



FiberOptic Cables / Multi Loose Tube Cables



APPLICATIONS

Long-distance outside plant telephony, CATV as well as data communications

Direct burial and installation in ducts either by pulling or blowing methods

Aerial installation using the Figure-8 self-supporting option

High fibre counts indoor installations

CABLE DESCRIPTION

The cable consists of 5 to 36 elements stranded in up to 3 layers around a central strength member and bound in a jacket. The elements are usually fibre-containing tubes, however fillers are also used when needed, to preserve cable geometry. The cables can be ordered with a central member either made of a dielectric FRP, solid or stranded steel coated with polyethylene. The tubes and fibres are colour coded.

Two to 24 color-coded fibres are loosely laid in each tube. Maximum fibre count is 864. Standard tube diameters are:

2.1 mm - up to 12 fibres/tube - **LDB** sub-series

2.5 mm - up to 24 fibres/tube - **LDC** sub-series

2.8 mm - up to 24 fibres/tube - **LDD** sub-series

3.1 mm - up to 24 fibres/tube - **LDE** sub-series

In addition to our **All-Dry** (gel-free) **DRC Cables**, a variety of cable water-blocking options is available: gel filling in the tubes, core and/or between jacket layers, or dry water-blocking tapes or yarns in the tubes, core and/or between jacket layers. A ripcord is located under each jacket layer to facilitate its removal.

A wide range of jacket and armouring options is available: PE, FR-LSZH (HFFR) materials, corrugated steel armouring, steel wire and steel braid armouring, fiberglass armouring, aramid yarns, anti-termite etc.

A Fig-8 self-supporting design is also available for all fibre-counts.

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ORDERING GUIDE:

Loose Tube Diameter	A – 1.8mm B – 2.1mm C - 2.5mm D – 2.8mm E – 3.1mm
Fibre Type	see Below
Number of Fibers	up to 24 per tube
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	Polyethylene – default PVC LSZH

General options:

SS – Self- Support

RI – Riser Rated

TR – Anti -Termite

D32 – Supplied in 32mm Duct

Reduced Friction PE Pipes

This is a unique multi-layered conduction pipe with a silicone inner layer having a very low friction coefficient to facilitate cable insertion.

Produced under Israeli Standard 1531 – "Conduits and fittings for cables and insulated conductors for underground installation of electrical and communication lines; solid wall PE."

The conduction pipe is manufactured according to advanced technology, enabling the insertion during the production of:

- Pulling rope
- Communication cables
- Optic fibres

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	
Effective 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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