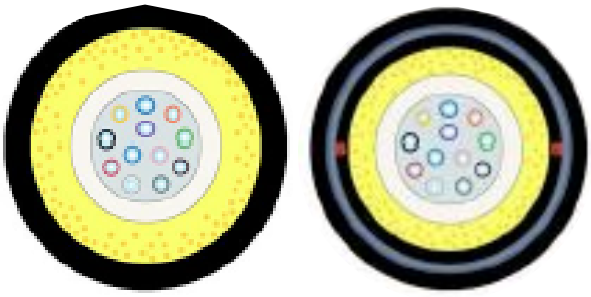
FiberOptic Cables / Single Loose Tube Cables



APPLICATIONS

- Both indoor and outdoor
- Ducts, aerial installations and direct burial
- Distribution and general purpose cables

CABLE DESCRIPTION

The cable consists of a single tube containing 2 to 24 fibers, either filled with water-blocking gel or using a gel-free, dry water-blocking design. When the cable contains more than 12 fibers, they are divided in two groups. A colored thread identifies each group. Physical protection and tensile strength are provided by aramid or fiberglass yarns stranded around the tube.

A wide range of jacket and armoring options is available: UV-stabilized PVC, FR-LSZH (HFFR) materials, PE, corrugated anti-rodent steel, sealed aluminum moisture barrier tape, dielectric armor etc.. A ripcord is located under the jacket to facilitate its removal.

A Fig-8 self-supporting cable is available in all fiber-counts for aerial applications.

ORDERING GUIDE:

Loose Tube Diameter	A - 3.1mm B - 4.5mm
Fibre Type	see Below
Number of Fibers	01 to 24
Core Water Blocking	G - Gel D – Dry X – None
Inner Jacket Water Blocking	G -Gel D -Dry X – None
Armour	Dielectric Aramid Strength Yarns Glass Strength Yarns Steel Wire Armour Steel Braid Armour Aluminium Moisture Barrier Nylon
Sheath	Polyethlene – default PVC LSZH

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Specifications of Standard Singlemode Optical Fibers[1]

Parameter	Standard per ITU-T G.652D IEC 60793-2-50 B1.3 Max./Typical	NZDS per ITU-T G.655 IEC 60793-2-50 B4 Max./Typical	Bend-Insensitive ITU-T G.657A.1 IEC 60793-2-50 B6_a1 Max./Typical	Bend-Insensitive ITU-T G.657A.2 IEC 60793-2-50 B6_a2 Max./Typical	Units
Teldor Fiber Code	9	8	A	7	
Attenuation[4,5,6], Loose Tube Cables:					dB/km
@ 1310 nm	0.35 / 0.34	N/A	0.35 / 0.34	0.35 / 0.34	
@ 1550 nm	0.23 / 0.20	0.23 / 0.20	0.23 / 0.20	0.23 / 0.20	
@ 1625 nm	0.25 / 0.22	0.26 / 0.23	0.25 / 0.22	0.25 / 0.22	
Attenuation[4], Tight Buffered Cables:					dB/km
@ 1310 nm	≤ 0.40	-	≤ 0.40	≤ 0.40	
@ 1550 nm	≤0.30	-	≤0.30	≤0.30	
Dispersion: between 1285 - 1330 nm	≤3.5	NA	≤3.5	≤3.5	ps/ (nm*km)
between 1460 - 1530 nm (S Band)	-	[2]	-	-	
between 1530 - 1565 nm (C Band)	≤18	2 – 6[3]	≤ 18	≤ 18	
between 1565 - 1625 nm (L Band)	≤ 22	4.5 – 11.2[3]	≤ 22	≤ 22	
Zero Dispersion Wavelength	1312 ± 12	< 1520	1312 ± 12	1312 ± 12	nm
Mode Field Diameter @ 1310 nm	9.2 ± 0.4	NA	New Cell	8.6 ± 0.4	µm
@ 1550 nm	10.4 ± 0.6	9.6 ± 0.6	9.8 ± 0.5	9.6 ± 0.5	
Cable Cut-Off Wavelength	≤1260	≤1480	≤ 1260	≤1260	nm
PMD (Individual fiber)	≤0.2	≤0.1	≤ 0.2	≤0.2	$ps/km^{1/2}$
Cladding Diameter	125 ± 0.7	125 ± 0.7	125 ± 0.7	125 ± 0.7	µm
Core/Cladding Concentricity Error	≤0.5	≤0.5	≤ 0.5	≤0.5	µm
Cladding Non-Circularity	≤1.0	≤1.0	≤ 1.0	≤1.0	%
Coating Diameter (un-colored)	245 ± 5	245 ± 5	245 ± 5	245 ± 5	µm
Proof-Test Level	0.7	0.7	0.7	0.7	GN/m^2
Induced Macrobend @ 1550nm – 1 turn around a 7.5 mm mandrel					
Mandrel Radius			10	7.5	mm
Max. @ 1550 nm			0.5	0.4	dB
Max. @ 1625 nm			1.5	0.8	dB

Specifications of Standard Multi-mode Optical Fibers[1]

Parameter	50/125 µm			62.5/125 µm	Units
Teldor Fiber Code	**5**	**4**	**3**	**6**	
ISO/IEC 11801 Performance Category	OM2[2]	OM3[3]	OM4[4]	OM1	
Attenuation[6], Loose Tube Cables:					dB/km
@ 850 nm	≤ 2.8			≤3.2	
@ 1300 nm	≤0.9			≤1.0	
Attenuation[6], Tight Buffer and Semi-Tight Cables:					dB/km
@ 850 nm	≤3.0			≤3.5	
@ 1300 nm	≤1.0			≤1.0	
OFL Bandwidth[5] @ 850 nm	≥ 500[7]	≥1500	≥3500	≥200	MHz?km
@ 1300 nm	≥800[7]	≥500	≥500	≥600	
Efffective Modal Bandwidth@ 850nm	N/A	≥2000	≥4700[8]	N/A	
Supported Ethernet Link Lengths (max.)					
1 GbE[9]					
@ 850 nm (1000BASE-SX)	550	970[12]	1040[12]	220	
@ 1300 nm (1000BASE-LX)	950[12]	550[12]	600[12]	550	
10 GbE[10]					
@ 850 nm (10GBASE-SR)	82	300	550	33	
@ 1300 nm (10GBASE-LXR)	450[13]	300	300	300	
40/100 GbE[11]					
@ 850 nm (40/100 GBASE-SR4/10)	N/A	100	150	N/A	
Numerical Aperture	0.20 ± 0.015			0.275 ± 0.015	
Core Diameter	50 ± 2.5			62.5 ± 3	µm
Cladding Diameter	125 ± 1			125 ± 2	µm
Core Non Circularity	≤4			≤5	%
Cladding Non-Circularity	≤0.7			≤1	%
Core/Cladding Offset	≤1.5			≤1.5	µm
Coating Diameter (Un-colored)	245 ± 10			245 ± 10	µm
Proof-Test Level	0.7			0.7	GN/m2

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