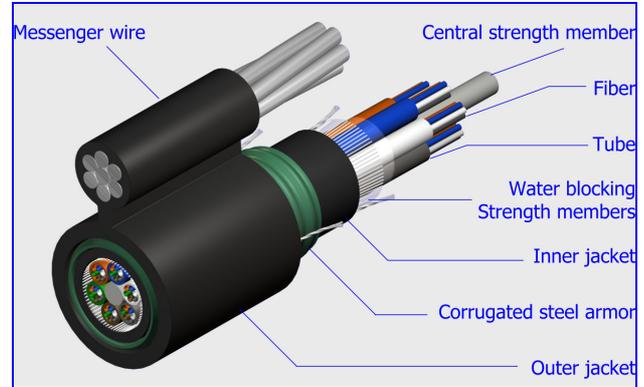
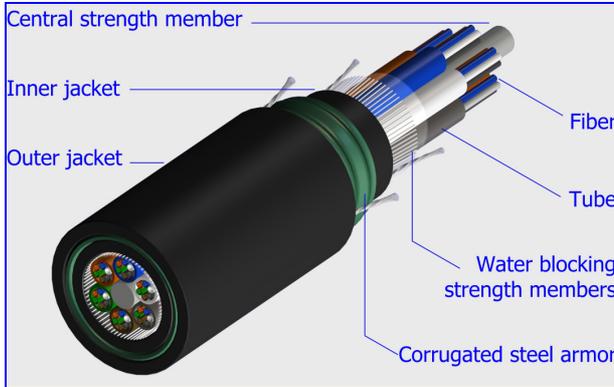


## *LD Series High Performance Loose Tube Fiberoptic Cables*



**APPLICATIONS**

- Long-distance outside plant telephone, CATV as well as data communications
- Direct burial and installation in ducts either by the pulling or by the blowing methods
- Aerial installation as the Figure-8 self supporting option
- High fiber count 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 fiber-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, or made of solid or stranded steel coated with polyethylene. The tubes and fibers are color coded. See Color Code Table.

Two to 16 color-coded fibers are loosely laid in each tube that is filled with a water-blocking gel. Standard tube diameters are:

- 2.1 mm - up to 12 fibers/tube - LDB sub-series;
- 2.5 mm - up to 16 fibers/tube - LDC sub-series;
- 2.8 mm - up to 16 fibers/tube - LDD sub-series.

A variety of cable water-blocking options is available: gel filling in the core and/or between jacket layers, and dry water-blocking tapes or yarns in the core and/or between jacket layers.

A wide range of jacket options is available: polyethylene, halogen-free flame-retardant material (HFFR / LSOH), corrugated anti-rodent steel armoring, fiberglass armoring, aramid yarn, and more.

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

A ripcord is located under each jacket layer to facilitate its removal.

**MECHANICAL PROPERTIES**

Typical properties are given next page. Actual properties depend on the cable construction.

**OPTICAL PROPERTIES**

See the Optical Properties Table.

**MATERIALS**

See information about the materials used in the Teldor Fiberoptic Cables.

**STANDARDS**

- Cables tested according to TIA/EIA-455 and IEC-60794-1-2. For details see Test Methods Table.
- Cables meet or exceed Telcordia (Bellcore) requirements for outside plant cables (GR-20) when the appropriate options are chosen
- Cables ordered with HFFR jackets meet IEC-60332-1 standard. On request cables meeting the IEC-60332-3 can be supplied.

**MARKING**

Cables are marked as follows

**Teldor - Fiberoptic Cable - Cable Code - RoHS - Length in Meters**

or per customer request. Fig-8 Self-supported cables do not comply with ROHS.

**CABLE DIMENSIONS AND WEIGHTS**

See list of most frequently ordered cables next page.

**ORDERING**

You can find the desired cable in the cable list next page or compose your own cable from the Cable Code Definition and Selection Guide.

Standard cable lengths vary with cable diameter. Other constructions, color codes and materials may be available. Please contact the Teldor Marketing Department.

## *LD Series Technical Tables*

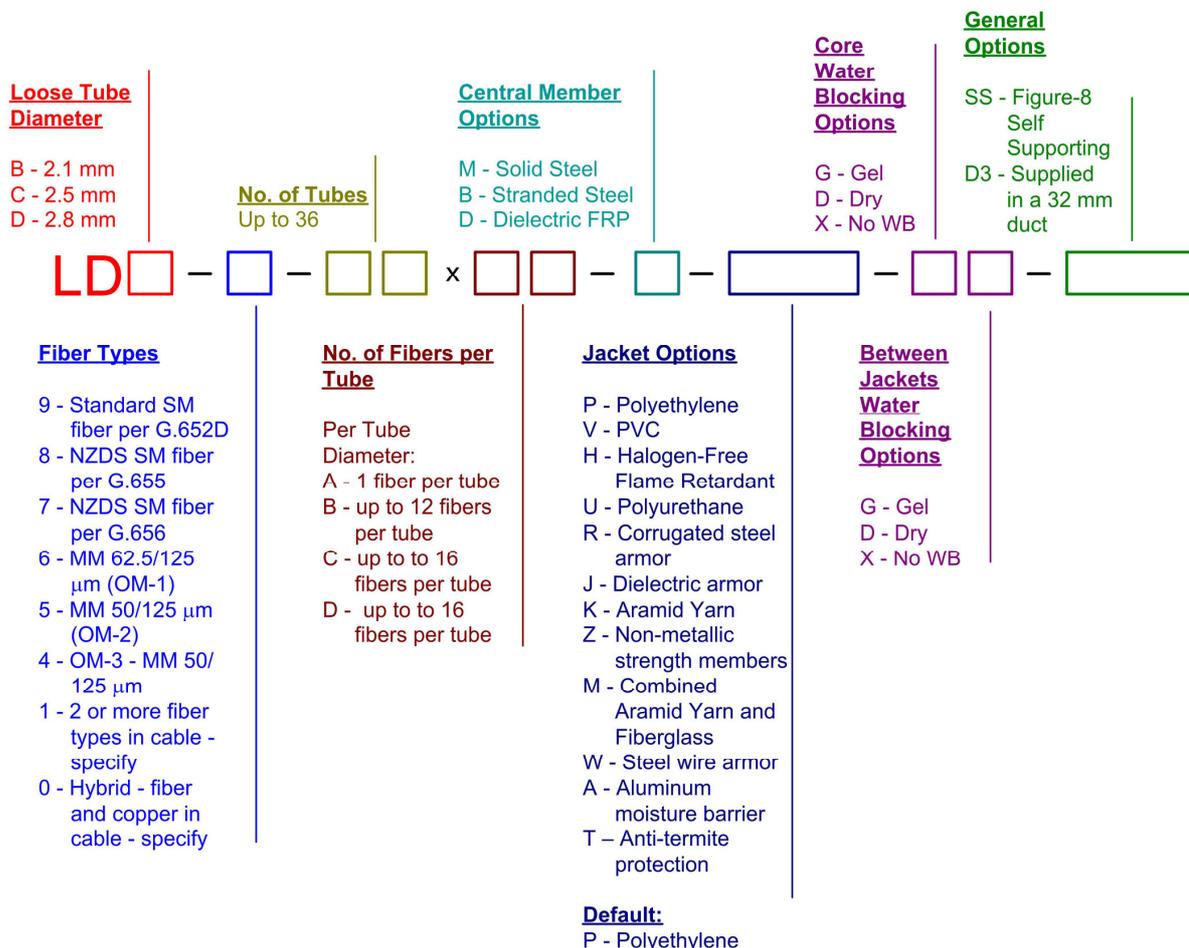
### LD Series Typical Mechanical Properties

Max. Pulling Load	1500-2700 N or the equivalent of the cable weight per km, whichever is higher
Max. Operating Load	60% of the Max. Pulling Load
Max. Compressive Load	4000 N for unarmored, 6000 N for armored
Repeated Impact	4.4 N.m (J)
Minimum Bending Radius for Installation	20 times the cable O.D.
Minimum Long Term Bending Radius	20 times the cable O.D. for armored cables, 10 times the cable O.D. for unarmored cables
Twist (Torsion) — Length	180°x10 times , 125 times the cable O.D.
Cyclic Flexing	25 cycles for armored cables, 100 cycles for unarmored cables
Operating Temperature Range	-40°C to +70°C (With PE jacket)
Storage Temperature Range	-50°C to +70°C (With PE jacket)

### Most Frequently Ordered LD Fiberoptic Cables Part Numbers, Codes, Dimensions and Weights

Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
<b>LDB Series</b>			
F50120206B	LDB-5-02x06-D-JH-D	11.0	110
F60480401B	LDB-6-04x12-D-ZH-D	10.0	100
F90720614B	LDB-9-06x12-D-ZP-D	10.0	80
F90720617B	LDB-9-06x12-D-ZRP-D	12.0	150
F91441214B	LDB-9-12x12-D-ZP-D	14.0	155
F90320402B	LDB-9-04x08-D-ZPRP-GX	13.5	200
F90360602B	LDB-9-06x06-D-JRP-DD	12.0	150
F41441201B	LDB-4-12x12-D-ZH-D	14.0	185
F92522100B	LDB-9-21x12-M-PRP-GG	19.0	420

## LD Series Cable Code Definition and Selection Guide



### Remarks

1. Pulling eye or epoxy bonded cable ends are available.
2. Standard messenger wire: 7x1.6 mm. Other sizes available on request.
3. The default jacket colors are:

	PE	PVC	HFFR
SM Fibers	Black	Yellow	Yellow
Standard MM Fibers	Black	Orange	Orange
PM-3 50/125 Fibers	Gold	Gold	Gold

Other jacket colors available please specify.

## *SM Optical Fiber Specifications*

### Single Mode Fibers - Standard Specifications <sup>(1)</sup>

Parameter	Standard per ITU-T G.652D IEC 60793-2-50 B1.3	NZDS per ITU-T G.655 IEC 60793-2-50 B4	Bend-Insensitive ITU-T G.657A IEC 60793-2-50 B6_a	Units
Teldor Fiber Code	9	8	I	
Attenuation, Loose Tube Cables: @ 1310 nm @ 1550 nm @ 1625 nm	≤ 0.35 ≤ 0.22 ≤ 0.25	≤ 0.22 ≤ 0.26	≤ 0.35 ≤ 0.22 ≤ 0.25	dB/km
Attenuation, Tight Buffer Cables: @ 1310 nm @ 1550 nm	≤ 0.40 ≤ 0.30	- -	≤ 0.40 ≤ 0.30	dB/km
Dispersion: between 1285 and 1330 nm (O Band) between 1460 and 1530 nm (S Band) between 1530 and 1565 nm (C Band) between 1565 and 1625 nm (L Band)	≤ 3.5 - ≤ 18 ≤ 22	NA (2) 2 – 6 <sup>(3)</sup> 4.5 – 11.2 <sup>(3)</sup>	≤ 3.5 - ≤ 18 ≤ 22	ps/ (nm*km)
Zero Dispersion Wavelength	1312±12	< 1520	1312±12	nm
Mode Field Diameter @ 1310 nm	9.2±0.4	NA	8.9±0.4	μm
@ 1550 nm	10.4±0.6	9.6±0.6	9.9±0.5	μm
Cable Cut-Off Wavelength	≤1260	≤1480	≤1260	nm
PMD (Individual fiber)	≤ 0.2	≤ 0.1	≤ 0.2	ps/km <sup>1/2</sup>
Cladding Diameter	125±0.7	125±0.7	125±0.7	μm
Core/Cladding Concentricity Error	≤ 0.5	≤ 0.5	≤ 0.5	μm
Cladding Non-Circularity	≤1.0	≤1.0	≤1.0	%
Coating Diameter (un-dyed)	245±5	245±5	245±5	μm
Proof-Test Level	0.7	0.7	0.7	GN/m <sup>2</sup>
Induced Macrobend @ 1550nm – 1 turn around a 7.5 mm mandrel			0.5	dB

1. For other fiber types, consult the Teldor Sales Department
2. Non-standard range. Dispersion is typically negative. Consult Teldor for details
3. Tighter dispersion tolerances may be available, consult Teldor for details

## *MM Optical Fiber Specifications*

### Multi Mode Fibers - Standard Specifications <sup>(1)</sup>

Parameter	50/125 μm			62.5/125 μm	Units
	5	4	3	6	
<b>Teldor Fiber Code</b>	5	4	3	6	
ISO/IEC 11801 Performance Category	OM2 <sup>(2)</sup>	OM3 <sup>(3)</sup>	OM4 <sup>(4)</sup>	OM1	
Attenuation, Loose Tube Cables:					
@ 850 nm	≤ 2.8			≤3.2	dB/km
@ 1300 nm	≤ 0.9			≤1.0	
Attenuation, Tight Buffer and Semi-Tight Cables:					
@ 850 nm	≤3.0			≤3.5	dB/km
@ 1300 nm	≤1.0			≤1.0	
OFL Bandwidth <sup>(5)</sup> @ 850 nm	≥500 <sup>(6)</sup>	≥1500	≥3500	≥200	MHz•km
@ 1300 nm	≥800 <sup>(6)</sup>	≥500	≥500	≥600	
Effective Modal Bandwidth@ 850nm		≥2000	≥4700 <sup>(7)</sup>		
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-dyed)	245±10			245±10	μm
Proof-Test Level	0.7			0.7	GN/m <sup>2</sup>

1. For other fiber specification, consult the Teldor Sales Department
2. As per IEC 60793-2-10 type A1a.1 and TIA 492AAAB
3. As per IEC 60793-2-10 type A1a.2 and TIA 492AAAC, link length 100 m. per 40/100 GbE (IEEE 802.3ba)
4. As per IEC 60793-2-10 type A1a.3 and TIA 492AAAD, link length 150 m. per 40/100 GbE (IEEE 802.3ba)
5. As per IEC 60794-1-41 and TIA/EIA 455-204
6. A 600/1200 MHz.km fiber is also available as a standard.
7. As per TIA 492AAAD