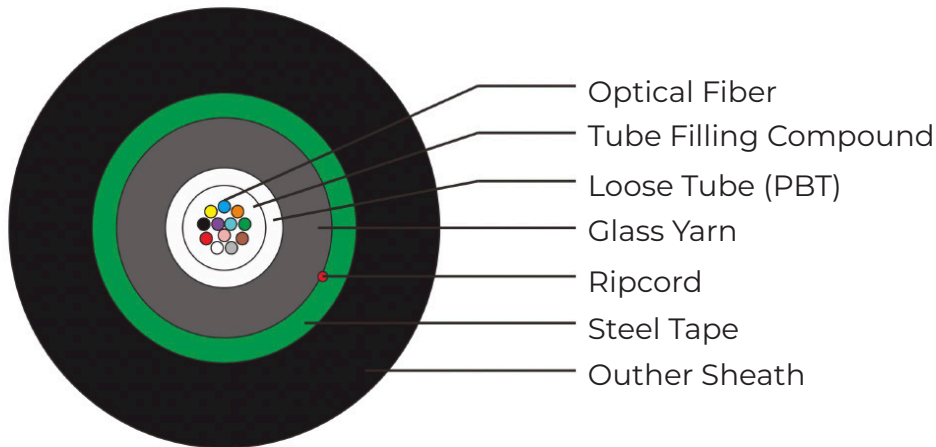


Armored Single Sheathed Buried Type Fiber Cable 2/4/6/8/12 Core



Cable Construction:



Note: Drawing is not scaled

Color Code of Fibers

No of Fiber	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Length marking on the cable

The outer sheath will be marked in one meter intervals as follows;

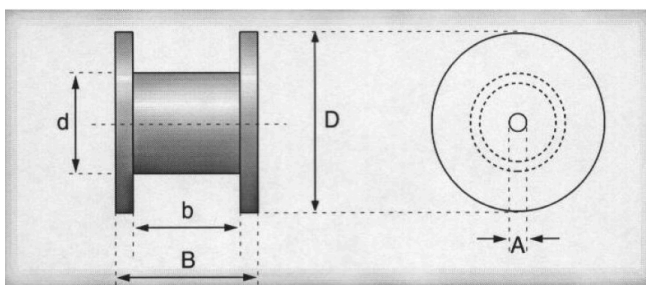
Fibline <Years> Drum Number <Year of manufacturing> <number and type of fiber> <length marking in meter>

Packing

- Standard drum length is 2000 with $\pm 2\%$.
- Sealed by strong wooden battens.
- At least 3m of cable inner end should be reserved for testing.
- Shipment will be done with non-returnable wooden drums with protection.

Cable Life Time

Designed cable has a minimum 25 years' service life time, if the cable is correctly installed.



Note : The value "D" contain the seal dimension.

Cable Assembly & Dimensions

Item	Contents	Value - 4/8/12
Loose tube	Number	1
	Outer diameter (mm)	3.0±0.07
	Thickness(mm)	0.55±0.035
	Material	HDPE
	Water blocking	Tube filling compound
Additional Strength Member	Material	Glass yarn
Ripcord	Number	1
Armored	Material	Steel tape
Sheath	Material	PE
	Color	Black
	Thickness(mm)	Nominal 1.6, Minimum 1.4
Cable diameter(mm) Approx.		8.0±0.3
Cable weight(kg/km) Approx.		64±15%

Mechanical & environmental performance test

Conformance	Test Method	Acceptance Condition
Tensile Strength IEC 794-1-E1	- Load: 1200N for short term - Load: 800N for long term - Length of cable under load: 50 m - Load time: 1min	- Loss change ≤ 0.1 dB @1550 nm - Fiber strain ≤ 0.6 % - No fiber break and no sheath damage.
Bend IEC 794-1-E11A	- Mandrel diameter: 20*D - No. of Turns: 4 - No. of cycle: 3	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
Repeated Bending IEC 794-1-E6	- Bending radius: 25 x cable diameter - Load: 50N - No. of cycle: 10	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
Torsion IEC 794-1-E7	- Length: 1 m - Load: 100 N - Twist angle: ±180° - No. of cycle: 10	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
Kink IEC 794-1-E10	- Loop diameter: 20 x OD - Temperature: 20°C	- After the test no kink shall occur.
Impact Resistance IEC 794-1-E4	- Impact energy: 5N x 1m	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
Crush Test IEC 794-1-E3	- Load: 1000N/100mm for short term - Load time: 1min	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
Temperature Cycling Test IEC 794-1-F1	- Low temperature: -30°C - High temperature: +80°C - Time per each step: 8 hours - Number of cycle: 2	- Loss change ≤ 0.1 dB/km @1550 nm - No fiber break and no sheath damage.

Cable Type	Drum Length (m)	Drum Dimensions			
		D (mm)(-2,+12)	d (mm)(±10)	B (mm)(-5,0)	b (mm)
2/4/6/8/12 Core	2,000 meter	780	400	710	640

TECHNICAL SPECIFICATION FOR SINGLE MODE OPTICAL FIBER (G.652 d.)

Optical Specifications		
Attenuation	@1310 nm:	@ 1383±3 nm
	@1550 nm:	Max. 0,194 dB/km
	@ 1383±3 nm	Max. 0,310 dB/km
Attenuation Change	@1285-1330 nm	≤ 0,03 dB/km (1310 nm reference)
	@1525-1575 nm	≤ 0,02 dB/km (1550 nm reference)
Cable Cut-off Wavelength:		1260
Chromatic Dispersion	at 1285~1330 nm	≤ 3,5 (ps nm/km)
	at 1550 nm	≤ 18 (ps nm/km)
	at 1625 nm	≤ 22 (ps nm/km)

Optical Specifications	
Zero Dispersion Wavelengths	1302-1322 nm
Zero Dispersion slope	≤ 0,090 ps/(nm ² .km)
Polarization Mode Dispersion Coefficient	≤ 0,2 PS/ km

Geometrical Specifications	
Mode Field Diameter at 1310 nm	9,2µm ± 0,4
Mode Field Diameter at 1550 nm	10,4µm ±0,5
Cladding Diameter	125µm ±0,7µm
Core/Cladding Concentricity Error	≤ 0,5µm
Cladding Non-Circularity	≤ 0,7%
Coating Diameter	250±15µm
Coating Concentricity Error	≤ 15µm
Coating/cladding Non-Circularity Error	≤ 12%
Fiber proof test level	≥ 120 kpsi (1,2 % strain)

TECHNICAL SPECIFICATION FOR 50/125 MM OM2 OPTICAL FIBER

Optical Specifications		
Attenuation	@850 nm:	Max 2,5 dB/km
	@1300 nm:	Max 0,70 dB/km
Band width	@ 850 nm	Min 500 MHz km
	@1300 nm	Min 500 MHz km
Numerical Aperture		0,200 ± 0,015

Geometrical Specifications	
Core Diameter	50 ±2,5µm
Coating Diameter	245 ±10µm
Cladding Diameter	125 ±2 µm
Cladding Non Circularity	Max 2%
Coating	Dual Layer UV Cured Acrylate Coat

TECHNICAL SPECIFICATION FOR 62,5/125 MM OM1 OPTICAL FIBER

Optical Specifications		
Attenuation	@850 nm:	Max 3,0 dB/km
	@1300 nm:	Max 0,70 dB/km
Band width	@ 850 nm	Min 160 MHz km
	@1300 nm	Min 300 MHz km
Numerical Aperture		0,275±0,015

Geometrical Specifications	
Core Diameter	62,5 ±3µm
Coating Diameter	245 ±10µm
Cladding Diameter	125 ±2 µm
Cladding Non Circularity	Max 2%

TECHNICAL SPECIFICATION FOR MM OM3 OPTICAL FIBER

Optical Specifications		
Attenuation	@850 nm	Max 2,50 dB/km
	@1300 nm	Max 0,70 dB/km
Numerical Aperture		0,200 ± 0,015

Geometrical Specifications	
Core Diameter:	50 ±2,5µm
Coating Diameter:	245 ±10µm
Cladding Diameter:	125 ±1 µm
Cladding Non Circularity:	Max 2%
Coating	Dual Layer UV Cured Acrylate Coat

TECHNICAL SPECIFICATION FOR MM OM4 OPTICAL FIBER

Optical Specifications		
Zero Dispersion wavelength		1295-1340 nm
Zero Dispersion Slope		≤0,105 ps/nm ² -km(1295≤λ0≤1310 nm)
Band width	@850 nm	Min 4.000 MHz km
	@1300 nm	Min 4.000 MHz km
Numerical Aperture		0,200 ± 0,015

Geometrical Specifications	
Core Diameter:	50 ±2,5µm
Coating Diameter:	245 ±10µm
Cladding Diameter:	125 ±1 µm
Cladding Non Circularity:	Max 1%
Coating Non Circularity:	Max 5%
Coating –Clad Concentricity Error	≤ 8µm
Tensile Proof Test	100 kpsi
Coating	Dual Layer UV Cured Acrylate Coat

TECHNICAL SPECIFICATION FOR SINGLE MODE OPTICAL FIBER (G.657 A2)

Optical Specifications

Attenuation	@1310 nm:	Max. 0,35 dB/km
	@1550 nm	Max. 0,21 dB/km
	@1625 nm:	Max. 0,22 dB/km
	@ 1383±3 nm	Max. 0,33 dB/km

Bending induced attenuation

Mandrel radius	Number of Turns	Wavelength	Attenuation
7,5 mm	1	1550	Max 0,50
7,5 mm	1	1625	Max 1,0
10 mm	1	1550	Max 0,10
10 mm	1	1625	Max 0,20
15 mm	10	1550	Max 0,03
15 mm	10	1620	Max 0,03

Cable Cut-off Wavelength	≤ 1260
Cable Cut-off Wavelength at 1550 nm	≤ 18 (ps nm/km)

Optical Specifications

Zero Dispersion Wavelengths	1300-1324 nm
Zero Dispersion slope	≤ 0,092 ps/(nm ² .km)
Polarization Mode Dispersion Coefficient:	≤ 0,2 ps/ rkm
Fiber PMD link design value	≤ 0,08 ps/ rkm

Geometrical Specifications

Mode Field Diameter at 1310 nm:	8,6μm ± 0,4
Cladding Diameter:	125μm ±0,7μm
Core/Cladding Concentricity Error:	≤0,5μm
Cladding Non-Circularity:	≤ 0,7%
Coating Diameter colored	250±15μm
Coating/Cladding Non-Circularity Error	≤ 12%
Fiber proof test level	≥ 100 kpsi (1,0 % strain)