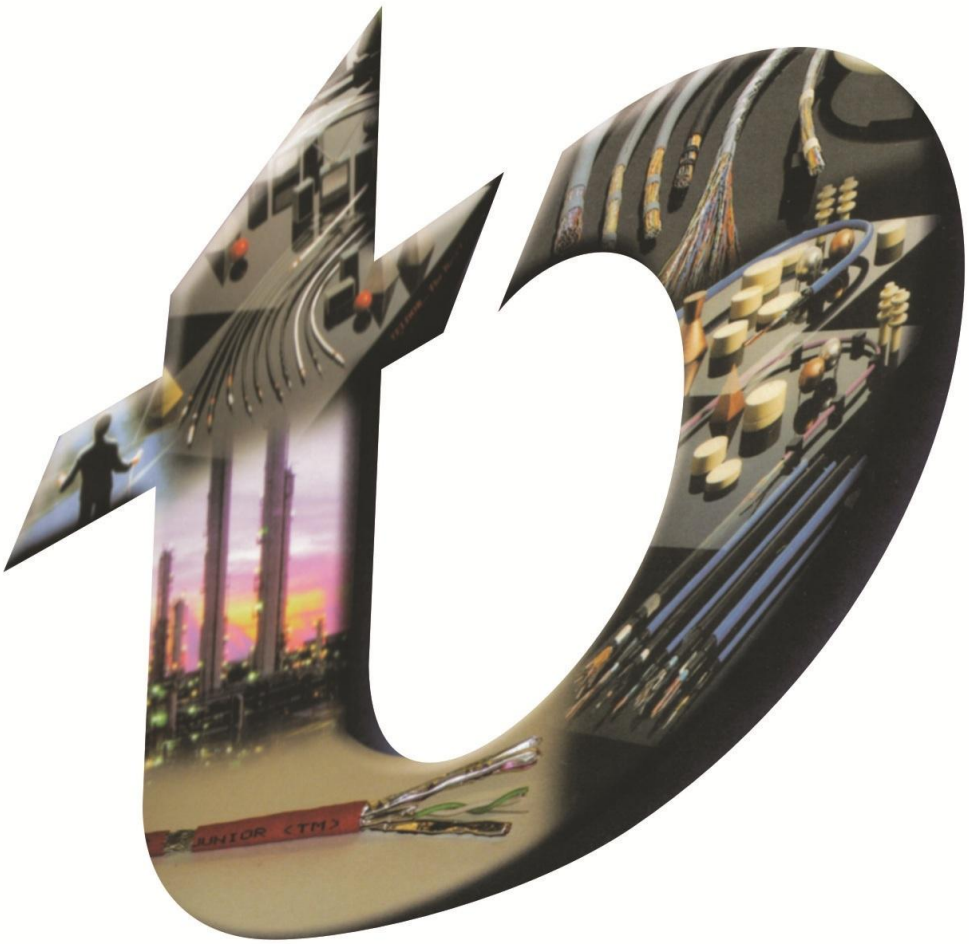
Catálogo de Fibra Optica



TELDOR
Cables & Systems Ltd.

The Best Connection™

Table of Contents

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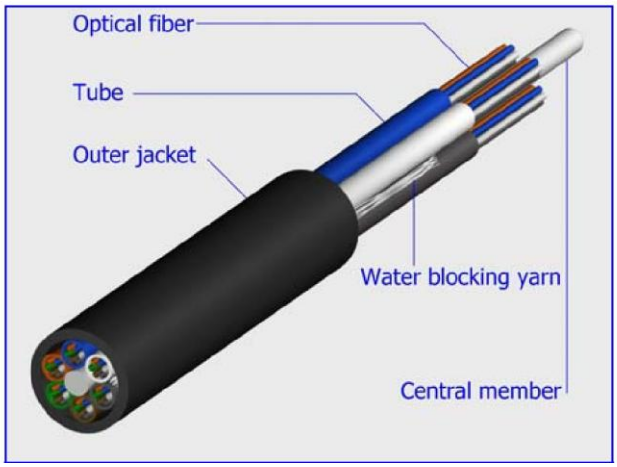
FTX Series

Microduct Fiberoptic Cables for Outdoor FTTH Applications



APPLICATIONS

- FTTP applications – low installation cost, short to medium reach in fiber-to-the-home (FTTH), fiber-to-the building (FTTB) or fiber-to-the-Cabinet (FTTCab) applications
- For blowing into protected micro-ducts

CABLE DESCRIPTION

- The cable consists of 6 to 36 elements stranded in up to 3 layers around a dielectric central strength member and bound in a jacket.
- The elements are usually fiber-containing tubes, 1.5 mm in diameter; however fillers are also used, when needed, to preserve cable geometry. Each tube contains 2 to 12 fibers.
- The tubes are filled with a waterblocking gel to prevent the ingress of water.
- The tubes and fibers are color coded for easy identification.
- Dry water-swelling materials are present between and around the cable core in order to provide full water blocking.
- A ripcord is laid under the jacket to aid in cable preparation.
- A black, UV resistant, low-friction HDPE jacket is extruded over the cable core.

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.
- Compliance with IEC-60794-5

MARKING

Cables are marked as follows
Teldor - Fiberoptic Cable - Cable Code - RoHS - Length in Meters
or per customer request.

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.

FTX Series Technical Tables

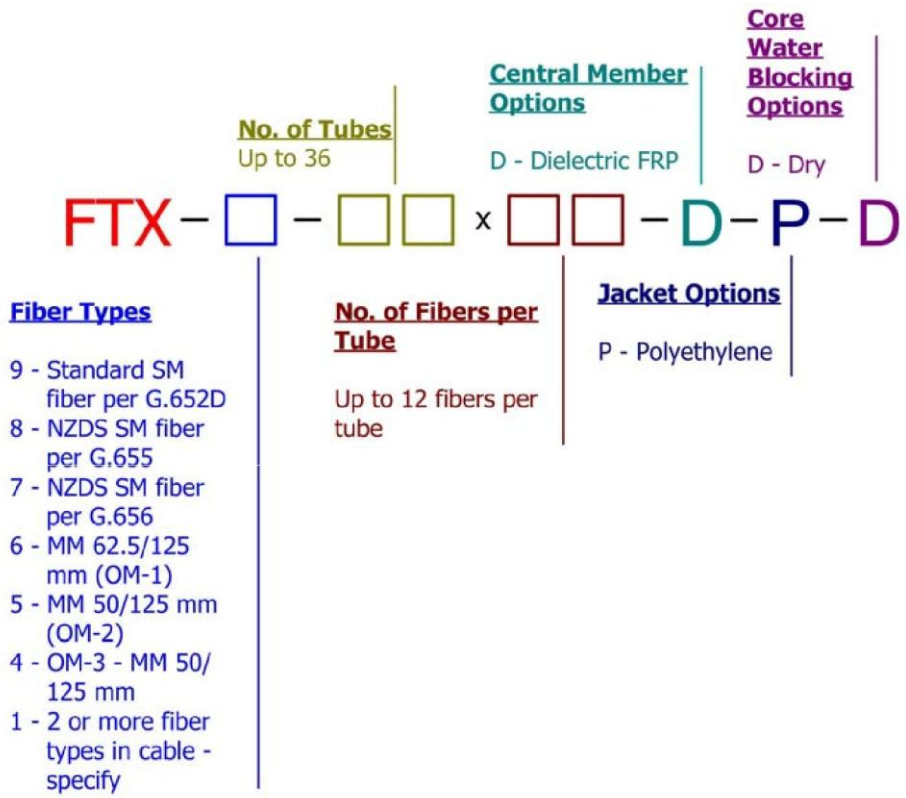
FTX-Series Fiberoptic Cables

Max. Installation Load	Depends on cable construction. See cable list below for representative values
Max. Operating Load	60% of the Max. Pulling Load
Max. Compressive Load	1000 N /100 mm
Repeated Impact	1.0 N.m (J) – 3 x 2 impacts
Minimum Bending Radius for Installation	20 times the cable O.D
Minimum Long Term Bending Radius	10 times the cable O.D
Twist (Torsion) — Length	180°x10 times , 125 times the cable O.D.
Cyclic Flexing	100 cycles
Operating Temperature Range	-30°C to +70°C
Storage Temperature Range	-40°C to +70°C

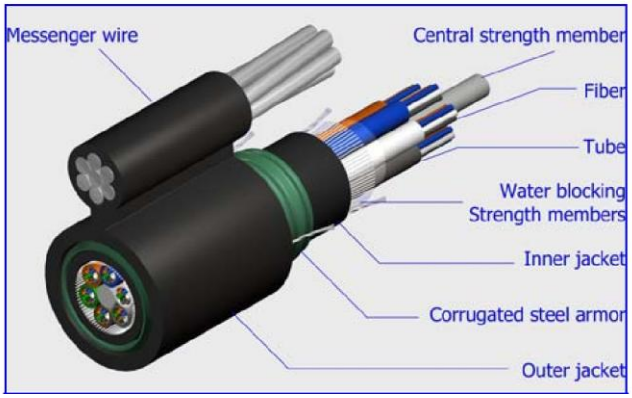
Most Frequently Ordered FTX Fiberoptic Cables
Product Codes, Structure, Dimensions and Weights

Cable code	Weight (kg/km)	Nominal Diameter (mm)	Max. Installation/Operation Load (N)	No. of Elements	No. of Fibers
FTX-9-01x02-D-P-D	30	5.8	700/130	6	2
FTX-9-01x04-D-P-D	30	5.8	700/130	6	4
FTX-9-03x04-D-P-D	30	5.8	700/130	6	12
FTX-9-04x12-D-P-D	30	5.8	700/130	6	48
FTX-9-06x12-D-P-D	30	5.8	700/130	6	72
FTX-9-08x12-D-P-D	42	6.8	1000/130	6	96
FTX-9-12x12-D-P-D	61	9.0	1000/130	8	144

FTX Series *Cable Code Definition and Selection Guide*



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 / LS0H), 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

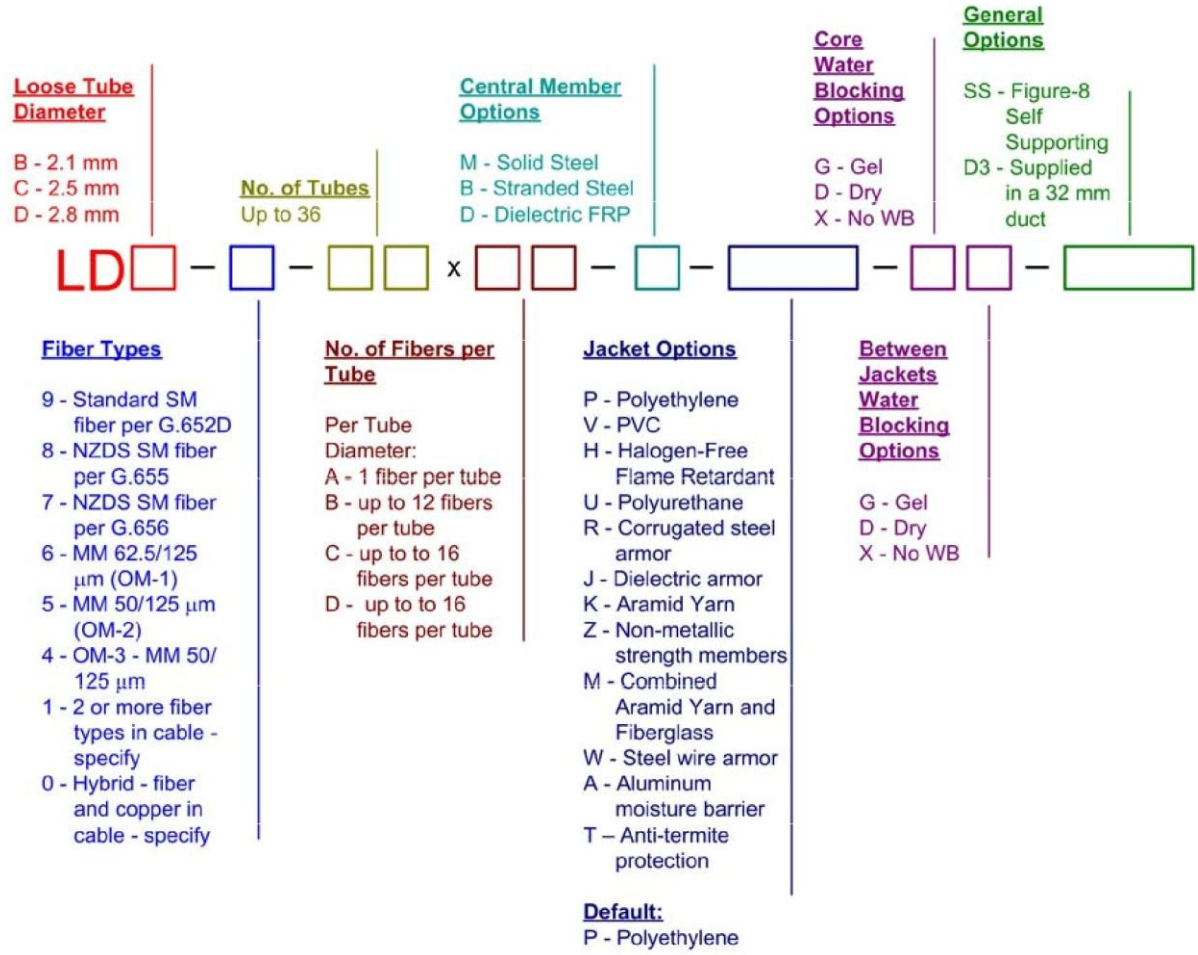
LD Series Typical Mechanical Properties

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)
LDB Series			
45122D132	LDB-5-02X06-D-JH-D	11.0	110
45122D21	LDB-6-02X06-D-HRP-GG	13.0	205
45122D24	LDB-6-02X06-D-ZPRP-GG	13.5	200
44082D211	LDB-9-02X04-D-PRP-GX-SS	13.0/23.0	330
44244D288	LDB-9-04X06-D-ZPRP-DD-SS	13.5/23.5	340
44324D19	LDB-9-04X08-D-ZPRP-GX	13.5	200
44366D40	LDB-9-06X06-D-JRP-DD	12.0	150
44486D026	LDB-9-06X08-D-ZAP-D	11.5	95
44648D10	LDB-9-08X08-D-ZPRP-GX	15.0	235
4425221D2	LDB-9-21X12-M-PRP-GG	19.0	420

LD Series Cable Code Definition and Selection Guide



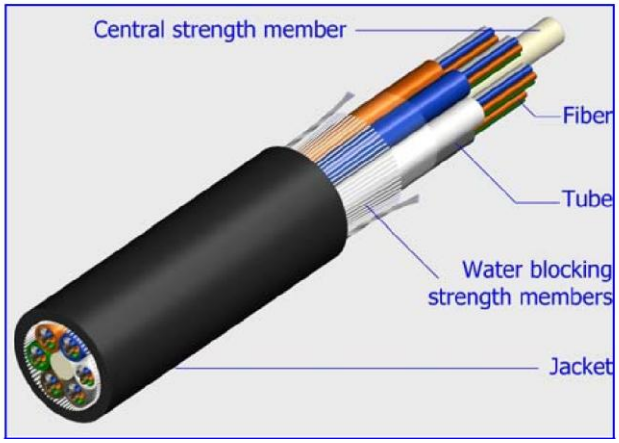
Remarks

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.

ADS Series *All Dielectric Self-Supporting* Fiberoptic Cable



APPLICATIONS

The "All Dielectric Self-Supporting (ADSS)" cables are designed for aerial self-supporting applications at short, medium and long span distances.

Teldor ADSS cables offer a rapid and economical means for deploying optical fiber cables along existing aerial rights-of-way. They are being deployed by cable television operators, telephone companies, municipalities and emerging network operators, in addition to electric power utilities.

CABLE DESCRIPTION

The ADSS cable consists of a number of tubes/elements according to the specified number of fibers. The elements are usually fiber-containing tubes; however fillers may be used to preserve the cable geometry.

Two to twelve color-coded fibers are loosely laid in each tube which is filled with a water-blocking gel. The tubes are stranded around a dielectric central strength member and bound in a jacket.

A water-swelling tape is helically wrapped around the cable core. Aramid yarn strength members are helically laid to supply peripheral strengthening of the cable. The outer jacket is tightly bound over the aramid yarn layer. For long span applications a double jacket design can be considered. A ripcord is located under each jacket layer to facilitate its removal.

For up to 30 fiber cables, the "ADSB" design is applicable, for 32-144 fibers the "ADSC" design is applicable. Dry cable designs, ballistic protection and other cable designs are available upon request.

STANDARDS

- Cables are designed for aerial installation according to IEEE-P1222
- 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.

MECHANICAL PROPERTIES

Typical properties are given in the Mechanical Properties Table. Actual properties depend on the cable construction.

The tensile load and sag of the cables at different wind conditions is given in the attached Table for several key cable configurations.

OPTICAL PROPERTIES

See the Optical Properties Table.

MATERIALS

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

MARKING

Cables are marked as follows
Teldor - Fiberoptic Cable - Cable Code - RoHS - Length in Meters
or per customer request.

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.

ADS Series Technical Tables

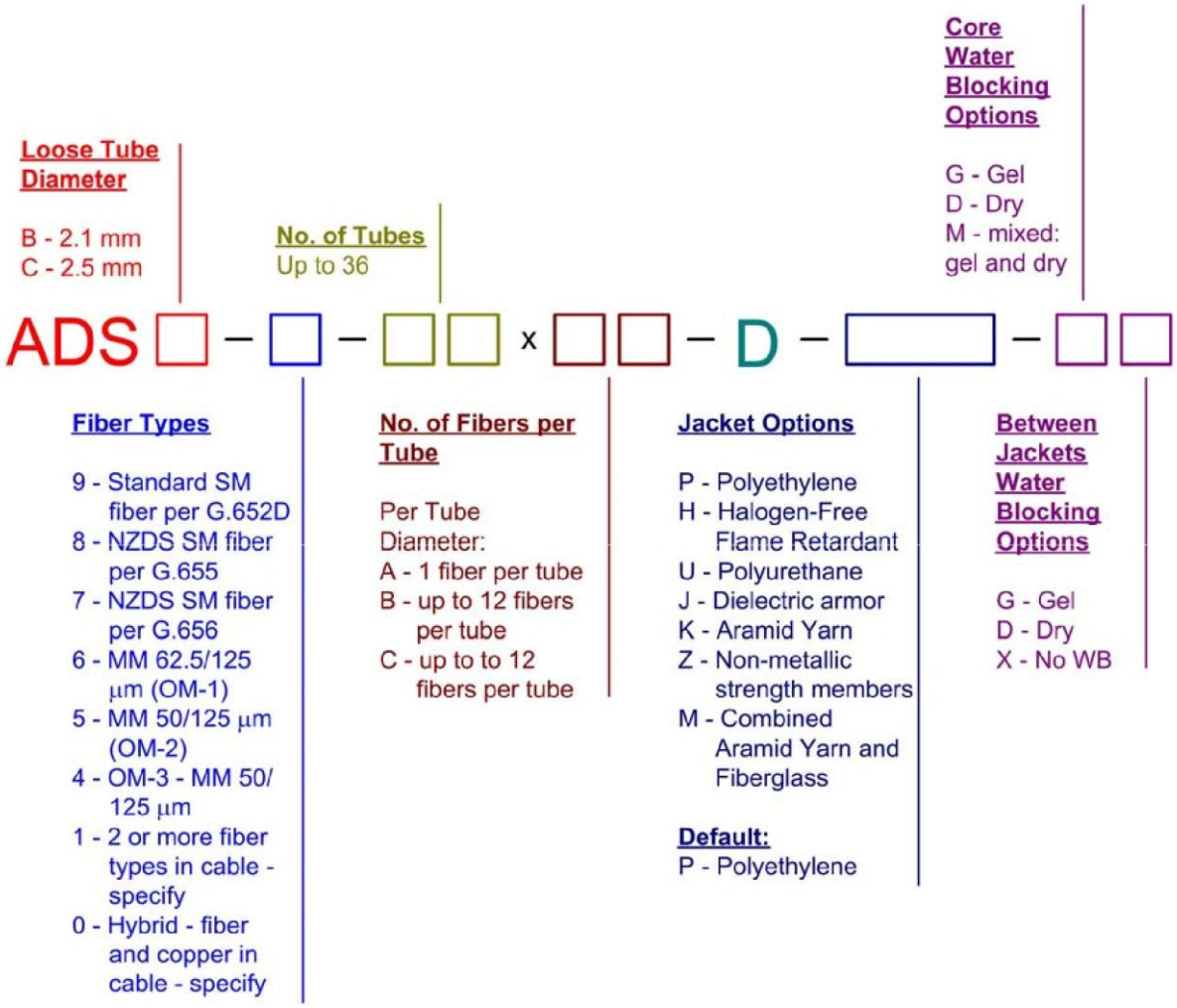
ADS Series Typical Mechanical Properties

Max. Operating Load	Per Installation Table for ADS Cables (see below)
Max. Compressive Load	4000 N
Repeated Impact	4.4 N.m (J)
Minimum Bending Radius for Installation	20 times the cable O.D.
Minimum Long Term Bending Radius	10 times the cable O.D.
Twist (Torsion) — Length	180°x10 times , 125 times the cable O.D.
Cyclic Flexing	100 cycles
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 ADS Cables
Part Numbers, Codes, Dimensions and Weights

Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
44122D0136	ADSB-9-02X06-D-PKP-GX	13.5	135
44123D283	ADSB-9-03X04-D-PJP-DD	13.0	245
44484D7	ADSC-9-04x12-D-KP-D	13.0	115
44484D76	ADSC-9-04x12-D-PKP-D	14.5	140

ADS Series Cable Code Definition and Selection Guide



Remarks

1. The default jacket colors are:

	PE	HFFR
SM Fibers	Black	Yellow
MM Fibers	Black	Orange

Other jacket colors available please specify.

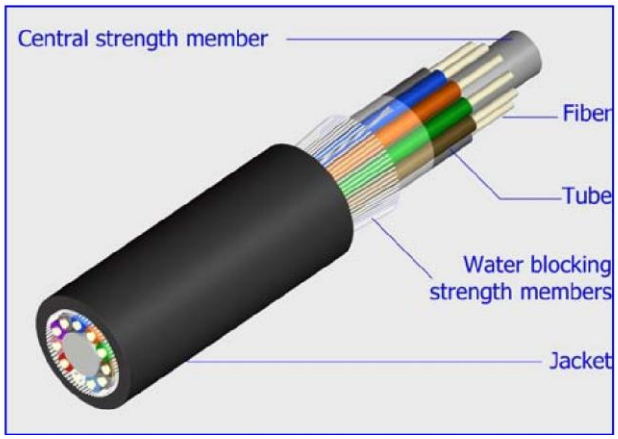
ADS Series Installation Table for ADSS Cables (1)

Number of Elements	Cable Weight (kg/km)	Cable Diameter (mm)	SPAN (m)	Installation Tension (N)(2)	Wind Conditions (3)					
					Light		Medium		Heavy	
					Sag (m)	Tension (N)	Sag (m)	Tension (N)	Sag (m)	Tension (N)
ADS Series										
2-30 ADSB, 5 Elements	105	11.5	30	400	0.16	1230	0.48	1600	0.66	2370
			40	525	0.22	1540	0.69	1970	0.95	2940
			60	800	0.37	2100	1.16	2650	1.6	3900
			70	860	0.46	2300	1.42	2930	2.27	4320
			80	985	0.54	2560	1.68	3240	2.33	4755
			100	1255	0.71	3040	2.25	3820		
			120	1520	0.89	3500	2.80	4380		
			135	1785	1.01	3870	3.23	4810		
			150	1920	1.16	4170	3.70	5180		
32-60 ADSC, 5 Elements	120	12.7	30	425	0.16	1310	0.49	1650	0.67	2430
			40	570	0.23	1630	0.71	2030	0.96	3000
			50	715	0.30	1940	0.94	2400	1.28	3530
			60	845	0.38	2220	1.17	2750	1.62	4020
			70	990	0.45	2520	1.43	3080	1.97	4500
			80	1120	0.54	2780	1.69	3390	2.35	4990
			100	1500	0.70	3340	2.22	4050		
			120	1780	0.88	3840	2.79	4628		
			135	1936	1.02	4150	3.26	5020		
			150	2200	1.16	4530				
62-72 ADSC, 6 Elements	125	12.7	30	443	0.16	1320	0.50	1640	0.67	2500
			40	580	0.24	1640	0.71	2040	0.97	3000
			50	795	0.30	2000	0.92	2470	1.26	3590
			60	950	0.38	2300	1.16	2800	1.60	4080
			70	1085	0.46	2570	1.42	3130	1.96	4540
			80	1240	0.54	2850	1.68	3450	2.32	5000
			100	1530	0.72	3350	2.22	4070		
			120	180	0.90	3830	2.80	4650		
			135	2080	1.04	4220	3.23	5100		
			150	2340	1.18	4600				
74-96 ADSC, 8 Elements	180	14.2	30	580	0.17	1500	0.5	1800	0.67	2590
			40	820	0.24	1890	0.7	2260	0.96	3220
			50	1000	0.32	2220	0.94	2630	1.28	3770
			60	1220	0.4	2600	1.17	3060	1.61	4330
			70	1400	0.49	2890	1.42	3415	1.97	4820
			80	1640	0.57	3240	1.67	3800		
			100	1960	0.76	3790	2.23	4450		
			120	2360	0.94	4390				
			135	2640	1.09	4800				
98-126 ADSC ,10 Elements	220	16	30	834	0.19	1730	0.49	2015	0.66	2810
			40	1100	0.27	2150	0.70	2500	0.94	3500
			50	1290	0.35	2500	0.93	2920	1.27	4070
			60	1590	0.44	2910	1.17	3360	1.61	4660
			70	1860	0.53	3290	1.40	3800	1.94	5220
			80	2150	0.62	3680	1.66	4215		
			100	2690	0.81	4400	2.17	5030		
			120	3250	1.00	5114				
122-144 ADSC, 12 Elements	280	17.2	30	1030	0.21	1910	0.49	2200	0.66	3030
			40	1340	0.29	2380	0.71	2710	0.95	3720
			50	1720	0.37	2900	0.91	3280	1.25	4400
			60	2030	0.47	3300	1.15	3740	1.58	5030
			70	2440	0.56	3800	1.38	4270		
			80	2750	0.65	4215	1.62	4725		
			100	3470	0.85	5070				

1. Values shown are for "KP" jacket design. Other cables available upon request,
2. 1% Sag at installation
3.

NESC	Light	Medium	Heavy
Ice (mm)	0	6.5	12.5
Wind (km/hr)	94.4	62.8	62.8
Extra (N/m)	0.7	2.5	4.4

MU Series *Mini Loose Tube Fiberoptic Cable*



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

CABLE DESCRIPTION

The cable consists of 8 to 36 elements. The elements are either single fiber containing tubes, or, when needed, fillers used to preserve cable geometry. The elements are stranded around a central strength member in one, 2 or 3 layers and bound in a jacket. The tubes are filled with a water-blocking gel to prevent water ingress.

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.

The cables can be ordered with a central member made of either a dielectric FRP, or of PE-coated steel wire. The tubes and fibers are color coded. See Color Code Table.

Three tube diameters are available:

- 1.4 mm - MUA sub-series
- 1.6 mm - MUB sub-series
- 1.8 mm - MUC sub-series

A wide range of jacket options is available: polyethylene, halogen-free flame-retardant material (HFFR / LS0H), 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.

MECHANICAL PROPERTIES

Typical properties are given in the Mechanical Properties Table. 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.

MU Series Technical Tables

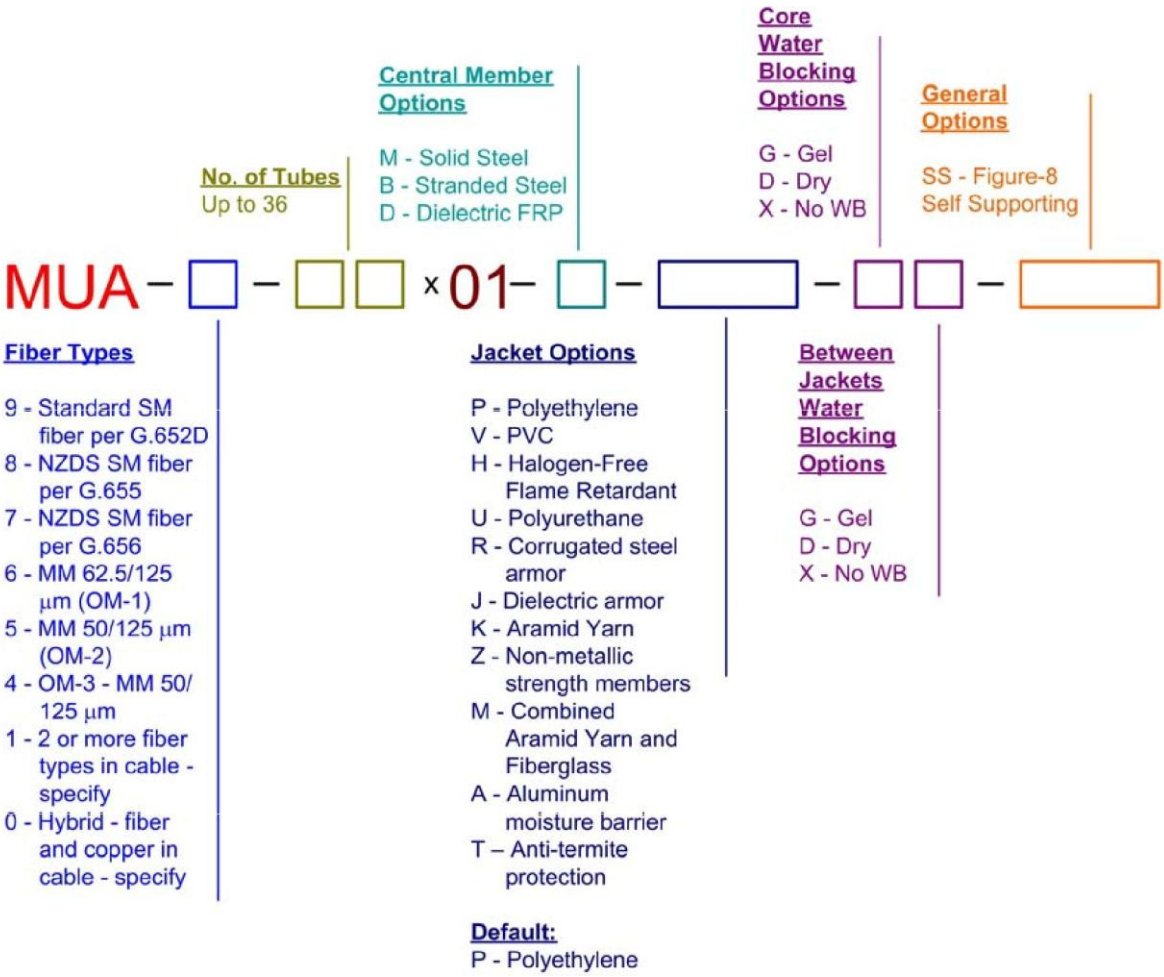
MU-Series Fiberoptic Cables

Max. Pulling Load	1500 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	3000 N for unarmored, 5000 N for armored
Repeated Impact	2.9 N.m (J) – 3 x 2 impacts
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 MU Cables
Part Numbers, Codes, Dimensions and Weights

Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
45066D05	MUA-6-06X01-D-PRP-GG	13.0	200
451212D56	MUA-6-12X01-D-PRP-GX	14.5	205
451212D6	MUA-6-12x01-D-PRHT-GX	15.0	265
452424D08	MUA-6-24x01-M-PRP-GG	16.5	300

MU Series Cable Code Definition and Selection Guide



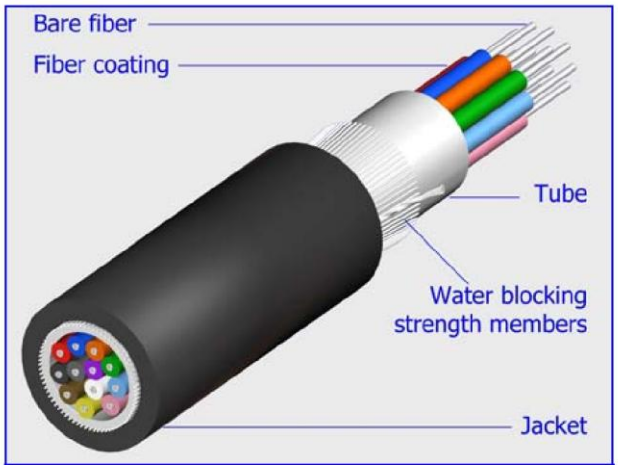
Remarks

1. The default jacket colors are:

	PE	PVC	HFFR
SM Fibers	Black	Yellow	Yellow
MM Fibers	Black	Orange	Orange

Other jacket colors available please specify.

SL Series Compact Loose Central Tube Fiberoptic Cable



APPLICATIONS

- Both indoor and outdoor
- Ducts, aerial installations and direct burial (armored option)
- Distribution and general purpose cables

CABLE DESCRIPTION

The cable consists of a single tube containing 2 up to 24 fibers, which is filled with water-blocking gel. 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 yarn or fiberglass wound around the tube.

A wide range of jacket options is available: UV-stabilized PVC, halogen-free flame-retardant material, polyethylene with corrugated anti-rodent steel armoring, a jacket incorporating a sealed aluminum tape, and more. A ripcord is located under the jacket to facilitate jacket removal.

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

BENEFITS

- Small diameter and lightweight
- Cost-effective
- Wide operating temperature range
- Wide range of jacket options

MECHANICAL PROPERTIES

Typical properties are given in the Mechanical Properties Table. 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.

SL Series Technical Tables

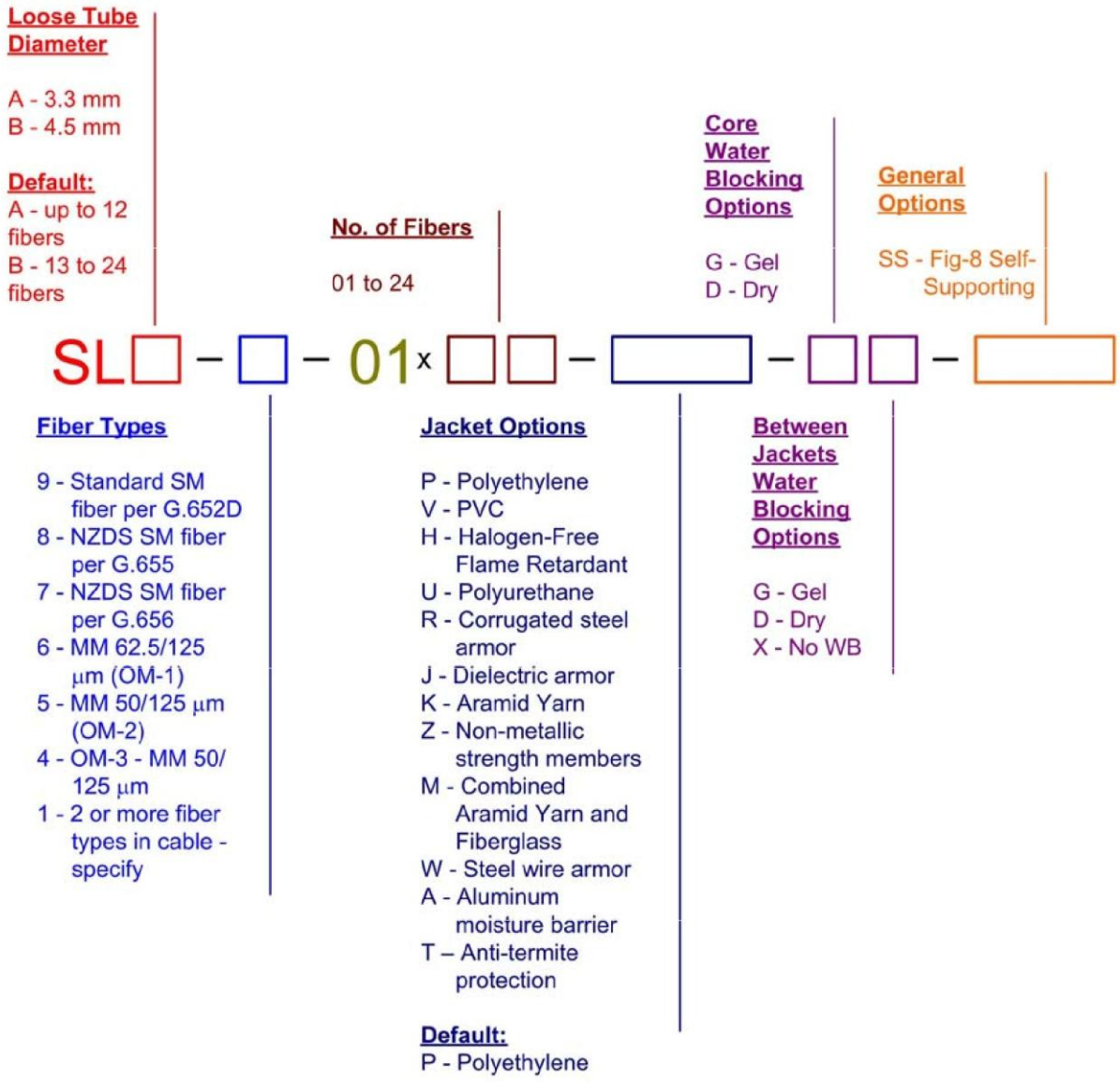
SL-Series Fiberoptic Cables
Typical Mechanical Properties

Max. Pulling Load	1500 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	For all SLA cables: 3000 N For all SLB cables: 4000 N
Repeated Impact	4.4 N.m (J) 3 x 2 impacts
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	-20°C to +70°C (With PE jacket)
Storage Temperature Range	-40°C to +70°C (With PE jacket)

Most Frequently Ordered SL Cables
Part Numbers, Codes, Dimensions and Weights

Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
SLA Series			
44021D26	SLA-9-01X02-JAHRH-DD	12.0	190
45061D09	SLA-5-01X06-ZP-D	7.0	40
44061D028	SLA-9-01X06-JH-D	7.5	60
45081D181	SLA-6-01X08-ZPWP-DX	10.5	170
44101D04	SLA-9-01X10-JP-FRP-PT-DX	12.5	150
45121D018	SLA-5-01X12-JH-D	7.5	60
SLB Series			
45241D145	SLB-5-01X24-ZH-D	8	65
45241D26	SLB-6-01X24-ZPRP-DD	12	145
45241D23	SLB-6-01X24-ZVWH-XX	12	245
44041D57	SLB-9-01X04-ZRH-D	10.0	145
44041D55	SLB-9-01X04-ZRP-D	10	115

SL Series Cable Code Definition and Selection Guide



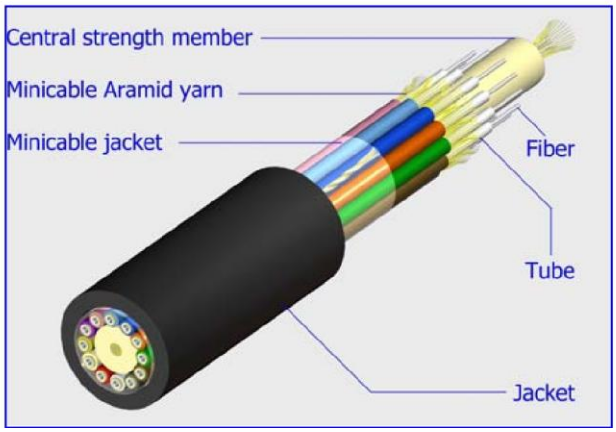
Remarks

1. The default jacket colors are:

	PE	PVC	HFFR
SM Fibers	Black	Yellow	Yellow
MM Fibers	Black	Orange	Orange

Other jacket colors available please specify.

MC Series *Individually Ruggedized Loose Tube Fiberoptic Cable*



APPLICATIONS

- Both indoor as well as outdoor applications
- Fiber distribution when field termination is required
- As riser or distribution cable for hostile environments

CABLE DESCRIPTION

The cable consists of 2 to 36 coded minicables. Each minicable contains a single fiber loosely laid in a tube filled with a water-blocking gel, aramid yarn around the tube, and a sheath. The standard tube diameter is 1.8 mm and the minicable outer diameter is 2.9 mm. The minicable sheath is either made of HFFR, polyurethane or PVC material. The minicables are stranded in up to 3 layers around a metallic or dielectric central strength member. Fillers are used as needed to preserve the cable geometry.

PVC or HFFR sheathed 2 and 4-fiber cables are supplied, by default, without a central strength member. However these cables are also available in a more rugged construction where fillers are added to complete a 6-member structure.

A wide range of jacket options is available: polyethylene, PVC, halogen-free flame retardant material, 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 jacket removal.

STANDARDS

- Cables tested according to TIA/EIA-455 and IEC-60794-1-2. For details see Test Methods Table.
- Cables ordered with PVC or HFFR jackets meet IEC-60332-1 standard.
- On request cables meeting the IEC-60332-3 can be supplied.

MECHANICAL PROPERTIES

Typical properties are given in the Mechanical Properties Table. 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.

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.

MC Series Technical Tables

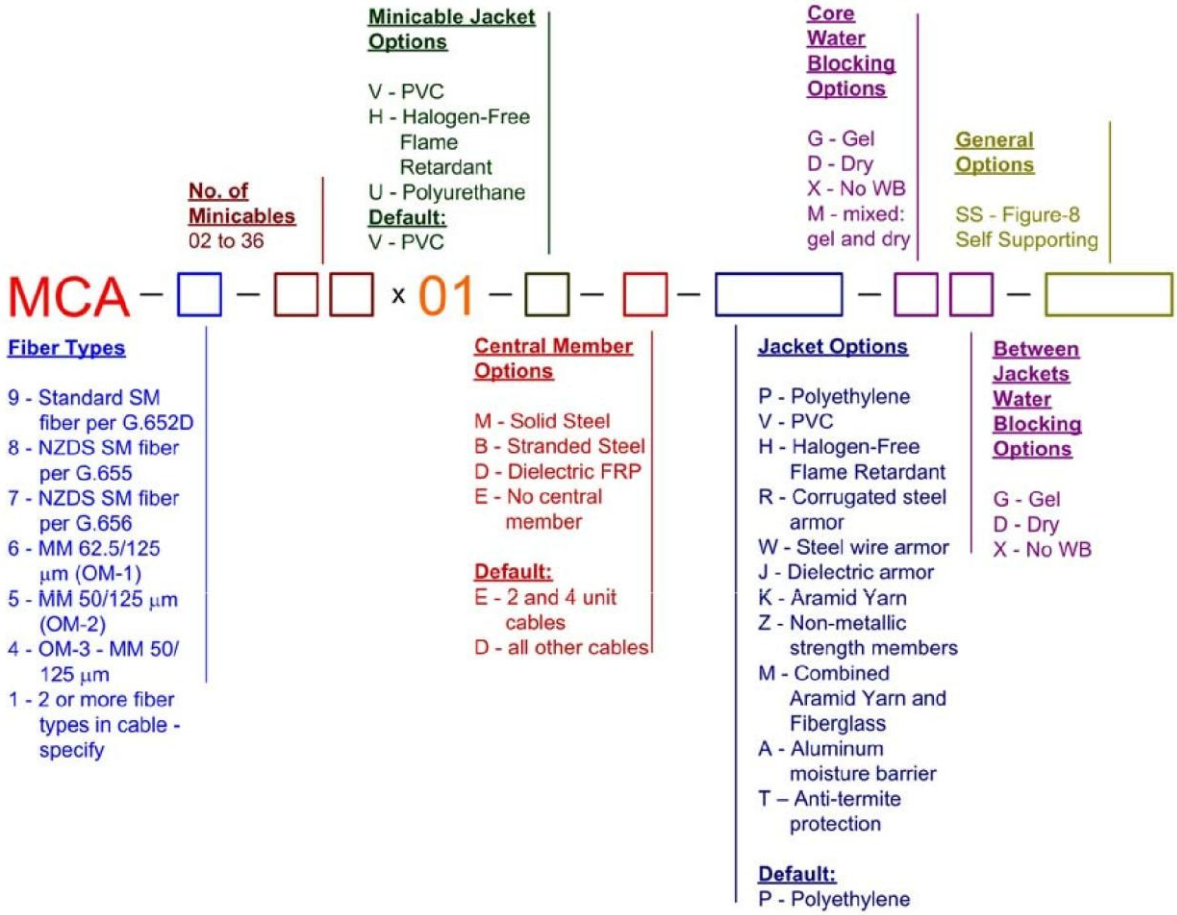
MC-Series Fiberoptic Cables
Typical Mechanical Properties

Max. Pulling Load	1500 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	3000 N for unarmored, 5000 N for armored
Repeated Impact	4.4 N.m (J) 3 x 2 impacts
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 MC Cables
Part Numbers, Codes, Dimensions and Weights

Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
MC Series			
45044D34	MCA-6-04x01-V-E-P-X	10.0	70
451212D17	MCA-6-12x01-V-D-P-X	17.5	220
451212D215	MCA-6-12X01-V-D-ZVRP-GX	22.5	440
45066D141	MCA-5-06x01-V-D-H-D	12.5	120
452424D031	MCA-6-24x01-V-D-H-D	21.0	340
44066D02	MCA-9-06x01-V-M-VRP-XX	15.5	250
442424D10	MCA-9-24X01-V-D-VRP-GX	25.0	600

MC Series Cable Code Definition and Selection Guide



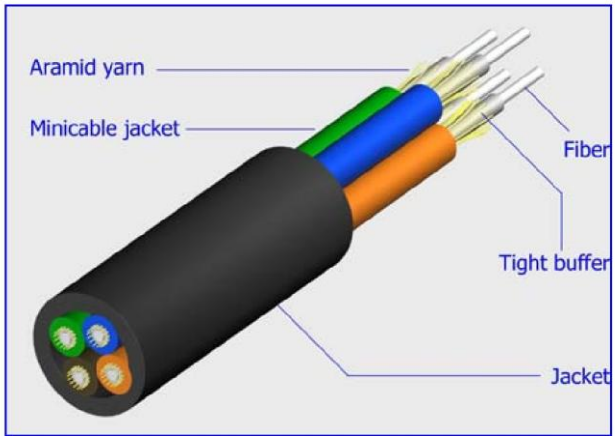
Remarks

1. The default jacket colors are:

	PE	PVC	HFFR
SM Fibers	Black	Yellow	Yellow
MM Fibers	Black	Orange	Orange

Other jacket colors available please specify.

SD Series Breakout Fiberoptic Cable



APPLICATIONS

- Short-distance, indoor and protected environments
- Breakout design permitting routing to different locations and direct termination of fibers in the field
- As riser, plenum or general purpose applications
- For multi-fiber pre-terminated cable assemblies

CABLE DESCRIPTION

The cable contains 2 to 36 fibers which are individually buffered to 0.9 mm in a tight or semi-tight construction. Each fiber is individually protected in a minicable consisting of aramid yarn stranded around the fiber, and a PVC or halogen-free flame-retardant sheath. The minicable outer diameter can be 2.8 mm, 2.5 mm or 1.9 mm (standard).

The color-coded minicables are stranded around a central strength member that can be either FRP or flexible all-dielectric, and protected with a PVC or a halogen-free, flame-retardant jacket. Fillers are used, as needed, to preserve the cable geometry. The steel armored option is available in conjunction with polyethylene or HFFR jacket. A ripcord is located under the jacket to facilitate jacket removal.

BENEFITS

- Rugged construction
- Easy termination, rugged cable-connector interface
- Individual color-coded minicables allow fast and convenient routing
- Can be installed in air-handling spaces and plenums due to its fire retardant and all-dielectric construction
- Available as OFNR (UL listed Riser rated)

MECHANICAL PROPERTIES

Typical properties are given in the Mechanical Properties Table. 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 UL 1666 (Riser rating) can be supplied.

MARKING

Cables are marked as follows
Teldor - Fiberoptic Cable - Cable Code - RoHS - Length in Meters
or per customer request.

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.

SD Series Technical Tables

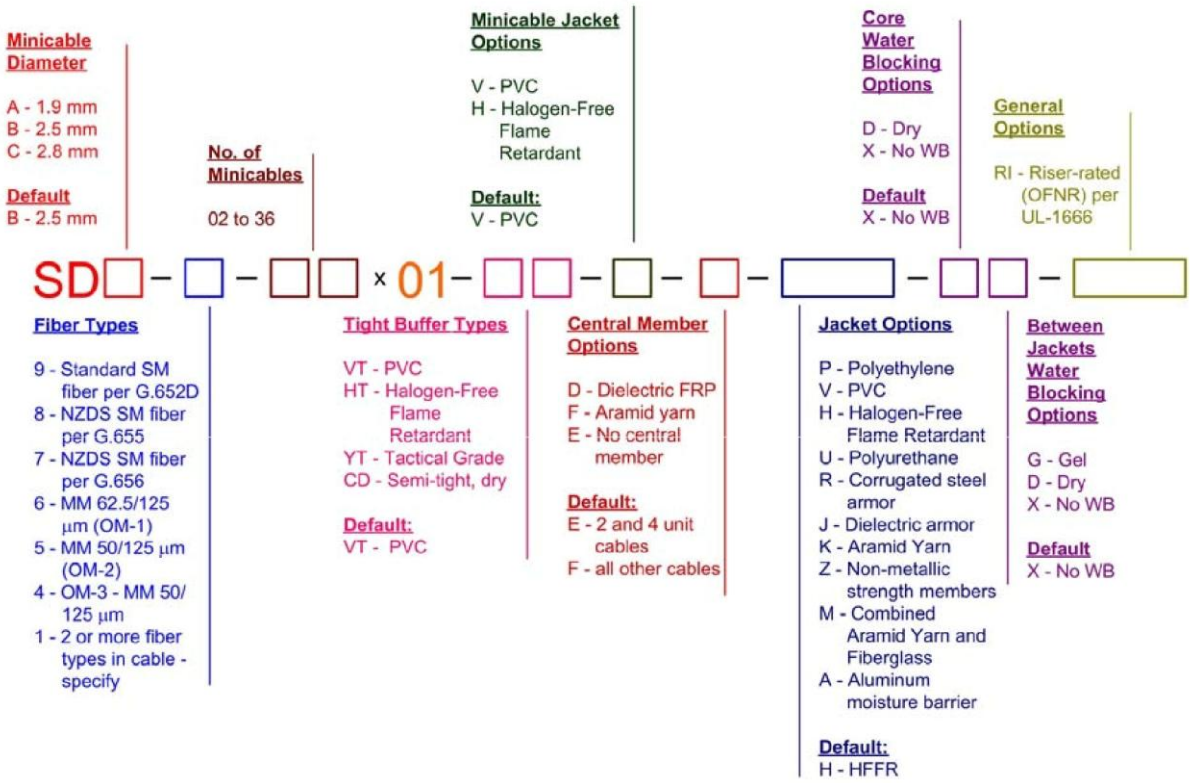
SD-Series Fiberoptic Cables
Typical Mechanical Properties

Max. Pulling Load	1500 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	3000 N for unarmored, 5000 N for armored
Repeated Impact	2.9 N.m (J) 3 x 2 impacts
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 300 cycles for unarmored cables
Operating Temperature Range	-10°C to +50°C
Storage Temperature Range	-20°C to +70°C

Most Frequently Ordered SD Cables
Part Numbers, Codes, Dimensions and Weights

Teldor Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
SDA Series			
45022D730	SDA-6-02VT\V-E-V	5.5	50
451212D98	SDA-5-12VT\V-F-V-X	13.0	160
452424D32	SDA-6-24VT\H-F-H-X	15.5	230
SDC Series			
45066D118	SDC-6-06VT\V-F-V-X	12.5	140
451212D123	SDC-6-12VT\H-F-H	18.5	310

SD Series Cable Code Definition and Selection Guide



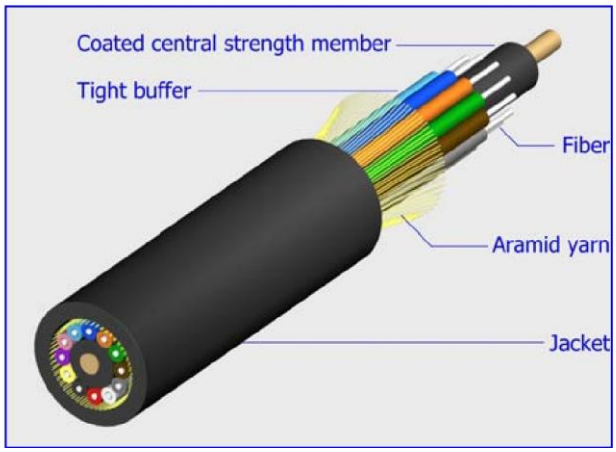
Remarks

1. The default jacket colors are:

	PVC	HFFR
SM Fibers	Yellow	Yellow
Standard MM Fibers	Orange	Orange
OM-3 50/125 Fibers	Gold	Gold

Other jacket colors available please specify.

MT Series Tight Buffer Distribution Fiberoptic Cable



APPLICATIONS

- Short and medium distance, indoor and protected environments
- As a riser, plenum, or general purpose cable
- Interconnection of distribution boxes, of the distribution boxes and customer equipment, and between floors

CABLE DESCRIPTION

The cable contains 4 to 72 fibers individually buffered to 0.9 mm in a tight or semi-tight construction and coded. The cable structure depends on the number of fibers:

- The 4-to-12-fiber cables contain individual fibers without sub-units
- In 16-to-72-fiber cables the fibers are grouped in sub-units.

Fibers/sub-unit configurations are as follows:

No. of Fibers	No. of Sub-Units	No of Fibers/Unit	Central Member
4-8	--	--	No
12	--	--	Yes
16	4	4	No
24	4	6	No
36	6	6	Yes
72	12	6	No

In the 4-to-12-fiber cables, the individual fibers are stranded and protected by aramid yarn and a PVC or halogen-free flame retardant jacket. In the 16-to-72-fiber cables the fibers are grouped into sub-units which are laid helically along the cable axis. Each sub-unit contains 4 to 6 fibers, aramid yarn and a PVC or halogen-free flame-retardant sheath. The 72-fiber cable consists of twelve sub-units, nine of them are stranded around a central element made of 3 sub-units.

A wide range of jacket options is available: PVC, halogen-free flame-retardant material, corrugated anti-rodent steel armoring, fiberglass, aramid yarn, and more. The steel armored option is available in conjunction with polyethylene or HFFR jacket. A ripcord is located under the jacket to facilitate jacket removal.

BENEFITS

- Cost efficient multi-fiber cable
- Compact and flexible construction especially suitable for indoor installations
- Available in a UL listed Riser rated construction

MECHANICAL PROPERTIES

Typical properties are given in the Mechanical Properties Table. 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 ordered with HFFR jackets meet IEC-60332-1 standard.
- On request cables meeting the IEC-60332-3 can be supplied.
- Available in constructions meeting UL 1666 (Riser rating)

MT Series Tight Buffer Distribution Fiberoptic Cable

MARKING

Cables are marked as follows
Teldor - Fiberoptic Cable - Cable Code - RoHS - Length in Meters
or per customer request.

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.

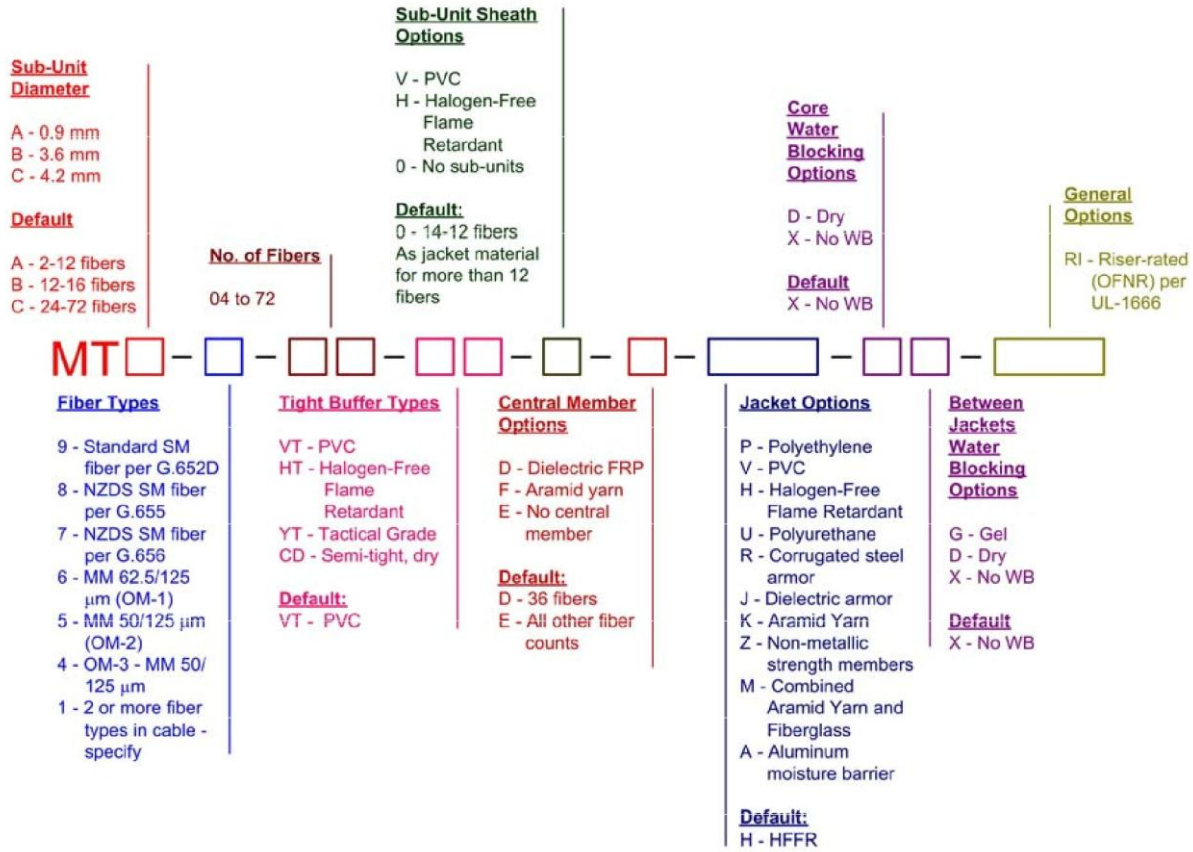
MT-Series Fiberoptic Cables
Typical Mechanical Properties

Max. Pulling Load	1000 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	2000 N
Repeated Impact	2.9 N.m (J) 3 x 2 impacts
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 300 cycles for unarmored cables
Operating Temperature Range	-10°C to +50°C
Storage Temperature Range	-20°C to +70°C

Most Frequently Ordered MT Cables
Part Numbers, Codes, Dimensions and Weights

Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
MTA Series			
45044D494	MTA-6-04VT-E-JH-D	6.0	32
45044D46	MTA-6-04VT-E-KH-D	5.0	25
45066D36	MTA-6-06VT-E-KV	5.5	25
451212D43	MTA-6-12VT-D-KVRP-DD	12.0	145
451212D44	MTA-6-12VT-E-JH-D	7.5	50
MTC Series			
45244D145	MTC-6-04X06VT\V-E-KV-X	13.5	145
45244D11	MTC-5-04X06VT\H-E-KH	13.5	150
447212D03	MTC-9-12X06VT\V-E-KV	19.0	305

MT Series Cable Code Definition and Selection Guide



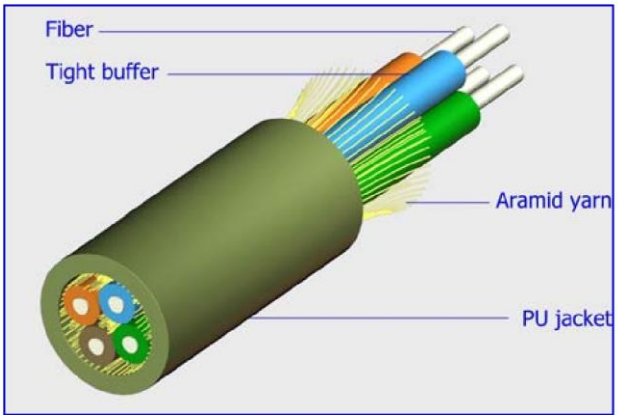
Remarks

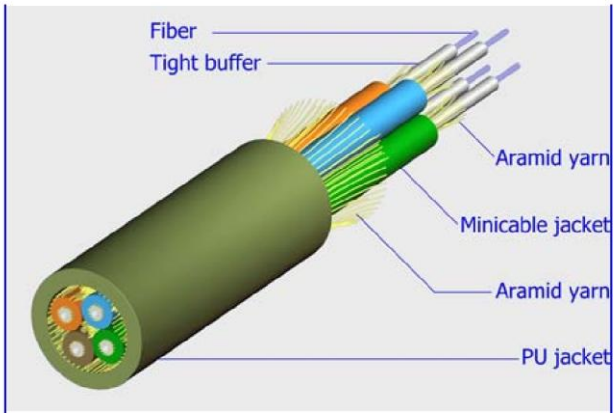
1. The default jacket colors are:

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

Other jacket colors available please specify.

TAC Series *Tactical Cables for Harsh Environmental Conditions*





APPLICATIONS

- Repeated deployment and retrieval of cable in indoor and outdoor environments
- In extremely harsh environments including rough terrain where sporadic vehicular traffic and pedestrian activity are expected
- Military tactical applications
- Commercial application such as video coverage of news events and other temporary installations where high bandwidth information needs to be transmitted
- In industrial environment where chemical resistance of the cable is a requirement

BENEFITS

- Very rugged yet lightweight and flexible
- Withstands repeated deployment and retrieval without loss of properties
- Excellent resistance to oils, solvents and acids
- Suitable for direct connectorization to tactical fiberoptic connectors where high cable retention force is needed

CABLE DESCRIPTION

Two basic cable constructions are available:

- In Option A the cable core is constructed of up to 12 color-coded tight-buffered fibers surrounded by aramid yarn strength members. In cables containing 6 fibers or more, the tight-buffered fibers are helically stranded around a flexible central member.
- In Option B the cable core is constructed of up to 12 color-coded minicables surrounded by aramid yarn strength members. In cables containing 6 fibers or more, the minicables are helically stranded around a flexible central member.

The tight-buffer in both cable options is made of a rugged material specifically designed for tactical cables. The minicable and outer jackets are extruded of polyurethane.

STANDARDS

Cables tested according to TIA/EIA-455, IEC-60794-1-2 or DOD-STD-1678. For details see Test Methods Table.

MECHANICAL PROPERTIES AND DIMENSIONS

Typical properties are given in the Mechanical and Dimensional Properties Table. Actual properties may depend on the cable construction.

OPTICAL PROPERTIES

See the Optical Properties Table.

MATERIALS

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

MARKING

Cables are marked as follows
Teldor - Fiberoptic Cable - Cable Code - RoHS - Length in Meters
or per customer request.

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.

TAC Series Technical Tables

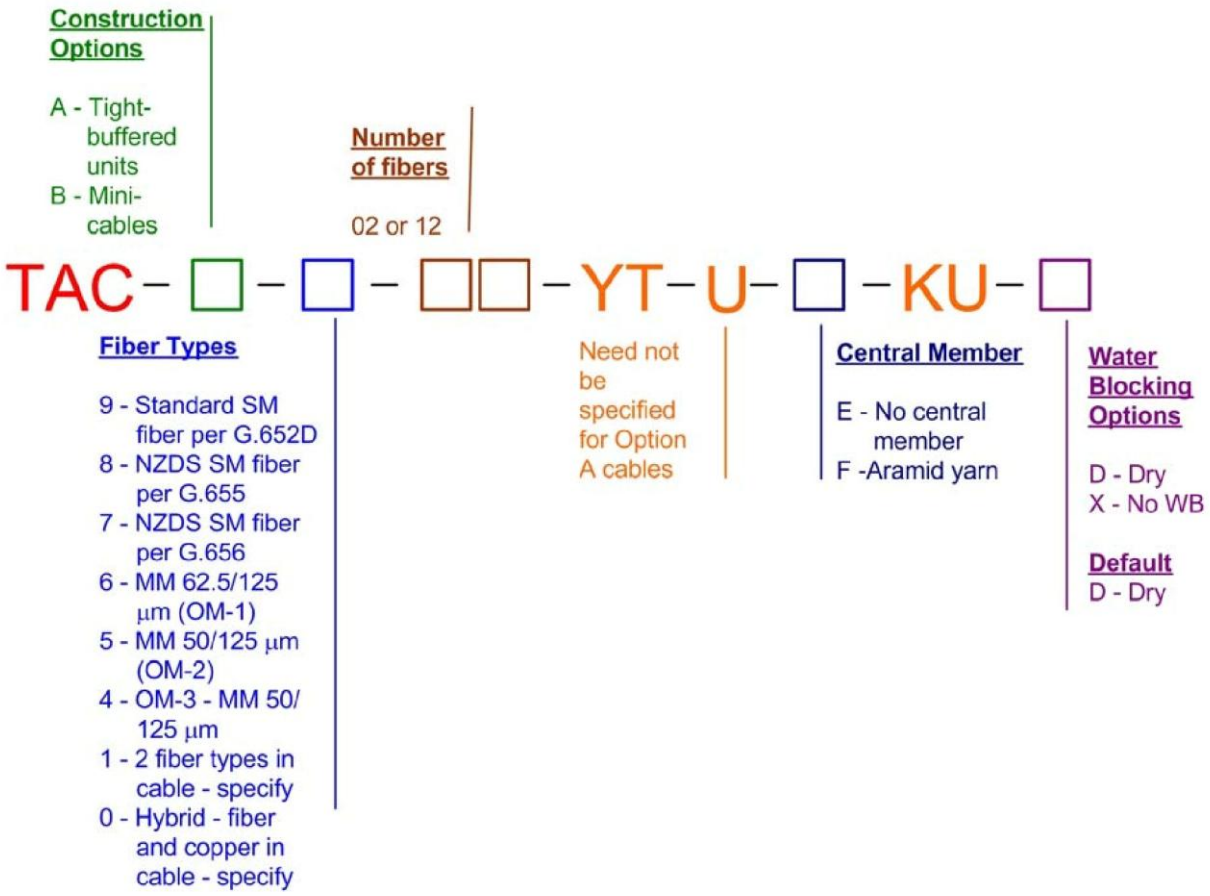
TAC-Series Fiberoptic Cables
Typical Mechanical and Environmental Properties

	TAC-A Series	TAC-B Series
Max. Pulling Load	2500 N	
Max. Operating Load	1000 N	
Max. Compressive Load	8000 N	
Repeated Impact	2.2 N.m 100 impact cycles	
Minimum Bending Radius for Installation	5 times the cable O.D.	8 times the cable O.D.
Minimum Long Term Bending Radius	5 times the cable O.D.	8 times the cable O.D.
Twist (Torsion) — Length	180°x10 times , 50 times the cable O.D.	180°x10 times , 100 times the cable O.D.
Cyclic Flexing	10,000 cycles	2,000 Cycles
Knot Test	500 N	
Operating Temperature Range	-55°C to +85°C	

Most Frequently Ordered TAC Cables
Codes, Dimensions and Weights

Cable code	Dimensions (mm)	Weight (kg/km)
TAC-A Series		
TAC-A-9-02-YT-E-KU-D	6.0	27.0
TAC-A-6-02-YT-E-KU-D	6.0	27.0
TAC-A-6-04-YT-E-KU-D	6.0	29.0
TAC-A-6-06-YT-E-KU-D	6.5	30.0
TAC-A-5-02-YT-E-KU-D	6.0	27.0
TAC-A-5-04-YT-E-KU-D	6.0	29.0
TAC-A-5-06-YT-E-KU-D	6.5	30.0
TAC-A-9-04-YT-E-KU-D	6.0	29.0
TAC-A-9-06-YT-E-KU-D	6.5	30.0
TAC-A-9-12-YT-E-KU-D	8.0	52.0
TAC-B Series		
TAC-B-6-02-YT-U-E-KU-D	8.0	48.0
TAC-B-6-04-YT-U-E-KU-D	8.5	53.0

TAC Series Cable Code Definition and Selection Guide



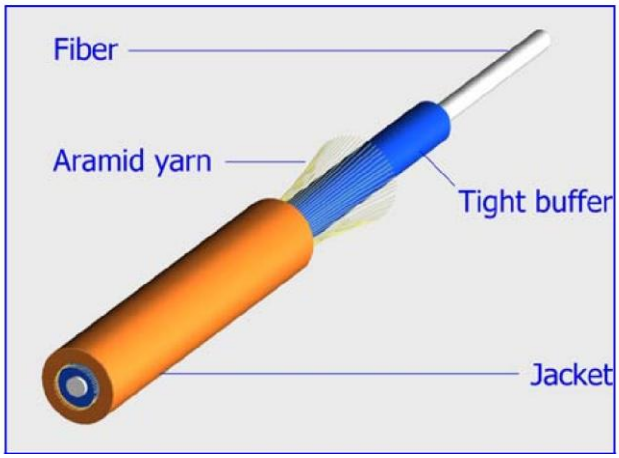
Remarks

1. The default jacket colors are:

	PU
SM Fibers	Black
Standard MM Fibers	Black
OM-3 50/125 Fibers	Gold

Other jacket colors available please specify.

ST Series Simplex Tight Buffer Fiberoptic Cable



APPLICATIONS

- Indoor general purpose cable
- Interconnect cable for jumpers, patch cords or pigtails

BENEFITS

- Light weight and flexible
- Easy termination, rugged cable-connector interface
- Flame retardant jacket

CABLE DESCRIPTION

The cable consists of a single fiber buffered to 0.9 mm in a tight or semi-tight construction. Physical protection and tensile strength are provided by aramid yarn wound around the buffered fiber. The outer jacket is extruded from PVC, flexible polyurethane or halogen-free flame-retardant material.

The standard cable diameter is 2.8 mm however 1.7 mm (Mini ST) 2 and 2.5 mm diameters are also available.

MECHANICAL PROPERTIES

Typical properties are given in the Mechanical Properties Table. 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 ordered with HFFR jackets meet IEC-60332-1 standard.
- On request cables meeting the IEC-60332-3 can be supplied.
- Available in constructions meeting UL 1666 (Riser rating).

MARKING

Cables are marked as follows
Teldor - Fiberoptic Cable - Cable Code - RoHS - Length in Meters
or per customer request.

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.

ST Series Technical Tables

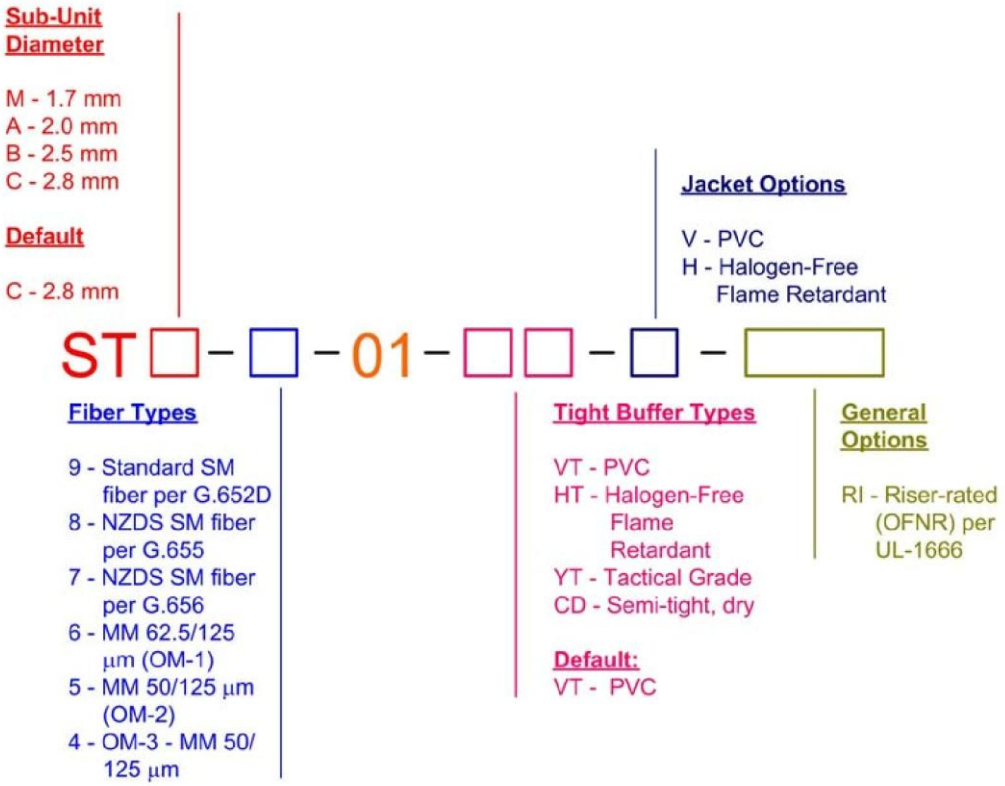
ST-Series Fiberoptic Cables
Typical Mechanical Properties

Max. Pulling Load	250 N
Max. Operating Load	60% of the Max. Pulling Load
Max. Compressive Load	1500 N
Repeated Impact	0.75 N.m (J) 3 x 2 impacts
Minimum Short and Long Term Bending Radius	10 times the cable O.D.
Twist (Torsion) — Length	180°x10 times , 100 times the cable O.D.
Cyclic Flexing	500 cycles
Operating Temperature Range	-10°C to +50°C
Storage Temperature Range	-20°C to +70°C

Most Frequently Ordered ST Cables
Part Numbers, Codes, Dimensions and Weights

Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
STC Series			
45011D13	STC-5-01VT-KV	2.8	7
45011D15	STC-6-01CG -KH	2.8	8

ST Series Cable Code Definition and Selection Guide



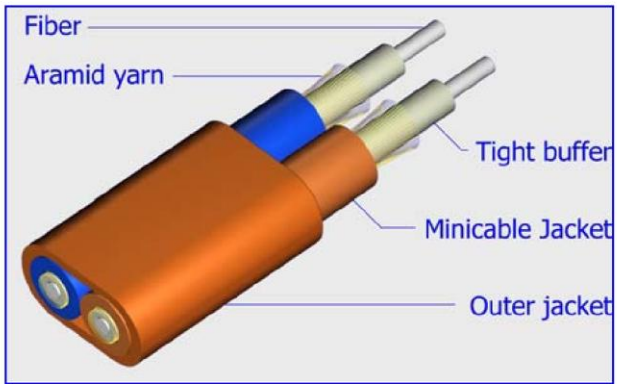
Remarks

1. The default jacket colors are:

	PVC	HFFR
SM Fibers	Yellow	Yellow
Standard MM Fibers	Orange	Orange
OM-3 50/125 Fibers	Aqua	Aqua

Other jacket colors available please specify.

DT Series Duplex Tight Buffer Fiberoptic Cable



APPLICATIONS

- Indoor general purpose cable
- Interconnect cable for jumpers, patch cords or pigtails

BENEFITS

- Light weight and flexible
- Easy termination, rugged cable-connector interface
- Flame retardant jacket

CABLE DESCRIPTION

The cable comprises two simplex units of fibers buffered to 0.9 mm in a tight or semi-tight construction. Physical protection and tensile strength are provided for each unit by aramid yarn wound individually around the buffered fibers and by a PVC or halogen-free flame-retardant – HFFR - sheath. The standard diameter of the two color-coded units is 2.8 mm, However, other diameters are available. A common PVC or HFFR sheath completes the cable make up. A ripcord allows fast and easy separation between the fiber units.

MECHANICAL PROPERTIES

Typical properties are given in the Mechanical Properties Table. 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 ordered with HFFR jackets meet IEC-60332-1 standard.
- On request cables meeting the IEC-60332-3 can be supplied.
- Available in constructions meeting UL 1666 (Riser rating).

MARKING

Cables are marked as follows
Teldor - Fiberoptic Cable - Cable Code - RoHS - Length in Meters
or per customer request.

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.

DT Series Technical Tables

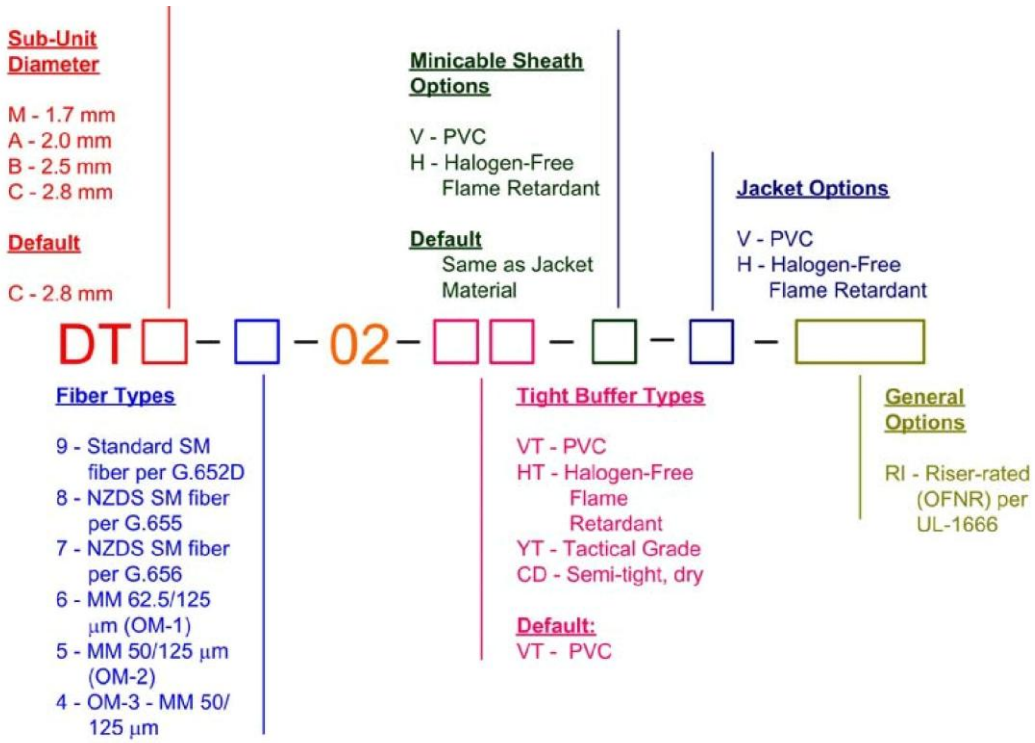
DT-Series Fiberoptic Cables
Typical Mechanical Properties

Max. Pulling Load	500 N
Max. Operating Load	60% of the Max. Pulling Load
Max. Compressive Load	1500 N
Repeated Impact	0.75 N.m (J) 3 x 2 impacts
Minimum Short and Long Term Bending Radius	10 times the cable O.D.
Twist (Torsion) — Length	180°x10 times, 100 times the cable widest dimension
Cyclic Flexing	500 cycles
Operating Temperature Range	-10°C to +50°C
Storage Temperature Range	-20°C to +70°C

Most Frequently Ordered DT Cables
Part Numbers, Codes, Dimensions and Weights

Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
DTA Series			
44022D09	DTA-9-02-VT-V-V	3.2X5.2	15
DTC Series			
45022D18	DTC-6-02-VT-H-H	3.8X6.6	34
45022D20	DTC-6-02-VT-V-V	3.8X6.6	32
45022D15	DTC-5-02-VT-V--V	3.8X6.6	32

DT Series Cable Code Definition and Selection Guide



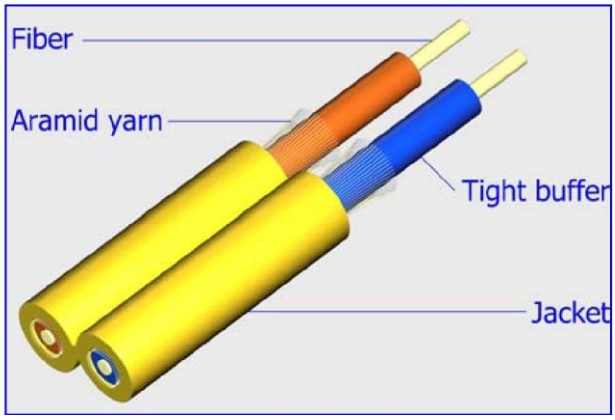
Remarks

1. The default jacket colors are:

	PVC	HFFR
SM Fibers	Yellow	Yellow
Standard MM Fibers	Orange	Orange
OM-3 50/125 Fibers	Aqua	Aqua

Other jacket colors available please specify.

ZIP Series *Duplex Detachable Fiberoptic Cable*



APPLICATIONS

- Indoor general purpose cable
- Interconnect cable for jumpers, patch cords or pigtails

BENEFITS

- Light weight and flexible
- Easy termination, rugged cable-connector interface
- The fiber sub-units can be easily separated from each other
- Flame retardant jacket

CABLE DESCRIPTION

The cable consists of two fibers buffered to 0.9 mm in a tight or semi-tight construction. Physical protection and tensile strength are provided for the fibers by aramid yarn. The fibers have PVC or halogen-free flame-retardant jackets joined by a web to form a "zipcord" construction. The default nominal cable dimensions are 2.8 x 5.6 mm. Other outer diameters are:

- ZIPA 1.6x3.2 mm
- ZIPB 2.0x4.0 mm
- ZIPC 2.5x5.0 mm

MECHANICAL PROPERTIES

Typical properties are given in the Mechanical Properties Table. 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 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.

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.

ZIP Series Technical Tables

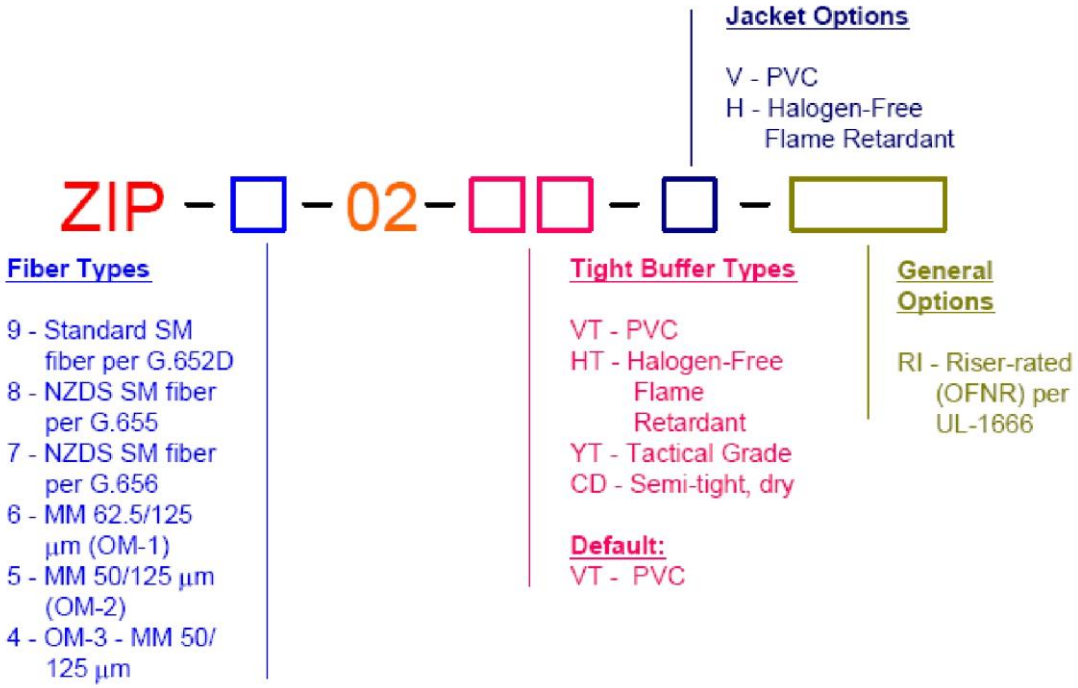
ZIP-Series Fiberoptic Cables
Typical Mechanical Properties

Max. Pulling Load	400 N (ZIPA - 300 N)
Max. Operating Load	60% of the Max. Pulling Load
Max. Compressive Load	1500 N
Repeated Impact	0.75 N.m (J) 3 x 2 impacts
Minimum Short and Long Term Bending Radius	10 times the cable narrowest dimension
Twist (Torsion) — Length	180°x10 times, 100 times the cable widest dimension
Cyclic Flexing	300 cycles
Operating Temperature Range	-10°C to +50°C
Storage Temperature Range	-20°C to +70°C

Most Frequently Ordered ZIP Cables
Part Numbers, Codes, Dimensions and Weights

Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
45022D115	ZIP-6-02VT-H	2.8x5.6	17
45022D116	ZIP-6-02VT-V	2.8x5.6	15

ZIP Series Cable Code Definition and Selection Guide



Remarks

1. The default jacket colors are:

	PVC	HFFR
SM Fibers	Yellow	Yellow
Standard MM Fibers	Orange	Orange
OM-3 50/125 Fibers	Aqua	Aqua

Other jacket colors available please specify.

RIB Series *Fiber Ribbon Cables*

APPLICATIONS

- Parallel Optical interconnect applications
- For Infiniband systems as per Infiniband Architecture Specifications Vol. 2
- For Fibre Channel systems as per 10GFC 1200-MX-SN4P-1 PMD definitions
- For OIF VSR4-1 systems
- Meets cable specifications of the QSFP and SNAP-12 MSA's

BENEFITS

- Twelve (12) fibers in a small package – 6 times more fibers than a in an equal size standard ZIP or DT cable
- Suitable for MTP/MT connectors
- Sufficiently rugged for data center/SAN applications
- Flame retardant jacket
- Available with OM-1, OM-2 and OM-3 fibers

CABLE DESCRIPTION

The cable consists of a ribbon of 12 color-coded fibers, protected by aramid yarn and a HFFR or PVC jacket.

MECHANICAL PROPERTIES

Typical properties are given in the Mechanical Properties Table.

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 ordered with PVC jacket meet IEC-60332-1
- Cables ordered with HFFR jacket meet IEC-60332-1, IEC-60754-1, IEC 60754-2 and IEC 61034 standards.
- 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.

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.

RIB Series Technical Tables

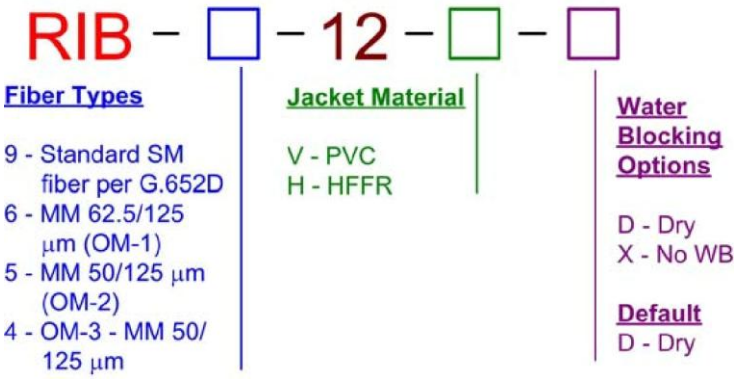
RIB-Series Fiberoptic Cables
Typical Mechanical Properties

Max. Pulling Load	400 N
Max. Operating Load	60% of the Max. Pulling Load
Max. Compressive Load	1500 N
Repeated Impact	0.75 N.m (J) 3 x 2 impacts
Minimum Short and Long Term Bending Radius	10 times the cable narrowest dimension
Twist (Torsion) — Length	180°x3 times, 100 times the cable widest dimension
Cyclic Flexing	300 cycles
Operating Temperature Range	-10°C to +50°C
Storage Temperature Range	-20°C to +70°C

Most Frequently Ordered RIB Cables
Part Numbers, Codes, Dimensions and Weights

Part Number	Cable code	Dimensions (mm)	Weight (kg/km)
451212D91	RIB-5-12-KV-D	4.6X2.1	8.9
451212D991	RIB-5-12-KH-D	4.6X2.1	9.0

RIB Series Cable Code Definition and Selection Guide



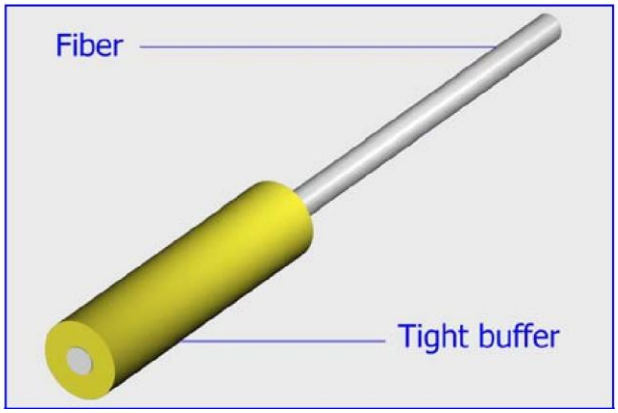
Remarks

2. The default jacket colors are:

	PVC	HFFR
SM Fibers	Yellow	Yellow
Standard MM Fibers	Orange	Orange
OM-3 50/125 Fibers	Aqua	Aqua

Other jacket colors available please specify.

TB Series Tight-Buffered Fibers



APPLICATIONS

For pigtails used inside communication equipment or distribution cabinets or frames.

BENEFITS

- Suitable for direct mounting of fiberoptic connectors
- Provides an adequate protection to the fiber so it can be deployed in enclosed and protected spaces

PRODUCT DESCRIPTION

The product comprises an optical fiber over which a tight or semi-tight plastic secondary coating has been extruded. The outer diameter of the tight-buffered fiber is 0.9 ± 0.05 mm.

OPTICAL PROPERTIES

See the Optical Properties Table.

MATERIALS

See information about the materials used in the TB Series products in the Material Section.

STANDARDS

TB fibers tested according to TIA/EIA-455. For details see Test Methods Table.

COLORS

The tight-buffered fibers can be ordered in any of the standard Teldor colors.

ORDERING

You can define the TB units you need by consulting the Cable Code Definition and Selection Guide.

Other constructions, color codes and materials may be available. Please contact the Teldor Marketing Department.

TB Series Code Definition and Selection Guide

TB – □ – □□

Fiber Types

9 - Standard SM fiber per G.652D
8 - NZDS SM fiber per G.655
7 - NZDS SM fiber per G.656
6 - MM 62.5/125 µm (OM-1)
5 - MM 50/125 µm (OM-2)
4 - OM-3 - MM 50/125 µm

Tight Buffer Types

VT - PVC
HT - Halogen-Free Flame Retardant
YT - Tactical Grade
CD - Semi-tight, dry

Default:
VT - PVC

Specify color separately

Cable Materials

Central Member Materials

Solid or Stranded Steel (Option M or B)
For high strength and flexibility in outdoor cables where the cable is to be pulled or blown into ducts, the preferred central member material is steel. The steel is hot-rolled with anticorrosion treatment. The steel central member is continuous throughout the cable length.
It is coated with polymer to the diameter dictated by the cable geometry. Stranded steel is used when high cable flexibility is needed.

Dielectric FRP (Option D)
The dielectric nature of glass fibers renders them immune to electromagnetic interference (EMI) and lightning. Fiberoptic cables can be laid in unprotected conduits and even in air handling spaces and plenums, as there is no danger of electrical shock.
In order to take advantage of the dielectric nature of the optical fibers, the cable should be fully dielectric. The recommended central strength member for most dielectric cables is made of fiber reinforced plastic (FRP). The FRP rod is coated when necessary with a polymer to the diameter dictated by the cable geometry. In addition to being dielectric, FRP possesses high tensile strength and low weight.
Cables requiring high strength may additionally be reinforced with aramid or fiberglass yarn strength members under the jacket (see section on aramid yarn below).

Aramid Yarn (Central Member Option F, Jacket Option K)
Aramid is a dielectric, high modulus, low specific weight polymer that is used in the form of thin fiber yarn. Aramid is used as a central strength member in flexible indoor cables such as the SD and MT Series.
When used as a strength member, Aramid yarn is incorporated into the cable outer jacket as peripheral strength member. Aramid peripheral strength members are especially recommended for cables that are designed for aerial installation (ADSS) as the aramid-reinforced jacket is especially suitable to support the large tensile stresses developing in aerial cables.

Jacket Materials

Polyethylene (Option P)
Used mostly for outdoor applications. Teldor uses non reclaimed polyethylene containing carbon black and conforming to appropriate national and international standards such as DIN 0207, BS-6234, and ASTM D 1248. The material has been especially designed for use in cable jackets. It is characterized by high tensile strength and resistance to abrasion.
Polyethylene will not crack or become brittle at low temperatures, and will retain its mechanical properties and stability at high temperatures.
Polyethylene containing carbon black has extremely good aging properties and high UV and weather resistance. Non-black colored polyethylene jacket is also formulated to be UV resistant. Polyethylene is resistant to most chemicals and solvents.

PVC (Option V)

Used mostly for indoor applications. The material is flexible and flame retardant; it will not allow fire to propagate along the cable when ignited.
All the standard PVC jacketed cables produced by Teldor meet the flammability requirements of UL 1581 (VW-1) and IEC-60332-1. Cables may be ordered that meet the flammability requirements of IEC-60332-3 or UL-1666 (riser rated OFNR).
The PVC used by Teldor is resistant to degradation from exposure to UV radiation.
PVC possesses high tensile strength and abrasion resistance. It will not crack or deteriorate when used indoors and at moderate temperatures.

Halogen-Free, Flame-Retardant – HFFR/LS0H (Option H)
Used mostly for indoor applications. When exposed to fire it will retard fire propagation while emitting no toxic, corrosive halogen gases (halogen-free as per IEC-60754-1 and IEC-60754-2) and only low amounts of smoke (as per IEC-61034-2). HFFR-based cables meet the flammability requirements of UL 1581 (VW-1) and IEC-60332-1. Cables may be ordered that meet the flammability requirements of IEC-60332-3.

Polyurethane (Option U)
Used in cables designed for special environmental conditions. This special material withstands extremely harsh environments and has excellent resistance to abrasion, chemicals and industrial applications. The polyurethane used by Teldor includes a flame retarding additive.

Cable Materials

Armor and Strength Members

Corrugated Steel Tape Armor (Option R)
The steel tape provides protection against punctures caused by hand tools, rodents and wood-peckers. It is recommended for directly buried cables and for special application aerial and duct cables.
The tape consists of chrome-plated steel coated with polymer on both sides. The polymer coating enhances the adhesion of the steel to the jacket material during extrusion, creating an extremely rugged composite. The steel tape is corrugated during manufacture to enhance cable flexibility. The corrugated steel armor used by Teldor has been successfully tested by independent laboratories for rodent resistance.

Fiberglass Armor (Option J) or strength member (Option Z)
Fiberglass is a dielectric, high modulus, low weight glass fiber used in a form of thin fiber bundles or roving.
Fiberglass is used in two ways:

- As peripheral strength member replacing aramid.
- As a dielectric armor for protection against damage during installation and damage caused by rodents. Fiberglass armor is used when there is a need for dielectric and flexible armored cables.

Aluminum Moisture Barrier (Option A)
Whenever enhanced protection is required against radial moisture penetration, for example when a cable is installed in a wet environment, an aluminum tape is incorporated into the jacket to form a moisture barrier along the entire cable length. The barrier to water penetration is assured by sealing of the tape along the cable.

Anti-Termite Protection (Option T)
Common cable materials are prone to attack by termites when a cable is buried directly in the ground. Teldor has developed a special thin plastic coating that is applied over the regular cable jacket and protects the cable from the termites. The anti-termite coating does not degrade the cable mechanical properties or causes environmental damage.

Steel Wire Armor (Option W)
Steel wires provide protection against harsh environmental conditions. The use of steel wires is recommended for direct burial installations.

Figure-8 Self-Supporting (Option SS)
Cables for aerial installation on poles can be ordered with a high-tensile-strength steel messenger wire integrated into the outside jacket. This cable structure is commonly termed Figure-8 and recommended for spans up to 150m.
The messenger wire is made of 7 stranded galvanized steel elements having a diameter and tensile strength to match the cable weight:
7 x 1.6 mm for cables weighing more than 150 kg/km, and
7 x 1.0 mm for lighter cables.
Other messenger wire configurations are available.

Water Blocking

To prevent axial penetration of water into the loose tubes used in outdoor cables, all the tubes are filled, as a rule, with a water-blocking gel. However, for long term protection of the fibers, it is recommended to also block water passage between the tubes and in all other interstices in the cable core. If the cable has two or more jacket layers, water can penetrate between the jackets. This may cause damage to closures installed along the line. It is therefore recommended to block the water passage also between the jacket layers.
The water blocking option can be chosen separately for the core interstices and for the jacket.
Teldor offers two water-blocking options for each of these two locations:

■ **Water blocking gel (Option G)**
Specially formulated gels that are applied inside the cable core and/or between the jackets – "wet" water blocking.

■ **Dry water blocking (Option D)**
A polymer which swells on contact with water and blocks the passage of water into the cable. Such a polymer can be applied as a thin tape, laid either in the cable core, or between jacket layers. Alternatively, the polymer is made into a thin coating applied over the FRP or the aramid strength members in the cable. This "dry" water blocking method makes the cable easier to install, as there is no need to clean messy gels from the cable elements during installation.
The water-blocking gels used by Teldor will not flow or drip from cable ends at normal operating temperatures, yet they will remain soft at low temperatures and will help maintain low fiber attenuation.
The water-blocking gels and dry swellable materials are non-toxic, dermatologically safe, and can be removed or cleaned with conventional cleaning fluids.

Description of Options

Fiber Options

Code	Fiber Type
I	Bend Insensitive single-mode fiber per ITU-T G.657A
9	Standard single-mode fiber per ITU-T G.652D
8	Non-Zero Dispersion Shifted single-mode fiber per ITU-T G.655
7	Non-Zero Dispersion-Shifted single-mode fiber for wide-band transport per ITU-T G.656
6	62.5/125 Graded Index multi-mode fiber – FDDI/ OM-1 Grade per ISO/IEC 11801
5	50/125 Graded Index multi-mode fiber per ITU-T G.651- OM-2 Grade per ISO/IEC 11801
4	Laser-Optimized 50/125 Graded Index multi-mode fiber - OM-3 Grade per ISO/IEC 11801
1	Code signifying the existence of two or more fiber types in the same cable - "Composite Cable". Specify exact fiber types needed
0	Code signifying the existence of both optical fibers and copper conductors in the same cable - "Hybrid Cable". Please specify both

Cable Jacket and Sub-Unit/Minicable Sheath Options

Code	Material	Description
P	Single layer of Polyethylene (PE)	May be combined with other options, i.e. PRP - double PE jacket with steel armor in between.
V	Single layer of PVC	Fire-retardant material for indoor cables and for outdoor cables where fire retardancy is required.
H	Single layer of Halogen-Free, Flame-Retardant (HFFR/LS0H)	For indoor environments where the emission of toxic and corrosive gases in case of fire should be minimized.
U	A single layer of polyurethane	For very high flexibility and for use in harsh environments. Normally contains a flame-retardant additive.
R	Corrugated steel armor for protection against rodents	Should be specified in combination with inner and outer jacket. For example PRP is a steel rodent protection between two PE layers. Not available with PVC outer jacket.
J	Fiberglass armor	Flexible dielectric armor made of a thick layer of fiberglass roving. Not to be confused with fiberglass strength members (see below).
A	Aluminum moisture barrier	Should be specified in combination with either PE or HFFR outer jacket. Not available with PVC outer jacket.
K	Aramid yarn strength members	Used as a dielectric strength member under a jacket or between two jacket layers.
T	Anti-termite coating	A thin overcoat of tough plastic material resistant to termites. Should be specified in addition to at least one other jacket layer.
W	Steel wire armor	Helically wound steel wires used as an armor for harsh environmental conditions
Z	Fiberglass strength members	Used as a dielectric strength member under a jacket or between two jacket layers.

Description of Options

Tight Buffer Options

Code	Description
VT	Standard PVC tight buffer
HT	HFFR tight buffer
YT	Tactical grade tight buffer
CD	Semi-tight buffer for easy removal of long buffer length from the fiber

Water Blocking Options

Code	Description	Remark
G	Water-blocking gel	Depending on code position in cable description, the water blocking gel may be in the cable core or between jackets
D	Dry water blocking	
X	No water blocking	Depending on code position in cable description, the lack of water blocking may apply to the cable core or to the jackets

General Options

Code	Description	Remark
SS	Figure-8 Self-Supporting	For self-supporting aerial installation, with steel messenger wire
D3	Supplied inside a 32 mm duct	For quick and cost-effective installation of small size cables
RI	Riser rated - OFNR	UL-listed cable per NEC code OFNR - tested according to UL-1666

SM Optical Fiber Specifications

Single Mode Fibers - Standard Specifications (1)

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	≤ 0.35		≤ 0.35	dB/km
@ 1550 nm	≤ 0.22	≤ 0.22	≤ 0.22	
@ 1625 nm	≤ 0.25	≤ 0.26	≤ 0.25	
Attenuation, Tight Buffer Cables:				
@ 1310 nm	≤ 0.40	-	≤ 0.40	dB/km
@ 1550 nm	≤ 0.30	-	≤ 0.30	
Dispersion: between 1285 and 1330 nm (O Band)	≤ 3.5	NA	≤ 3.5	ps/ (nm*km)
between 1460 and 1530 nm (S Band)	-	(2)	-	
between 1530 and 1565 nm (C Band)	≤ 18	2 – 6(3)	≤ 18	
between 1565 and 1625 nm (L Band)	≤ 22	4.5 – 11.2(3)	≤ 22	
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	
Cable Cut-Off Wavelength	≤1260	≤1480	≤1260	nm
PMD (Individual fiber)	≤ 0.2	≤ 0.1	≤ 0.2	$ps/km^{1/2}$
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^2
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 (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, 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(5) @ 850 nm	≥500(6)	≥1500	≥3500	≥200	MHz•km
@ 1300 nm	≥800(6)	≥500	≥500	≥600	
Efffective Modal Bandwidth@ 850nm		≥2000	≥4700(7)		
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/m2

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
4. As per IEC 60793-2-10 type A1a.3 and TIA 492AAAD
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

MM Optical Fiber Link Lengths

Multi-Mode Fiber GbE and 10GbE Link Length

The maximum link length for 1 GbE and 10 GbE systems is given below as a function of the fiber bandwidth for different grades of 50/125 µm and 62.5/125 µm multi-mode fibers(1).

Fiber Type	Unit	62.5/125 µm	50/125 µm			50/125 µm
11801 Code (2)		OM-1	OM-2			OM-3
Teldor Code		6	-	5	5A	4
Fiber Description			As defined in 802.3z	Teldor Standard 50/125	Teldor Best 50/125	
Bandwidth (3):						
@ 850 nm	MHz.km	200	500	500	600	2000(4)
@ 1300 nm	MHz.km	500	500	800	1200	500
Link length for GbE (5)						
@ 850 nm (1000BASE-SX)	m	220	550	550	750	970(9)
@ 1300 nm (1000BASE-LX)	m	550	550	950(7)	2000	550(9)
Link Length for 10GbE (6)						
@ 850 nm (10GBASE-SR)	m	33	82	82	100(8)	300(10)
@ 1300 nm (10GBASE-LX4)	m	300	300	450(8)	650(8)	300

1. For other fiber specification and additional details, consult the Teldor Sales Department
2. As per ISO/IEC 11801:2002 or EN 50173.
3. Overfill launch measurement as per TIA-455-204
4. Effective Modal Bandwidth as per IEC 60793-2.10
5. Per IEEE 802.3z, assuming the requirements of the Standard and associated documents are met
6. Per IEEE 802.3ae, assuming the requirements of the Standard and associated documents are met
7. Calculated per the GbE link model
8. Calculated using the 10GbE link model
9. Estimated
10. This link length is assured provided that:
    a. It is installed per the maximum channel insertion loss requirement of 2.6dB as outlined in the TIA 568 B.3-1, ISO 11801 2nd Ed, and IEEE 802.3ae. The maximum channel insertion loss requirement of 2.6 dB assumes a maximum connection loss of 1.5 dB and a maximum cable attenuation of 3.5 dB/km at 850nm.
    b. It is used with an IEEE 802.3ae compliant 10GBASE-SR or 10GBASE-SW ports meeting the specifications, among other, for encircled flux as defined in Table 52-7 in IEEE 802.3ae.

Standard Color Codes of Fibers and Tubes

Loose Tube or Tight Buffer Fiberoptic Cables

Default Color Code

Tube/Fiber Number	Color	Tube/Fiber Number	Color
1	Blue	7	Red
2	Orange	8	Black
3	Green	9	Yellow
4	Brown	10	Violet
5	Grey	11	Pink
6	White	12	Turquoise

Teldor Color Code #1 (for Loose Tube cables only) Per VDE

Fiber Colors			
Fiber Number	**Color**	**Fiber Number**	**Color**
1	Red	7	Brown
2	Green	8	Violet
3	Blue	9	Turquoise
4	Yellow	10	Black
5	White	11	Orange
6	Grey	12	Pink

Tube Colors			
Tube Number	**Color**	**Tube Number**	**Color**
1	Red	7	SMF – Yellow 50/125 – Green 62.5/125 - Blue
2	SMF – Yellow 50/125 – Green 62.5/125 - Blue	8	
3		9	
4		10	
5		11	
6		12	

1. In cables containing more than 12 tubes constructed in more than one layer, the color code repeats itself in each layer, starting from "Blue".
2. In cables with more than 12 tubes in one layer there will be more elements of the same color. For example in a 15-tube layer the color code is: Blue, Blue, Orange, Orange, Green, Green, Brown, Grey, White etc.
3. In LD cables, in tubes containing more than 12 fibers, the additional fiber colors are:

Tube/Fiber Number	Color	Tube/Fiber Number	Color
13	Lemon	15	Magenta
14	Light Brown	16	Natural

4. In SL cables containing more then 12 fibers, the fibers are divided into two groups, which are identified with colored threads: Orange and Green.
5. Additional color codes are available

Fiber and Cable Test Methods

Teldor Optical Fiber and Cable Lab uses the following test methods to qualify the Fiberoptic Cables

Optical and Geometrical Properties of Fibers

Property	Test Method	ITU-T Test Method	EIA/TIA-455 FOTP Number	IEC-60793-1-X Test Method
Fiber Geometry	Transmitted Near Field	SM: G.650 Method 5.2.1 MM: G. 651, Sec. 1, Method B.3	176	20, 21
Spectral Attenuation	Cut-Back	SM: G.650 Method 5.4.1, MM: G.651, Sec. 2.1, Method B.2	78	40
Attenuation and Attenuation Uniformity at Specified Wavelengths	Backscattering (OTDR)	SM: G.650 Method 5.4.2, MM: G.651, Sec. 2, Method B.4	78	40
Numerical Aperture (MM Fibers)	Far-Field Light Distribution	G.651 Sec. 1, Method B.4	177	43
Cutoff Wavelength (SM Fibers)	Transmitted Power	G.650 Methods 5.3.1, 5.3.3	80	44
Mode Field Diameter (SM Fibers)	Variable Aperture	G.650 Method 5.1.2	191	45
OFL Bandwidth (for LED based systems)	Frequency Domain	G. 651 Sec. 3 Method B. 2 G.650 Method 5.5.1	204	41
Chromatic Dispersion	Phase Shift	G. 651 Sec. 3 Method B. 2 G.650 Method 5.5.1	175	42
Polarization Mode Dispersion (PMD)	Interferometric	G.650 Method 5.7.3	124	48

Mechanical and Environmental Properties of Cables

Property	EIA/TIA-455 FOTP Number	IEC-60794-1-2 Test Method
Operating and Pulling Load	33	E1
Minimum Bending Radius	37, 33	E11
Compression (Crush)	41	E3
Impact Resistance	25	E4
Twist (Torsion)	85	E7
Cyclic Flexing (Repeated Bending)	104	E6
Temperature Cycling	3	F1
Water Penetration	82	F5
Compound Flow (Drip)	81	E14