



Fiber Cable for Harsh Environments



CATALOG



Belden's extensive line of robust fiber cable products are designed to withstand the challenges of demanding environments.

Glossary of Terms

CPE	Chlorinated Polyethylene
E-glass	A fiberglass epoxy rod used as a strength member in fiber optic cables
FOTP	Fiber Optic Test Procedure (developed by EIA)
ICEA	Insulated Cable Engineers Association
IEEE1202	Standard for flame-propagation testing of wire and cable. Harmonized with 1685-FT4 and CSA FT4.
LSZH	Low smoke zero halogen, a classification of materials using non-halogen components to achieve flame-retardant properties while reducing the toxicity of combustion byproducts in the interest of human safety.
NFPA®	National Fire Protection Association
NFPA® 130	Standard for underground, surface and elevated fixed guideway transit and passenger rail systems which provides fire protection and life safety requirements.
NFPA® 502	Standard for limited access highways, road tunnels, bridges, elevated highways, depressed highways, and roadways that are located beneath air-right structures which provides fire protection and fire life safety requirements.
NFPA® 70	The National Electrical Code (NEC) NFPA 70 is the benchmark for safe electrical design, installation, and inspection to protect people and property from electrical hazards.
OF CG	Optical Fiber Conductive General purpose. NEC rating for optical fiber cable resistant to the spread of fire and suitable for general-purpose use, excludes risers and plenums.
OF CP	Optical Fiber Conductive Plenum. NEC rating for optical fiber cable used in plenum spaces, must have fire-resistant characteristics capable of preventing the spread of fire and smoke in drop ceilings and raised floors used as air returns.
OF CR	Optical Fiber Conductive Riser. NEC rating for optical fiber cable used in vertical shafts, or in runs between floors, must have fire-resistant characteristics capable of preventing the spread of fire from floor-to-floor.
OFL	Over Filled Launch
OF NG	Optical Fiber Non-conductive General purpose. NEC rating for optical fiber cable resistant to the spread of fire and suitable for general-purpose use, excludes risers and plenums.
OF NP	Optical Fiber Non-conductive Plenum. NEC rating for optical fiber cable used in plenum spaces, must have fire-resistant characteristics capable of preventing the spread of fire and smoke in drop ceilings and raised floors used as air returns.
OF NR	Optical Fiber Non-conductive Riser. NEC rating for optical fiber cable used in vertical shafts, or in runs between floors, must have fire-resistant characteristics capable of preventing the spread of fire from floor-to-floor.
OSP	Outside Plant
OTDR	Optical Time Domain Reflectometer
PE	Polyethylene
PVC	Polyvinyl Chloride
RML	Restricted Mode Launch
-ST1	The standard for limited smoke emission under UL 1685. This rating was formerly -LS.
TIA/EIA	Telecommunication Industries Association / Electronic Industries Alliance
UL 1685	Standard for vertical-tray fire-propagation and smoke-release. This test determines the values of cable damage height and smoke release from electrical and optical-fiber cables when the cables are subjected to a flaming ignition source.

Table of Contents

DataTuff™ Fiber Optic Universal Grade Cables..... 5-14

- Indoor/Outdoor Multi-Loose Tube (Dry/Gel-free)
- Indoor/Outdoor Multi-Loose Tube (Gel-filled)
- Indoor/Outdoor Distribution
- Indoor/Outdoor Breakout
- Indoor/Outdoor Central Loose Tube (Dry/Gel-free)
- Indoor/Outdoor Central Loose Tube (Gel-filled)

DataTuff™ Fiber Optic Factory Grade Cables..... 15-22

- Indoor/Outdoor Multi-Loose Tube (Dry/Gel-free)
- Indoor/Outdoor Multi-Loose Tube (Gel-filled)
- Indoor/Outdoor Distribution
- Indoor/Outdoor Breakout
- Indoor/Outdoor Central Loose Tube (Dry/Gel-free)
- Indoor/Outdoor Central Loose Tube (Gel-filled)

RailTuff® Fiber Optic Transit Grade Cables 23-32

- Indoor/Outdoor Multi-Loose Tube (Dry/Gel-free)
- Indoor/Outdoor Multi-Loose Tube (Gel-filled)
- Indoor/Outdoor Distribution
- Indoor/Outdoor Distribution Plenum
- Indoor/Outdoor Breakout
- Indoor/Outdoor Breakout Plenum
- Indoor/Outdoor Central Loose Tube (Dry/Gel-free)
- Indoor/Outdoor Central Loose Tube (Gel-filled)

MarineTuff® Fiber Optic Marine Grade Cables..... 33-36

- Indoor/Outdoor Multi-Loose Tube (Gel-filled)
- Indoor/Outdoor Distribution
- Indoor/Outdoor Breakout
- Indoor/Outdoor Central Loose Tube (Gel-filled)

DataTuff™ Fiber Optic Renewable Grade Cable 37-43

- Outdoor Multi-Loose Tube - OSP (Dry/Gel-free)
- Outdoor Multi-Loose Tube - OSP (Gel-filled)
- Outdoor Central Loose Tube - OSP (Dry/Gel-free)
- Outdoor Central Loose Tube - OSP (Gel-filled)

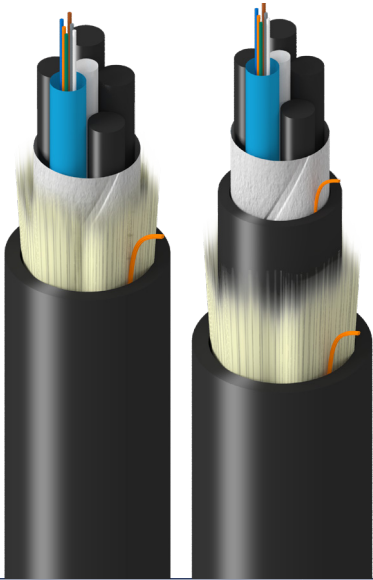
Belden DataTuff Fiber Smart Part Numbering System

Position 1,2	3	4	5	6	7	8,9,10	11	12	13	14	15
Vertical Market for Basic Ratings	Fiber Type/Grade		Family	Construction Design Type		#Fibers	Flame/Smoke Ratings & Jacket Type	Protection (Armor Type)	Additional Ratings		Outer Jacket Color
TU	S	L	D	-	024	-	R	R	2	N	

TA	DataTuff Airport Grade (FAA Spec)	S OS2 G657A1	A Artic Rated (Extreme Temp)	Artic, Multi & Central Loose Tube		001	1 Fiber	Americas	Dielectric	All Except TA, TF, TR		B	Blue (BL)		
TE	DataTuff Mining Grade (MSHA)	1 OM1	B Breakout	O	250um Fiber Central Tube Gel	002	2 Fibers	N None	N No Armor - Single Jacket	N	None	O	Orange (OR)		
TF	DataTuff Factory Grade (UV, Ozone, Oil Res)	2 OM2	C Central Loose Tube	N	250um Fiber Central Tube Dry	004	4 Fibers	R OFNR, OFCR (Riser and FT4) non-LSZH Thermoplastic Jacket	Z No Armor - Double Jacket	1	Oil Res 1	G	Green (GR)		
TM	MarineTuff Grade (ABS and/or DNV)	3 OM3	D Distribution	C	6 Fibers per Tube Dry (5 positions)	006	6 Fibers	M OFNR, OFCR (Riser and FT4) LSZH Thermoplastic Jacket	D All Dielectric Armor - Single Jacket	2	Oil Res 1 & 2	M	Brown (BR) Mauve		
TR	DataTuff Renewable Grade	4 OM4	I Interconnect	F	6 Fibers per Tube Gel (5 Positions)	008	8 Fibers	L OFNR-STI, OFCR-STI (Riser and FT4), LSZH Thermoplastic Jacket	R Rodent Protected (Glass Fillers) - Single Jacket	3	Oil Res 2 Only	S	Gray (GY) Slate		
TT	RailTuff Transit Grade (NFPA130/502 Rated)	5 OM5	L Loose Tube (Multi)	D	12 Fibers per Tube Dry	012	12 Fibers	T OFNR-STI, OFCR-STI (Riser and FT4), LSZH Thermoset Jacket	X Rodent Protected (Glass Fillers) - Double Jacket	A	ABS	W	White (WH)		
TU	DataTuff Universal Grade (Tray Grade, Oil Res, Low Temp)	F OS2/OM1	T Tactical Distribution	G	12 Fibers per Tube Gel	016	16 Fibers	G OFNG, OFCG (FT4) non-LSZH, Thermoplastic Jacket	Metallic Armor		D	DNV	R	Red (RD)	
TX	DataTuff General Installation Grade	H OS2/OM3	Y Tactical Breakout	Breakout		018	18 Fibers	H OFNG-STI, OFCG-STI (FT4), LSZH Thermoplastic Jacket	I Interlock Armor - Aluminum - Double Jacket	M	MUD Resistant	N	Black (BK) Noir		
				B	2.0mm, 1 x 900um Fiber	024	24 Fibers	U OFNG-STI, OFCG-STI (FT4), LSZH Thermoset Jacket	S	Corrugated Steel Tape - Single Jacket	TA	Y	Yellow (YL)		
				C	3.0mm, 1 x 900um Fiber	036	36 Fibers	V OFN, OFC (Vertical Tray- UL158) non-LSZH Thermoplastic Jacket	T	Corrugated Steel Tape - Double Jacket	N	None	V	Violet (VI)	
				D	2.5mm, 1 x 900um Fiber	048	48 Fibers	W OFN-STI, OFC-STI (Vertical Tray- UL158), LSZH Thermoplastic Jacket	B	Braid - Bronze - Double Jacket	A	FAA TYPE A	P	Rose (RO) Pink	
				Distribution		060	60 Fibers	P Plenum (FT6)	A	Braid - Steel - Double Jacket	B	FAA TYPE B	A	Aqua (AQ)	
				9	900um Fiber Non Unitized	072	72 Fibers	C UL2196	C	Continuous Corrugated Armor - Double Jacket	C	FAA TYPE C	K	Tan/Beige Khaki (BG)	
				J	6 x 900um Fiber Unitized	096	96 Fibers	RoW (Non-Americas)		F	Smooth Steel Tape - Double Jacket	TF, TR		E	Erika Violet Heather Violet (EV)
				K	12 x 900um Fiber Unitized	144	144 Fibers	5	CPR - B2ca	H	Interlock Armor - Steel - Double Jacket	N	None	I	Ivory (IV)
				Interconnect		288	288 Fibers	6	CPR - Cca	W	Steel Wire Armor - Double Jacket	4	Ozone, UV Resistant		
				O	250um Fiber Non Unitized	H22	4 subunits	7	CPR - Dca			5	UV, Ozone and Oil Resistant		
A	1.6mm, 1 x 900um Fiber	T44	8 Fibers	8	CPR - Eca			6	UV & Chemical Resistant (like Oil)						
B	2.0mm, 1 x 900um Fiber			1	IEC 60331 (TTF), or BS or EN50200			U	UV Resistant						
C	3.0mm, 1 x 900um Fiber			2	IEC 60332-3-22 (Cat A)										
D	2.5mm, 1 x 900um Fiber			4	IEC 60332-3-24 (Cat C)										
F	2.4mm, 2 x 900um Fiber			9	IEC 60332-1										
G	3.0mm, 2 x 900um Fiber														
6	1.6mm, 1 x 600um fiber														

DataTuff™ Fiber Optic Universal Grade Cable

Multi-Loose Tube Indoor/Outdoor
Gel-Free and Tray Grade



Standards and Ratings

UL1277 Oil Res I & II
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Abrasion Resistant
Direct Burial
Rodent Resistant

Temperature

Static Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Free
Strength Member	Fiber Glass Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Non-Armored	
Outer Jacket Material/Color	CPE/Black	

Options

Other Colors Available

All Dielectric, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LC-002-RR2N	0.431 (10.9)	76 (113)
4	4	5	TU-*LC-004-RR2N	0.431 (10.9)	76 (113)
6	6	5	TU-*LC-006-RR2N	0.431 (10.9)	76 (113)
8	8	5	TU-*LD-008-RR2N	0.431 (10.9)	76 (113)
12	12	5	TU-*LD-012-RR2N	0.431 (10.9)	76 (113)
24	12	5	TU-*LD-024-RR2N	0.431 (10.9)	76 (113)
36	12	5	TU-*LD-036-RR2N	0.431 (10.9)	71 (110)
48	12	5	TU-*LD-048-RR2N	0.431 (10.9)	72 (107)
60	12	5	TU-*LD-060-RR2N	0.431 (10.9)	70 (104)
72	12	6	TU-*LD-072-RR2N	0.448 (11.4)	76 (113)
96	12	8	TU-*LD-096-RR2N	0.506 (12.9)	92 (138)
144	12	12	TU-*LD-144-RR2N	0.642 (16.3)	138 (205)
288	12	24	TU-*LD-288-RR2N	0.748 (19.0)	169 (252)

All Dielectric, Double Jacket

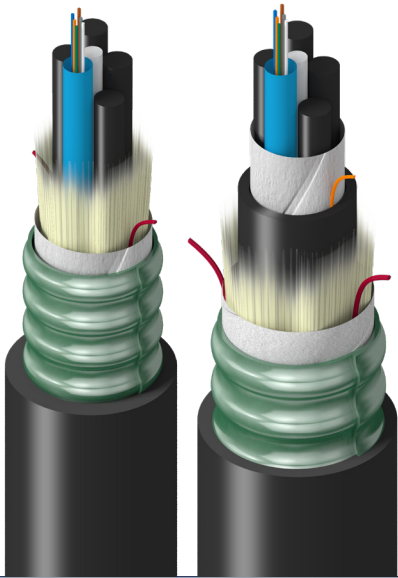
# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LC-002-RX2N	0.531 (13.5)	115 (171)
4	4	5	TU-*LC-004-RX2N	0.531 (13.5)	115 (171)
6	6	5	TU-*LC-006-RX2N	0.531 (13.5)	115 (171)
8	8	5	TU-*LD-008-RX2N	0.531 (13.5)	115 (171)
12	12	5	TU-*LD-012-RX2N	0.531 (13.5)	115 (171)
24	12	5	TU-*LD-024-RX2N	0.531 (13.5)	115 (171)
36	12	5	TU-*LD-036-RX2N	0.531 (13.5)	113 (168)
48	12	5	TU-*LD-048-RX2N	0.531 (13.5)	111 (165)
60	12	5	TU-*LD-060-RX2N	0.531 (13.5)	109 (162)
72	12	6	TU-*LD-072-RX2N	0.543 (13.8)	116 (172)
96	12	8	TU-*LD-096-RX2N	0.606 (15.4)	136 (202)
144	12	12	TU-*LD-144-RX2N	0.742 (18.8)	289 (281)
288	12	24	TU-*LD-288-RX2N	0.848 (21.5)	229 (341)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Non-Armored	
	Single Jacket	Double Jacket
Max. Install Load, lbs (N)	600 (2670)	1000 (4450)
Max. Long Term Load, lbs (N)	180 (800)	300 (1320)
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius during Installation	15X Cable OD	
Min. Bend Radius during Operation	10X Cable OD	

DataTuff™ Fiber Optic Universal Grade Cable

Multi-Loose Tube Indoor/Outdoor
Gel-Free and Tray Grade



Standards and Ratings

UL1277 Oil Res I & II
TIA/EIA-568.3-D
NEC/CEC OFCR/OFCR FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Abrasion Resistant
Direct Burial
Rodent Resistant

Temperature

Static Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Free
Strength Member	Fiber Glass Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Corrugated Steel Tape	
Outer Jacket Material/Color	CPE/Black	

Options

Other Colors Available

Corrugated Steel Tape Armor, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LC-002-RS2N	0.530 (13.5)	123 (183)
4	4	5	TU-*LC-004-RS2N	0.530 (13.5)	123 (183)
6	6	5	TU-*LC-006-RS2N	0.530 (13.5)	123 (183)
8	8	5	TU-*LD-008-RS2N	0.530 (13.5)	123 (183)
12	12	5	TU-*LD-012-RS2N	0.530 (13.5)	123 (183)
24	12	5	TU-*LD-024-RS2N	0.530 (13.5)	121 (180)
36	12	5	TU-*LD-036-RS2N	0.530 (13.5)	119 (178)
48	12	5	TU-*LD-048-RS2N	0.530 (13.5)	117 (175)
60	12	5	TU-*LD-060-RS2N	0.530 (13.5)	119 (177)
72	12	6	TU-*LD-072-RS2N	0.570 (14.5)	124 (185)
96	12	8	TU-*LD-096-RS2N	0.610 (15.5)	150 (223)
144	12	12	TU-*LD-144-RS2N	0.770 (19.6)	208 (310)
288	12	24	TU-*LD-288-RS2N	0.870 (22.1)	243 (362)

Corrugated Steel Tape Armor, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LC-002-RT2N	0.650 (16.5)	168 (249)
4	4	5	TU-*LC-004-RT2N	0.650 (16.5)	168 (249)
6	6	5	TU-*LC-006-RT2N	0.650 (16.5)	168 (249)
8	8	5	TU-*LD-008-RT2N	0.650 (16.5)	168 (249)
12	12	5	TU-*LD-012-RT2N	0.650 (16.5)	168 (249)
24	12	5	TU-*LD-024-RT2N	0.650 (16.5)	166 (247)
36	12	5	TU-*LD-036-RT2N	0.650 (16.5)	164 (244)
48	12	5	TU-*LD-048-RT2N	0.650 (16.5)	162 (241)
60	12	5	TU-*LD-060-RT2N	0.650 (16.5)	160 (238)
72	12	6	TU-*LD-072-RT2N	0.650 (16.5)	167 (247)
96	12	8	TU-*LD-096-RT2N	0.730 (18.5)	199 (296)
144	12	12	TU-*LD-144-RT2N	0.870 (22.1)	258 (384)
288	12	24	TU-*LD-288-RT2N	0.930 (23.6)	300 (446)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz·km)	Min. Laser Bandwidth (MHz·km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Corrugated Steel Tape (Single and Double Jacket)
Max. Install Load, lbs (N)	600 (2670)
Max. Long Term Load, lbs (N)	180 (800)
Crush Resistance (FOTP-41), N/cm	220
Impact Resistance (FOTP-25), N-m	4.4
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.
Min. Bend Radius during Installation	20x Cable OD
Min. Bend Radius during Operation	10x Cable OD

DataTuff™ Fiber Optic Universal Grade Cable

Multi-Loose Tube Indoor/Outdoor
Gel-Free and Tray Grade



Standards and Ratings

UL1277 Oil Res I & II
TIA/EIA-568.3-D
NEC/CEC OFCR/OFGR FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Abrasion Resistant
Direct Burial
Rodent Resistant (Steel only)

Temperature

Static Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Free
Strength Member	Fiber Glass Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Aluminum or Steel Interlocked	
Outer Jacket Material/Color	CPE/Black	

Options

Other Colors Available

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LC-002-R12N	0.745 (18.9)	249 (371)
4	4	5	TU-*LC-004-R12N	0.745 (18.9)	249 (371)
6	6	5	TU-*LC-006-R12N	0.745 (18.9)	249 (371)
8	8	5	TU-*LD-008-R12N	0.745 (18.9)	249 (371)
12	12	5	TU-*LD-012-R12N	0.745 (18.9)	249 (371)
24	12	5	TU-*LD-024-R12N	0.745 (18.9)	247 (368)
36	12	5	TU-*LD-036-R12N	0.745 (18.9)	245 (365)
48	12	5	TU-*LD-048-R12N	0.745 (18.9)	243 (362)
60	12	5	TU-*LD-060-R12N	0.745 (18.9)	242 (359)
72	12	6	TU-*LD-072-R12N	0.760 (19.3)	253 (376)
96	12	8	TU-*LD-096-R12N	0.920 (23.4)	281 (418)
144	12	12	TU-*LD-144-R12N	1.055 (26.8)	343 (510)
288	12	24	TU-*LD-288-R12N	1.160 (29.5)	408 (607)

Steel Interlocked Armor, Double Jacket

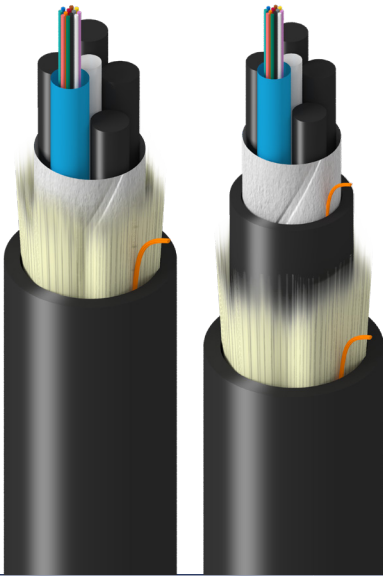
# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LC-002-RH2N	0.745 (18.9)	438 (652)
4	4	5	TU-*LC-004-RH2N	0.745 (18.9)	438 (652)
6	6	5	TU-*LC-006-RH2N	0.745 (18.9)	438 (652)
8	8	5	TU-*LD-008-RH2N	0.745 (18.9)	438 (652)
12	12	5	TU-*LD-012-RH2N	0.745 (18.9)	438 (652)
24	12	5	TU-*LD-024-RH2N	0.745 (18.9)	437 (650)
36	12	5	TU-*LD-036-RH2N	0.745 (18.9)	435 (647)
48	12	5	TU-*LD-048-RH2N	0.745 (18.9)	433 (644)
60	12	5	TU-*LD-060-RH2N	0.745 (18.9)	431 (641)
72	12	6	TU-*LD-072-RH2N	0.760 (19.3)	446 (664)
96	12	8	TU-*LD-096-RH2N	0.920 (23.4)	461 (685)
144	12	12	TU-*LD-144-RH2N	1.055 (26.8)	525 (782)
288	12	24	TU-*LD-288-RH2N	1.160 (29.5)	633 (943)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Interlocked Armor
Max. Install Load, lbs (N)	600 (2670)
Max. Long Term Load, lbs (N)	180 (800)
Crush Resistance (FOTP-41), N/cm	440
Impact Resistance (FOTP-25), N-m	4.4
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.
Min. Bend Radius during Installation	20x Cable OD
Min. Bend Radius during Operation	10x Cable OD

DataTuff™ Fiber Optic Universal Grade Cable

Multi-Loose Tube Indoor/Outdoor
Gel-Filled and Tray Grade



Standards and Ratings

UL1277 Oil Res I & II
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Abrasion Resistant
Direct Burial

Temperature

Operating	-50°C to +70°C
Storage	-50°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Non-Armored	
Outer Jacket Material/Color	CPE/Black	

Options

Fiber Counts 12-36 Available in a 6F/Tube Design

Other Colors Available

All Dielectric, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LF-002-RN2N	0.454 (11.5)	82 (122)
4	4	5	TU-*LF-004-RN2N	0.454 (11.5)	82 (122)
6	6	5	TU-*LF-006-RN2N	0.454 (11.5)	82 (122)
8	8	5	TU-*LG-008-RN2N	0.454 (11.5)	82 (122)
12	12	5	TU-*LG-012-RN2N	0.454 (11.5)	82 (122)
24	12	5	TU-*LG-024-RN2N	0.454 (11.5)	81 (120)
36	12	5	TU-*LG-036-RN2N	0.454 (11.5)	80 (119)
48	12	5	TU-*LG-048-RN2N	0.454 (11.5)	79 (118)
60	12	5	TU-*LG-060-RN2N	0.454 (11.5)	79 (118)
72	12	6	TU-*LG-072-RN2N	0.481 (12.2)	89 (133)
96	12	8	TU-*LG-096-RN2N	0.547 (13.9)	114 (170)
144	12	12	TU-*LG-144-RN2N	0.701 (17.8)	181 (269)

All Dielectric, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LF-002-R22N	0.514 (13.1)	112 (167)
4	4	5	TU-*LF-004-R22N	0.514 (13.1)	112 (167)
6	6	5	TU-*LF-006-R22N	0.514 (13.1)	112 (167)
8	8	5	TU-*LG-008-R22N	0.514 (13.1)	112 (167)
12	12	5	TU-*LG-012-R22N	0.514 (13.1)	112 (167)
24	12	5	TU-*LG-024-R22N	0.514 (13.1)	111 (166)
36	12	5	TU-*LG-036-R22N	0.514 (13.1)	110 (164)
48	12	5	TU-*LG-048-R22N	0.514 (13.1)	109 (163)
60	12	5	TU-*LG-060-R22N	0.514 (13.1)	109 (163)
72	12	6	TU-*LG-072-R22N	0.541 (13.7)	121 (180)
96	12	8	TU-*LG-096-R22N	0.532 (13.5)	141 (210)
144	12	12	TU-*LG-144-R22N	0.686 (17.4)	216 (322)

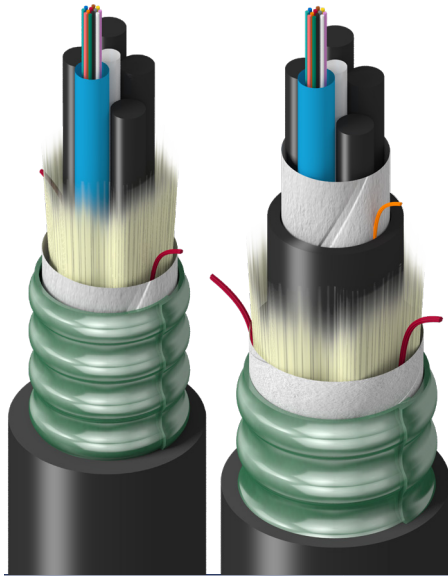
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz·km)	Min. Laser* Bandwidth (MHz·km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	
	Single Jacket	Double Jacket
Max. Install Load, lbs (N)	600 (2670)	1000 (4450)
Max. Long Term Load, lbs (N)	180 (800)	300 (1320)
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	
Min. Bend Radius During Operation	10X Cable OD	

DataTuff™ Fiber Optic Universal Grade Cable

Multi-Loose Tube Indoor/Outdoor
Gel-Filled and Tray Grade



Standards and Ratings

UL1277 Oil Res I & II
TIA/EIA-568.3-D
NEC/CEC OFCR/OFCR FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Abrasion Resistant
Direct Burial
Rodent Resistant

Temperature

Operating	-50°C to +70°C
Storage	-50°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Corrugated Steel Tape	
Outer Jacket Material/Color	CPE/Black	

Options

Fiber Counts 12-36 Available in a 6F/Tube Design

Other Colors Available

Corrugated Steel Tape Armor, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LF-002-RS2N	0.530 (13.5)	127 (189)
4	4	5	TU-*LF-004-RS2N	0.530 (13.5)	127 (189)
6	6	5	TU-*LF-006-RS2N	0.530 (13.5)	127 (189)
8	8	5	TU-*LG-008-RS2N	0.530 (13.5)	127 (189)
12	12	5	TU-*LG-012-RS2N	0.530 (13.5)	127 (189)
24	12	5	TU-*LG-024-RS2N	0.530 (13.5)	126 (188)
36	12	5	TU-*LG-036-RS2N	0.530 (13.5)	125 (187)
48	12	5	TU-*LG-048-RS2N	0.530 (13.5)	124 (185)
60	12	5	TU-*LG-060-RS2N	0.530 (13.5)	124 (185)
72	12	6	TU-*LG-072-RS2N	0.580 (14.7)	139 (207)
96	12	8	TU-*LG-096-RS2N	0.620 (15.7)	173 (257)
144	12	12	TU-*LG-144-RS2N	0.810 (20.6)	253 (377)

Corrugated Steel Tape Armor, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LF-002-RT2N	0.630 (16.0)	171 (254)
4	4	5	TU-*LF-004-RT2N	0.630 (16.0)	171 (254)
6	6	5	TU-*LF-006-RT2N	0.630 (16.0)	171 (254)
8	8	5	TU-*LG-008-RT2N	0.630 (16.0)	171 (254)
12	12	5	TU-*LG-012-RT2N	0.630 (16.0)	171 (254)
24	12	5	TU-*LG-024-RT2N	0.630 (16.0)	170 (253)
36	12	5	TU-*LG-036-RT2N	0.630 (16.0)	169 (251)
48	12	5	TU-*LG-048-RT2N	0.630 (16.0)	168 (250)
60	12	5	TU-*LG-060-RT2N	0.630 (16.0)	167 (249)
72	12	6	TU-*LG-072-RT2N	0.660 (16.8)	182 (271)
96	12	8	TU-*LG-096-RT2N	0.700 (17.8)	223 (331)
144	12	12	TU-*LG-144-RT2N	0.880 (22.4)	302 (449)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Corrugated Steel Tape (Single and Double Jacket)
Max. Install Load, lbs (N)	600 (2670)
Max. Long Term Load, lbs (N)	180 (800)
Crush Resistance (FOTP-41), N/cm	220
Impact Resistance (FOTP-25), N-m	4.4
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.
Min. Bend Radius During Installation	20x Cable OD
Min. Bend Radius During Operation	10x Cable OD

DataTuff™ Fiber Optic Universal Grade Cable

Multi-Loose Tube Indoor/Outdoor
Gel-Filled and Tray Grade



Standards and Ratings

UL1277 Oil Res I & II
TIA/EIA-568.3-D
NEC/CEC OFCR/OFGR FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Abrasion Resistant
Direct Burial
Rodent Resistant (Steel Armor)

Temperature

Operating	-50°C to +70°C
Storage	-50°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	PVC/Black	
Armor	Aluminum or Steel Interlocked	
Outer Jacket Material/Color	CPE/Black	

Options

Fiber Counts 12-36 Available in a 6F/Tube Design

Other Colors Available

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LF-002-RI2N	0.765 (19.4)	260 (387)
4	4	5	TU-*LF-004-RI2N	0.765 (19.4)	260 (387)
6	6	5	TU-*LF-006-RI2N	0.765 (19.4)	260 (387)
8	8	5	TU-*LG-008-RI2N	0.765 (19.4)	260 (387)
12	12	5	TU-*LG-012-RI2N	0.765 (19.4)	260 (387)
24	12	5	TU-*LG-024-RI2N	0.765 (19.4)	259 (386)
36	12	5	TU-*LG-036-RI2N	0.765 (19.4)	258 (384)
48	12	5	TU-*LG-048-RI2N	0.765 (19.4)	257 (383)
60	12	5	TU-*LG-060-RI2N	0.765 (19.4)	256 (382)
72	12	6	TU-*LG-072-RI2N	0.895 (22.7)	272 (406)
96	12	8	TU-*LG-096-RI2N	0.960 (24.4)	311 (462)
144	12	12	TU-*LG-144-RI2N	1.115 (28.3)	410 (610)

Steel Interlocked Armor, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TU-*LF-002-RH2N	0.765 (19.4)	454 (676)
4	4	5	TU-*LF-004-RH2N	0.765 (19.4)	454 (676)
6	6	5	TU-*LF-006-RH2N	0.765 (19.4)	454 (676)
8	8	5	TU-*LG-008-RH2N	0.765 (19.4)	454 (676)
12	12	5	TU-*LG-012-RH2N	0.765 (19.4)	454 (676)
24	12	5	TU-*LG-024-RH2N	0.765 (19.4)	453 (675)
36	12	5	TU-*LG-036-RH2N	0.765 (19.4)	453 (675)
48	12	5	TU-*LG-048-RH2N	0.765 (19.4)	452 (672)
60	12	5	TU-*LG-060-RH2N	0.765 (19.4)	451 (671)
72	12	6	TU-*LG-072-RH2N	0.895 (22.7)	448 (666)
96	12	8	TU-*LG-096-RH2N	0.960 (24.4)	498 (741)
144	12	12	TU-*LG-144-RH2N	1.115 (28.3)	627 (933)

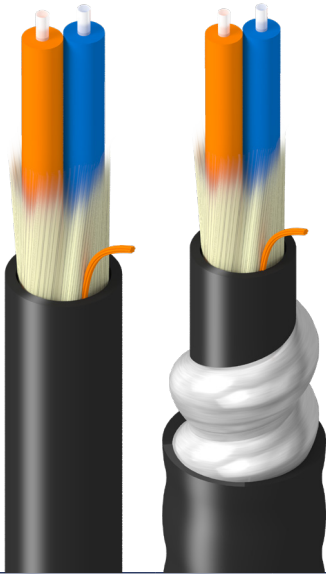
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz·km)	Min. Laser Bandwidth (MHz·km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Interlocked Armor
Max. Install Load, lbs (N)	600 (2670)
Max. Long Term Load, lbs (N)	180 (800)
Crush Resistance (FOTP-41), N/cm	440
Impact Resistance (FOTP-25), N·m	4.4
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min
Min. Bend Radius During Installation	20x Cable OD
Min. Bend Radius During Operation	10x Cable OD

DataTuff™ Fiber Optic Universal Grade Cable

Distribution Indoor/Outdoor
Tray Grade



Standards and Ratings

UL1277 Oil Res I & II
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4 (not armored)
NEC/CEC OFCR/OFCR FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Abrasion Resistant
Direct Burial (except Single Unit)

Temperature

Operating	-50°C to +70°C
Storage	-50°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Fiber Buffer OD	900um	
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	Unitized Only
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Non-Armored or Aluminum Interlocked	
Outer Jacket Material/Color	CPE/Black	

Options

Other Colors Available
Steel Interlocked Armor w/ Double Jacket Available (-RH2N)
Corrugated Steel Tape Armor w/ Double Jacket Available (-RT2N)

All Dielectric, Single Jacket

# of Fibers	Fibers/Subunit	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
			in (mm)	lbs/kft (kg/km)
2	Single Unit	TU-*D9-002-RN2N	0.184 (4.7)	14 (20)
4	Single Unit	TU-*D9-004-RN2N	0.200 (5.1)	17 (25)
6	Single Unit	TU-*D9-006-RN2N	0.220 (5.6)	20 (30)
8	Single Unit	TU-*D9-008-RN2N	0.235 (6.0)	22 (33)
12	Single Unit	TU-*D9-012-RN2N	0.260 (6.6)	27 (40)
24	Single Unit	TU-*D9-024-RN2N	0.325 (8.3)	42 (63)
36	12	TU-*DK-036-RN2N	0.688 (17.5)	157 (234)
48	12	TU-*DK-048-RN2N	0.688 (17.5)	157 (234)
72	12	TU-*DK-072-RN2N	0.823 (20.9)	229 (341)
96	12	TU-*DK-096-RN2N	0.977 (24.8)	344 (512)
144	12	TU-*DK-144-RN2N	1.100 (27.9)	377 (561)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Fibers/Subunit	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
			in (mm)	lbs/kft (kg/km)
2	Single Unit	TU-*D9-002-RI2N	0.505 (12.8)	104 (156)
4	Single Unit	TU-*D9-004-RI2N	0.520 (13.2)	112 (166)
6	Single Unit	TU-*D9-006-RI2N	0.540 (13.7)	119 (176)
8	Single Unit	TU-*D9-008-RI2N	0.545 (13.8)	132 (205)
12	Single Unit	TU-*D9-012-RI2N	0.570 (14.5)	138 (205)
24	Single Unit	TU-*D9-024-RI2N	0.635 (16.1)	165 (245)
36	12	TU-*DK-036-RI2N	1.086 (27.6)	390 (580)
48	12	TU-*DK-048-RI2N	1.086 (27.6)	390 (580)
72	12	TU-*DK-072-RI2N	1.221 (31.0)	470 (699)
96	12	TU-*DK-096-RI2N	1.390 (35.3)	629 (936)
144	12	TU-*DK-144-RI2N	1.510 (38.4)	702 (1041)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)	Subunit Color
OS2 - Single Mode	S	1310/1550	0.5/0.5	-	-	5000/-	10,000/40,000	Yellow
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.5/1.25	200/500	220/-	300/550	33/-	Orange
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-	Aqua
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-	Erika Violet

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Interlocked Armor
Max. Install Load, lbs (N)		<=12f - 150 (660) 24f - 300 (1320) >24f - 600 (2670)
Max. Long Term Load, lbs (N)		<=12f - 45 (200) 24f - 90 (400) > 24f - 180 (800)
Crush Resistance (FOTP-41), N/cm	220 (440 Unitized)	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

DataTuff™ Fiber Optic Universal Grade Cable

Breakout Indoor/Outdoor
Tray Grade



Standards and Ratings

UL1277 Oil Res I & II
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4 (not armored)
NEC/CEC OFCR/OFCR FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Abrasion Resistant
Direct Burial

Temperature

Operating	-50°C to +70°C
Storage	-50°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Fiber Buffer OD	900um	
Subunit OD	2.0mm	
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	>6f Only
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Non-Armored or Aluminum Interlocked	
Outer Jacket Material/Color	CPE/Black	

Options

- Other Colors Available
- Steel Interlocked Armor w/ Double Jacket Available (-RH2N)
- Corrugated Steel Tape Armor w/ Double Jacket Available (-RT2N)

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TU-*BB-002-RN2N	0.260 (6.6)	24 (36)
4	TU-*BB-004-RN2N	0.321 (8.2)	35 (52)
6	TU-*BB-006-RN2N	0.382 (9.7)	59 (88)
8	TU-*BB-008-RN2N	0.405 (10.3)	71 (105)
12	TU-*BB-012-RN2N	0.540 (13.7)	117 (173)
18	TU-*BB-018-RN2N	0.562 (14.3)	112 (166)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TU-*BB-002-RI2N	0.570 (14.5)	131 (194)
4	TU-*BB-004-RI2N	0.635 (16.1)	177 (262)
6	TU-*BB-006-RI2N	0.695 (17.7)	196 (290)
8	TU-*BB-008-RI2N	0.715 (18.2)	237 (352)
12	TU-*BB-012-RI2N	0.950 (24.1)	305 (452)
18	TU-*BB-018-RI2N	0.975 (24.8)	305 (452)

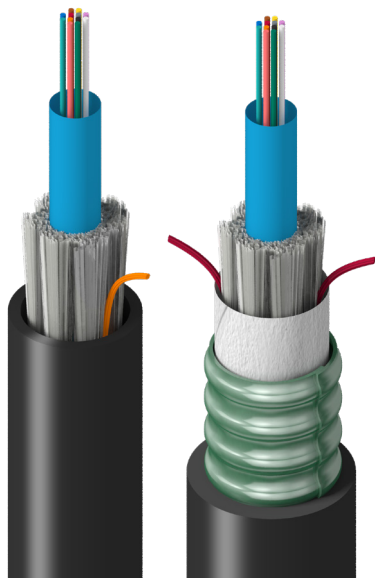
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)	Subunit Color
OS2 - Single Mode	S	1310/1550	0.5/0.5	-	-	5000/-	10,000/40,000	Yellow
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.5/1.25	200/500	220/-	300/550	33/-	Orange
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-	Aqua
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-	Erika Violet

[^]OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Interlocked Armor
Max. Install Load, lbs (N)	2f - 150 (660) 4f -12f - 300 (1320) 18f - 600 (2670)	
Max. Long Term Load, lbs (N)	2f - 45 (200) 4f-12f - 90 (400) 18f - 180 (800)	
Crush Resistance (FOTP-41), N/cm	440	
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

DataTuff™ Fiber Optic Universal Grade Cable

Central Loose Tube Indoor/Outdoor
Gel-Free and Tray Grade



Standards and Ratings

UL1277 Oil Res I & II
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4 (not armored)
NEC/CEC OFCR/OFCR FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Abrasion Resistant
Direct Burial
Rodent Resistant

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D
Buffer Tube	Thermoplastic Gel-Free
Strength Member	Fiber Glass Yarn
Central Strength Member	E-glass
Armor	Non-Armored or Corrugated Steel Tape
Outer Jacket Material/Color	CPE/Black

Options

Other Colors Available

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TU-*CN-002-RR2N	0.295 (7.5)	37 (55)
4	TU-*CN-004-RR2N	0.295 (7.5)	37 (55)
6	TU-*CN-006-RR2N	0.295 (7.5)	37 (55)
8	TU-*CN-008-RR2N	0.295 (7.5)	37 (55)
10	TU-*CN-010-RR2N	0.295 (7.5)	37 (55)
12	TU-*CN-012-RR2N	0.295 (7.5)	37 (55)
24	TU-*CN-024-RR2N	0.315 (8.0)	41 (61)

Corrugated Steel Tape Armor, Single Jacket

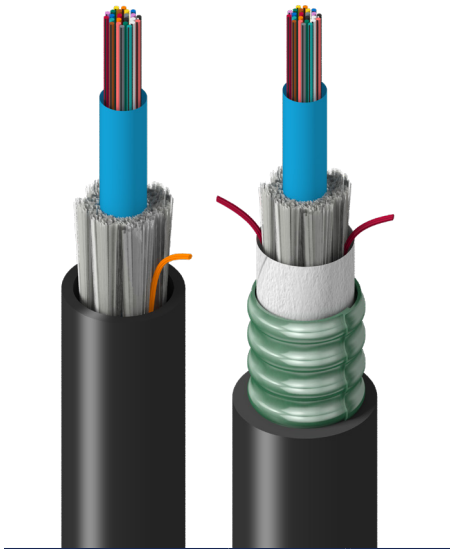
# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TU-*CN-002-RS2N	0.410 (10.4)	77 (115)
4	TU-*CN-004-RS2N	0.410 (10.4)	77 (115)
6	TU-*CN-006-RS2N	0.410 (10.4)	77 (115)
8	TU-*CN-008-RS2N	0.410 (10.4)	77 (115)
10	TU-*CN-010-RS2N	0.410 (10.4)	77 (115)
12	TU-*CN-012-RS2N	0.410 (10.4)	77 (115)
24	TU-*CN-024-RS2N	0.450 (11.4)	84 (125)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz·km)	Min. Laser Bandwidth (MHz·km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Non-Armored	Corrugated Steel Tape
Max. Install Load, lbs (N)		300 (1320)
Max. Long Term Load, lbs (N)		90 (400)
Crush Resistance (FOTP-41), N/cm		220
Impact Resistance (FOTP-25), N-m		4.4
Cyclic Flexing (FOTP-104)		25 cycles, 20xOD radius Min.
Min. Bend Radius during Installation	15X Cable OD	20x Cable OD
Min. Bend Radius during Operation	10X Cable OD	10x Cable OD

DataTuff™ Fiber Optic Universal Grade Cable

Central Loose Tube Indoor/Outdoor
Gel-Filled and Tray Grade



Standards and Ratings

UL1277 Oil Res I & II
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4 (not armored)
NEC/CEC OFCR/OFCR FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Abrasion Resistant
Direct Burial
Rodent Resistant (except Aluminum Interlocked Armor)

Temperature

Operating	-50°C to +70°C
Storage	-50°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Fiber Glass	
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Non-Armored, Corrugated Steel Tape, or Aluminum Interlocked	
Outer Jacket Material/Color	CPE/Black	

Options

Other Colors Available

Steel Interlocked Armor w/ Double Jacket Available (-RH2N)

Corrugated Steel Tape Armor w/ Double Jacket Available (-RT2N)

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TU-*CO-002-RR2N	0.315 (8.0)	42 (63)
4	TU-*CO-004-RR2N	0.315 (8.0)	42 (63)
6	TU-*CO-006-RR2N	0.315 (8.0)	42 (63)
8	TU-*CO-008-RR2N	0.315 (8.0)	42 (63)
12	TU-*CO-012-RR2N	0.315 (8.0)	42 (63)
24	TU-*CO-024-RR2N	0.315 (8.0)	42 (63)

All Dielectric, Double Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TU-*CO-002-RX2N	0.500 (12.7)	101 (150)
4	TU-*CO-004-RX2N	0.500 (12.7)	101 (150)
6	TU-*CO-006-RX2N	0.500 (12.7)	101 (150)
8	TU-*CO-008-RX2N	0.500 (12.7)	101 (150)
12	TU-*CO-012-RX2N	0.500 (12.7)	101 (150)
24	TU-*CO-024-RX2N	0.500 (12.7)	101 (150)

Corrugated Steel Tape Armor, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TU-*CO-002-RS2N	0.410 (10.4)	83 (124)
4	TU-*CO-004-RS2N	0.410 (10.4)	83 (124)
6	TU-*CO-006-RS2N	0.410 (10.4)	83 (124)
8	TU-*CO-008-RS2N	0.410 (10.4)	83 (124)
12	TU-*CO-012-RS2N	0.410 (10.4)	83 (124)
24	TU-*CO-024-RS2N	0.410 (10.4)	83 (124)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TU-*CO-002-RI2N	0.615 (15.6)	152 (226)
4	TU-*CO-004-RI2N	0.615 (15.6)	152 (226)
6	TU-*CO-006-RI2N	0.615 (15.6)	152 (226)
8	TU-*CO-008-RI2N	0.615 (15.6)	152 (226)
12	TU-*CO-012-RI2N	0.615 (15.6)	152 (226)
24	TU-*CO-024-RI2N	0.615 (15.6)	152 (226)

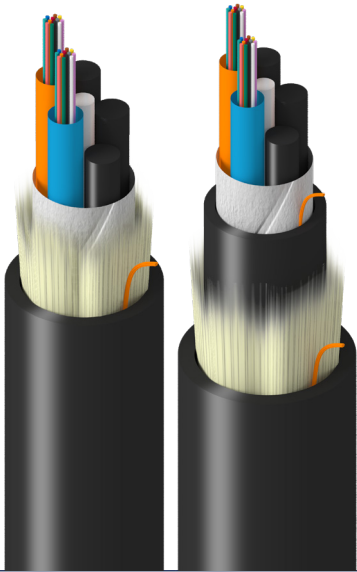
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser* Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored		Interlocked Armor	Corrugated Steel Tape
	Single Jacket	Double Jacket		
Max. Install Load, lbs (N)	300 (1320)	600 (2670)		300 (1320)
Max. Long Term Load, lbs (N)	90 (400)	180 (800)		90 (400)
Crush Resistance (FOTP-41), N/cm	220	440	440	220
Impact Resistance (FOTP-25), N-m	4.4			
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.			
Min. Bend Radius During Installation	15X Cable OD		20x Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD		10x Cable OD	10x Cable OD

DataTuff™ Fiber Optic Factory Grade Cable

Multi-Loose Tube Indoor/Outdoor
Gel-Free



Standards and Ratings

Oil Resistant
Fluorescent Light UV Resistant
Ozone Resistant, ASTM D470
Direct Burial
Rodent Resistant
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006

Also Resistant to:
Hydraulic Fluids
Cutting Fluids
Quaternary Ammonium Disinfectants

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Free
Strength Member	Fiber Glass Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Non-Armored	
Outer Jacket Material/Color	PVC/Black	

Options

Other Colors Available

All Dielectric, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TF-*LC-002-RR5N	0.431 (10.9)	76 (113)
4	4	5	TF-*LC-004-RR5N	0.431 (10.9)	76 (113)
6	6	5	TF-*LC-006-RR5N	0.431 (10.9)	76 (113)
8	8	5	TF-*LD-008-RR5N	0.431 (10.9)	76 (113)
12	12	5	TF-*LD-012-RR5N	0.431 (10.9)	76 (113)
24	12	5	TF-*LD-024-RR5N	0.431 (10.9)	76 (113)
36	12	5	TF-*LD-036-RR5N	0.431 (10.9)	74 (110)
48	12	5	TF-*LD-048-RR5N	0.431 (10.9)	72 (107)
60	12	5	TF-*LD-060-RR5N	0.431 (10.9)	70 (104)
72	12	6	TF-*LD-072-RR5N	0.448 (11.4)	76 (113)
96	12	8	TF-*LD-096-RR5N	0.506 (12.9)	92 (138)
144	12	12	TF-*LD-144-RR5N	0.642 (16.3)	138 (205)
288	12	24	TF-*LD-288-RR5N	0.748 (19.0)	169 (252)

All Dielectric, Double Jacket

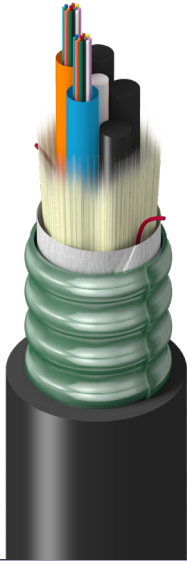
# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TF-*LC-002-RX5N	0.531 (13.5)	115 (171)
4	4	5	TF-*LC-004-RX5N	0.531 (13.5)	115 (171)
6	6	5	TF-*LC-006-RX5N	0.531 (13.5)	115 (171)
8	8	5	TF-*LD-008-RX5N	0.531 (13.5)	115 (171)
12	12	5	TF-*LD-012-RX5N	0.531 (13.5)	115 (171)
24	12	5	TF-*LD-024-RX5N	0.531 (13.5)	113 (168)
36	12	5	TF-*LD-036-RX5N	0.531 (13.5)	111 (165)
48	12	5	TF-*LD-048-RX5N	0.531 (13.5)	109 (162)
60	12	5	TF-*LD-060-RX5N	0.531 (13.5)	107 (159)
72	12	6	TF-*LD-072-RX5N	0.543 (13.8)	116 (172)
96	12	8	TF-*LD-096-RX5N	0.606 (15.4)	136 (202)
144	12	12	TF-*LD-144-RX5N	0.742 (18.8)	189 (281)
288	12	24	TF-*LD-288-RX5N	0.848 (21.5)	229 (341)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Non-Armored	
	Single Jacket	Double Jacket
Max. Install Load, lbs (N)	600 (2670)	1000 (4450)
Max. Long Term Load, lbs (N)	180 (800)	300 (1320)
Crush Resistance (FOTP-41), N/cm	220	
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius during Installation	15X Cable OD	
Min. Bend Radius during Operation	10X Cable OD	

DataTuff™ Fiber Optic Factory Grade Cable

Multi-Loose Tube Indoor/Outdoor
Gel-Free



Standards and Ratings

Oil Resistant
Fluorescent Light UV Resistant
Ozone Resistant, ASTM D470
Direct Burial
Rodent Resistant
TIA/EIA-568.3-D
NEC/CEC OFCR/OFCR FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Also Resistant to: Hydraulic Fluids Cutting Fluids Quaternary Ammonium Disinfectants

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Free
Strength Member	Fiber Glass Yarn	
Central Strength Member	E-glass	
Armor	Corrugated Steel Tape	
Outer Jacket Material/Color	PVC/Black	

Options

Other Colors Available

Corrugated Steel Tape Armor, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TF-*LC-002-RS5N	0.530 (13.5)	123 (183)
4	4	5	TF-*LC-004-RS5N	0.530 (13.5)	123 (183)
6	6	5	TF-*LC-006-RS5N	0.530 (13.5)	123 (183)
8	8	5	TF-*LD-008-RS5N	0.530 (13.5)	123 (183)
12	12	5	TF-*LD-012-RS5N	0.530 (13.5)	123 (183)
24	12	5	TF-*LD-024-RS5N	0.530 (13.5)	121 (180)
36	12	5	TF-*LD-036-RS5N	0.530 (13.5)	119 (177)
48	12	5	TF-*LD-048-RS5N	0.530 (13.5)	117 (175)
60	12	5	TF-*LD-060-RS5N	0.530 (13.5)	119 (177)
72	12	6	TF-*LD-072-RS5N	0.570 (14.5)	124 (185)
96	12	8	TF-*LD-096-RS5N	0.610 (15.5)	150 (223)
144	12	12	TF-*LD-144-RS5N	0.770 (19.6)	208 (310)
288	12	24	TF-*LD-288-RS5N	0.870 (22.1)	243 (362)

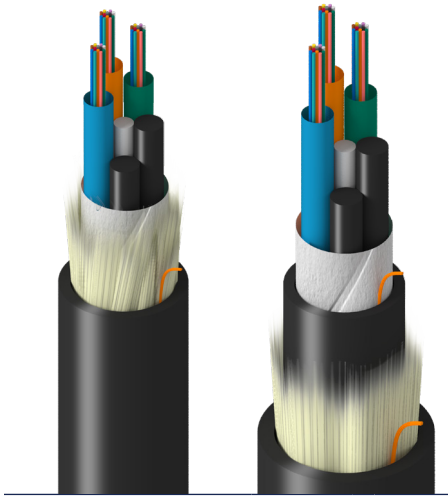
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications

Corrugated Steel Tape	
Max. Install Load, lbs (N)	600 (2670)
Max. Long Term Load, lbs (N)	180 (800)
Crush Resistance (FOTP-41), N/cm	220
Impact Resistance (FOTP-25), N-m	4.4
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.
Min. Bend Radius during Installation	20x Cable OD
Min. Bend Radius during Operation	10x Cable OD

DataTuff™ Fiber Optic Factory Grade Cable

Multi-Loose Tube Indoor/Outdoor
Gel-Filled



Standards and Ratings

Oil Resistant
Fluorescent Light UV Resistant
Ozone Resistant, ASTM D470
Direct Burial
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Also Resistant to: Hydraulic Fluids Cutting Fluids Quaternary Ammonium Disinfectants

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Non-Armored	
Outer Jacket Material/Color	PVC/Black	

Options

Fiber counts 12-36 are also available in a 6F/Tube Design
Other Colors Available

All Dielectric, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TF-*LF-002-RN5N	0.454 (11.5)	82 (122)
4	4	5	TF-*LF-004-RN5N	0.454 (11.5)	82 (122)
6	6	5	TF-*LF-006-RN5N	0.454 (11.5)	82 (122)
8	8	5	TF-*LG-008-RN5N	0.454 (11.5)	82 (122)
12	12	5	TF-*LG-012-RN5N	0.454 (11.5)	82 (122)
24	12	5	TF-*LG-024-RN5N	0.454 (11.5)	81 (120)
36	12	5	TF-*LG-036-RN5N	0.454 (11.5)	80 (119)
48	12	5	TF-*LG-048-RN5N	0.454 (11.5)	79 (118)
60	12	5	TF-*LG-060-RN5N	0.454 (11.5)	79 (118)
72	12	6	TF-*LG-072-RN5N	0.481 (12.2)	89 (133)
96	12	8	TF-*LG-096-RN5N	0.547 (13.9)	114 (170)
144	12	12	TF-*LG-144-RN5N	0.701 (17.8)	181 (269)

All Dielectric, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TF-*LF-002-R25N	0.514 (13.1)	112 (167)
4	4	5	TF-*LF-004-R25N	0.514 (13.1)	112 (167)
6	6	5	TF-*LF-006-R25N	0.514 (13.1)	112 (167)
8	8	5	TF-*LG-008-R25N	0.514 (13.1)	112 (167)
12	12	5	TF-*LG-012-R25N	0.514 (13.1)	112 (167)
24	12	5	TF-*LG-024-R25N	0.514 (13.1)	111 (166)
36	12	5	TF-*LG-036-R25N	0.514 (13.1)	110 (164)
48	12	5	TF-*LG-048-R25N	0.514 (13.1)	109 (163)
60	12	5	TF-*LG-060-R25N	0.514 (13.1)	109 (163)
72	12	6	TF-*LG-072-R25N	0.541 (13.7)	121 (180)
96	12	8	TF-*LG-096-R25N	0.532 (13.5)	141 (210)
144	12	12	TF-*LG-144-R25N	0.686 (17.4)	216 (322)

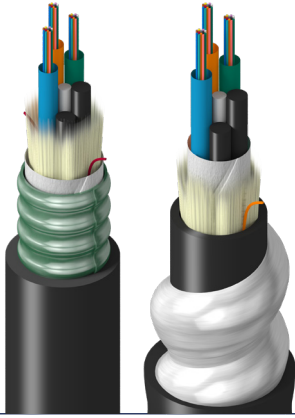
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser [^] Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

[^]OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	
	Single Jacket	Double Jacket
Max. Install Load, lbs (N)	600 (2670)	1000 (4450)
Max. Long Term Load, lbs (N)	180 (800)	300 (1320)
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	
Min. Bend Radius During Operation	10X Cable OD	

DataTuff™ Fiber Optic Factory Grade Cable

Multi-Loose Tube Indoor/Outdoor
Gel-Filled



Standards and Ratings

Oil Resistant
Fluorescent Light UV Resistant
Ozone Resistant, ASTM D470
Direct Burial
Rodent Resistant (Steel Tape only)
TIA/EIA-568.3-D
NEC/CEC OFCR/OF CR FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Also Resistant to: Hydraulic Fluids Cutting Fluids Quaternary Ammonium Disinfectants

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Corrugated Steel Tape or Aluminum Interlocked	
Outer Jacket Material/Color	PVC/Black	

Options

Fiber counts 12-36 are also available in a 6F/Tube Design
Other Colors Available
Steel Interlocked Armor w/ Double Jacket Available (-RH2N)

Corrugated Steel Tape Armor, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TF-*LF-002-RS5N	0.530 (13.5)	127 (189)
4	4	5	TF-*LF-004-RS5N	0.530 (13.5)	127 (189)
6	6	5	TF-*LF-006-RS5N	0.530 (13.5)	127 (189)
8	8	5	TF-*LG-008-RS5N	0.530 (13.5)	127 (189)
12	12	5	TF-*LG-012-RS5N	0.530 (13.5)	127 (189)
24	12	5	TF-*LG-024-RS5N	0.530 (13.5)	126 (188)
36	12	5	TF-*LG-036-RS5N	0.530 (13.5)	125 (187)
48	12	5	TF-*LG-048-RS5N	0.530 (13.5)	124 (185)
60	12	5	TF-*LG-060-RS5N	0.530 (13.5)	124 (185)
72	12	6	TF-*LG-072-RS5N	0.570 (14.5)	139 (207)
96	12	8	TF-*LG-096-RS5N	0.650 (16.5)	173 (257)
144	12	12	TF-*LG-144-RS5N	0.810 (20.6)	253 (377)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TF-*LF-002-RI5N	0.765 (19.4)	260 (387)
4	4	5	TF-*LF-004-RI5N	0.765 (19.4)	260 (387)
6	6	5	TF-*LF-006-RI5N	0.765 (19.4)	260 (387)
8	8	5	TF-*LG-008-RI5N	0.765 (19.4)	260 (387)
12	12	5	TF-*LG-012-RI5N	0.765 (19.4)	260 (387)
24	12	5	TF-*LG-024-RI5N	0.765 (19.4)	259 (386)
36	12	5	TF-*LG-036-RI5N	0.765 (19.4)	258 (384)
48	12	5	TF-*LG-048-RI5N	0.765 (19.4)	257 (383)
60	12	5	TF-*LG-060-RI5N	0.765 (19.4)	256 (382)
72	12	6	TF-*LG-072-RI5N	0.895 (22.7)	272 (406)
96	12	8	TF-*LG-096-RI5N	0.960 (24.4)	311 (462)
144	12	12	TF-*LG-144-RI5N	1.115 (28.3)	410 (610)

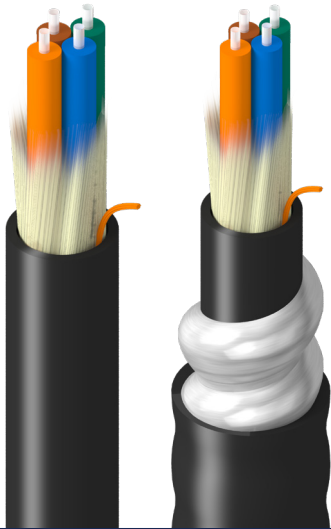
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser [^] Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

[^]OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Interlocked Armor	Corrugated Steel Tape
Max. Install Load, lbs (N)	600 (2670)	
Max. Long Term Load, lbs (N)	180 (800)	
Crush Resistance (FOTP-41), N/cm	440	220
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	20x Cable OD	20x Cable OD
Min. Bend Radius During Operation	10x Cable OD	10x Cable OD

DataTuff™ Fiber Optic Factory Grade Cable

Distribution Indoor/Outdoor



Standards and Ratings

Oil Resistant
Fluorescent Light UV Resistant
Ozone Resistant, ASTM D470
Direct Burial (except All Dielectric Single Unit)
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4 (not Armored)
NEC/CEC OFCR/OFCR FT4 (Armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Also Resistant to: Hydraulic Fluids Cutting Fluids Quaternary Ammonium Disinfectants

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Fiber Buffer OD	900um	
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	Unitized Only
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Non-Armored or Aluminum Interlocked	
Outer Jacket Material/Color	PVC/Black	

Options

Other Colors Available
Steel Interlocked Armor w/ Double Jacket Available (-RH2N)

All Dielectric, Single Jacket

# of Fibers	Fibers/Subunit	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
			in (mm)	lbs/kft (kg/km)
2	Single Unit	TF-*D9-002-RN5N	0.184 (4.7)	14 (20)
4	Single Unit	TF-*D9-004-RN5N	0.200 (5.1)	17 (25)
6	Single Unit	TF-*D9-006-RN5N	0.220 (5.6)	20 (30)
8	Single Unit	TF-*D9-008-RN5N	0.235 (6.0)	22 (33)
12	Single Unit	TF-*D9-012-RN5N	0.260 (6.6)	27 (40)
24	Single Unit	TF-*D9-024-RN5N	0.325 (8.3)	42 (63)
36	12	TF-*DK-036-RN5N	0.688 (17.5)	157 (234)
48	12	TF-*DK-048-RN5N	0.688 (17.5)	157 (234)
72	12	TF-*DK-072-RN5N	0.823 (20.9)	229 (341)
96	12	TF-*DK-096-RN5N	0.977 (24.8)	344 (512)
144	12	TF-*DK-144-RN5N	1.100 (27.9)	377 (561)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Fibers/Subunit	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
			in (mm)	lbs/kft (kg/km)
2	Single Unit	TF-*D9-002-R15N	0.505 (12.8)	104 (156)
4	Single Unit	TF-*D9-004-R15N	0.520 (13.2)	112 (166)
6	Single Unit	TF-*D9-006-R15N	0.540 (13.7)	119 (177)
8	Single Unit	TF-*D9-008-R15N	0.545 (13.8)	132 (196)
12	Single Unit	TF-*D9-012-R15N	0.570 (14.5)	138 (205)
24	Single Unit	TF-*D9-024-R15N	0.635 (16.1)	165 (246)
36	12	TF-*DK-036-R15N	1.086 (27.6)	390 (580)
48	12	TF-*DK-048-R15N	1.086 (27.6)	390 (580)
72	12	TF-*DK-072-R15N	1.221 (31.0)	470 (697)
96	12	TF-*DK-096-R15N	1.390 (35.3)	629 (936)
144	12	TF-*DK-144-R15N	1.510 (38.4)	702 (1045)

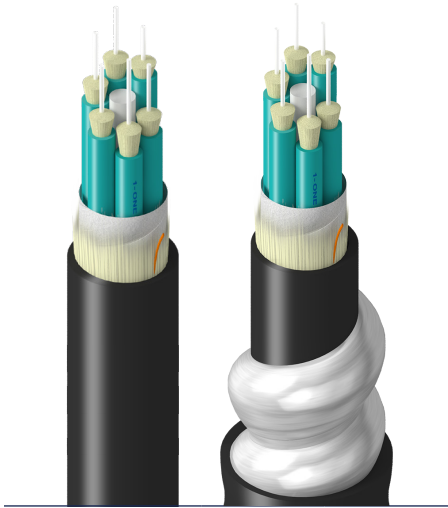
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)	Subunit Color
OS2 - Single Mode	S	1310/1550	0.5/0.5	-	-	5000/-	10,000/40,000	Yellow
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.5/1.25	200/500	220/-	300/550	33/-	Orange
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-	Aqua
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-	Erika Violet

^{*}OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Interlocked Armor
Max. Install Load, lbs (N)	2f - 12f -150 (660) 24f - 300 (1320) >24f - 600 (2670)	
Max. Long Term Load, lbs (N)	2f-12f - 45 (200) 24f - 90 (400) >24f - 180 (800)	
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

DataTuff™ Fiber Optic Factory Grade Cable

Breakout Indoor/Outdoor



Standards and Ratings

Oil Resistant
Fluorescent Light UV Resistant
Ozone Resistant, ASTM D470
Direct Burial
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4 (not Armored)
NEC/CEC OFCR/OFCR FT4 (Armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Also Resistant to: Hydraulic Fluids Cutting Fluids Quaternary Ammonium Disinfectants

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Fiber Buffer OD	900um	
Subunit OD	2.0mm	
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	>6f only
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Non-Armored or Aluminum Interlocked	
Outer Jacket Material/Color	PVC/Black	

Options

Other Colors Available
Steel Interlocked Armor w/ Double Jacket Available (-RH2N)

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TF-*BB-002-RN5N	0.260 (6.6)	24 (36)
4	TF-*BB-004-RN5N	0.321 (8.2)	35 (52)
6	TF-*BB-006-RN5N	0.373 (9.5)	59 (88)
8	TF-*BB-008-RN5N	0.405 (10.3)	71 (105)
12	TF-*BB-012-RN5N	0.540 (13.7)	117 (173)
18	TF-*BB-018-RN5N	0.540 (13.7)	112 (166)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TF-*BB-002-RI5N	0.570 (14.5)	131 (194)
4	TF-*BB-004-RI5N	0.635 (16.1)	177 (262)
6	TF-*BB-006-RI5N	0.685 (17.4)	196 (290)
8	TF-*BB-008-RI5N	0.715 (18.2)	237 (352)
12	TF-*BB-012-RI5N	0.950 (24.1)	305 (452)
18	TF-*BB-018-RI5N	0.950 (24.1)	305 (452)

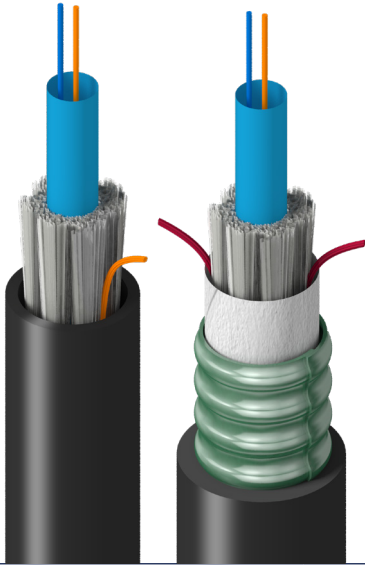
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)	Subunit Color
OS2 - Single Mode	S	1310/1550	0.5/0.5	-	-	5000/-	10,000/40,000	Yellow
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.5/1.25	200/500	220/-	300/550	33/-	Orange
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-	Aqua
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-	Erika Violet

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Interlocked Armor
Max. Install Load, lbs (N)	2f -150 (660) <=12f - 300 (1320) >12f - 600 (2670)	
Max. Long Term Load, lbs (N)	2f - 45 (200) <=12f - 90 (400) >12f - 180 (800)	
Crush Resistance (FOTP-41), N/cm	440	
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

DataTuff™ Fiber Optic Factory Grade Cable

Central Loose Tube Indoor/Outdoor
Gel-Free



Standards and Ratings

Oil Resistant
Fluorescent Light UV Resistant
Ozone Resistant, ASTM D470
Direct Burial
Rodent Resistant
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4 (not Armored)
NEC/CEC OFCR/OFCR FT4 (Armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Also Resistant to: Hydraulic Fluids Cutting Fluids Quaternary Ammonium Disinfectants

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D
Buffer Tube	Thermoplastic Gel-Free
Strength Member	Fiber Glass Yarn
Central Strength Member	E-glass
Armor	Non-Armored or Corrugated Steel Tape
Outer Jacket Material/Color	PVC/Black

Options

Other Colors Available

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TF-*CN-002-RR5N	0.295 (7.5)	37 (55)
4	TF-*CN-004-RR5N	0.295 (7.5)	37 (55)
6	TF-*CN-006-RR5N	0.295 (7.5)	37 (55)
8	TF-*CN-008-RR5N	0.295 (7.5)	37 (55)
10	TF-*CN-010-RR5N	0.295 (7.5)	37 (55)
12	TF-*CN-012-RR5N	0.295 (7.5)	37 (55)
24	TF-*CN-024-RR5N	0.315 (8.0)	41 (61)

Corrugated Steel Tape Armor, Single Jacket

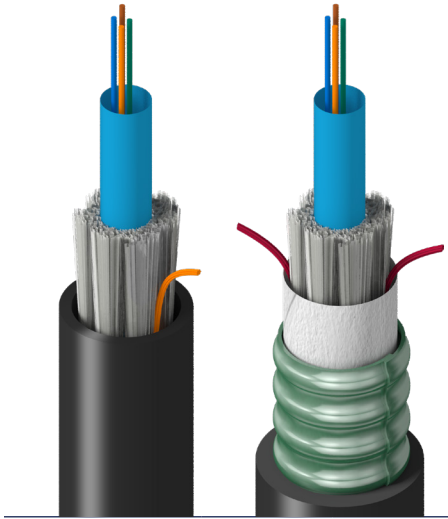
# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TF-*CN-002-RS5N	0.410 (10.4)	77 (115)
4	TF-*CN-004-RS5N	0.410 (10.4)	77 (115)
6	TF-*CN-006-RS5N	0.410 (10.4)	77 (115)
8	TF-*CN-008-RS5N	0.410 (10.4)	77 (115)
10	TF-*CN-010-RS5N	0.410 (10.4)	77 (115)
12	TF-*CN-012-RS5N	0.410 (10.4)	77 (115)
24	TF-*CN-024-RS5N	0.450 (11.4)	84 (125)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz·km)	Min. Laser* Bandwidth (MHz·km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Non-Armored	Corrugated Steel Tape
Max. Install Load, lbs (N)	300 (1320)	
Max. Long Term Load, lbs (N)	90 (400)	
Crush Resistance (FOTP-41), N/cm	220	
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius during Installation	15X Cable OD	20x Cable OD
Min. Bend Radius during Operation	10X Cable OD	10x Cable OD

DataTuff™ Fiber Optic Factory Grade Cable

Central Loose Tube Indoor/Outdoor
Gel-Filled



Standards and Ratings

Oil Resistant
Fluorescent Light UV Resistant
Ozone Resistant, ASTM D470
Direct Burial
Rodent Resistant (except Aluminum Interlocked Armor)
TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4 (not Armored)
NEC/CEC OFCR/OFCR FT4 (Armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Also Resistant to: Hydraulic Fluids Cutting Fluids Quaternary Ammonium Disinfectants

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Fiber Glass	
Inner Jacket Material/Color	PVC/Black	Double Jacket Only
Armor	Non-Armored or Corrugated Steel Tape or Aluminum Interlocked	
Outer Jacket Material/Color	PVC/Black	

Options

Other Colors Available
Steel Interlocked Armor w/ Double Jacket Available (-RH2N)

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TF-*CO-002-RR5N	0.315 (8.0)	42 (63)
4	TF-*CO-004-RR5N	0.315 (8.0)	42 (63)
6	TF-*CO-006-RR5N	0.315 (8.0)	42 (63)
8	TF-*CO-008-RR5N	0.315 (8.0)	42 (63)
12	TF-*CO-012-RR5N	0.315 (8.0)	42 (63)
24	TF-*CO-024-RR5N	0.315 (8.0)	42 (63)

All Dielectric, Double Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TF-*CO-002-RX5N	0.500 (12.7)	101 (150)
4	TF-*CO-004-RX5N	0.500 (12.7)	101 (150)
6	TF-*CO-006-RX5N	0.500 (12.7)	101 (150)
8	TF-*CO-008-RX5N	0.500 (12.7)	101 (150)
12	TF-*CO-012-RX5N	0.500 (12.7)	101 (150)
24	TF-*CO-024-RX5N	0.500 (12.7)	101 (150)

Corrugated Steel Tape Armor, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TF-*CO-002-RS5N	0.410 (10.4)	83 (124)
4	TF-*CO-004-RS5N	0.410 (10.4)	83 (124)
6	TF-*CO-006-RS5N	0.410 (10.4)	83 (124)
8	TF-*CO-008-RS5N	0.410 (10.4)	83 (124)
12	TF-*CO-012-RS5N	0.410 (10.4)	83 (124)
24	TF-*CO-024-RS5N	0.410 (10.4)	83 (124)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TF-*CO-002-RI5N	0.615 (15.6)	152 (226)
4	TF-*CO-004-RI5N	0.615 (15.6)	152 (226)
6	TF-*CO-006-RI5N	0.615 (15.6)	152 (226)
8	TF-*CO-008-RI5N	0.615 (15.6)	152 (226)
12	TF-*CO-012-RI5N	0.615 (15.6)	152 (226)
24	TF-*CO-024-RI5N	0.615 (15.6)	152 (226)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz·km)	Min. Laser [^] Bandwidth (MHz·km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

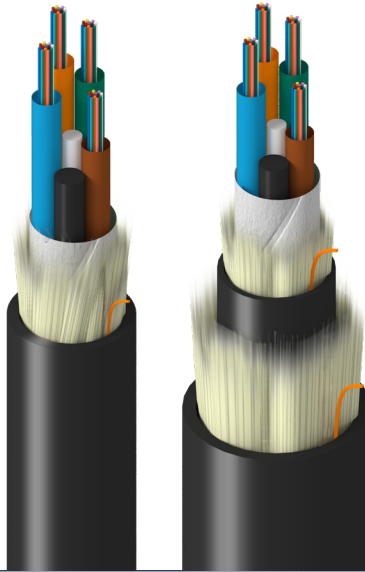
[^]OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-armored		Interlocked Armor	Corrugated Steel Tape
	Single Jacket	Double Jacket		
Max. Install Load, lbs (N)	300 (1320)	600 (2670)	300 (1320)	
Max. Long Term Load, lbs (N)	90 (400)	180 (800)	90 (400)	
Crush Resistance (FOTP-41), N/cm	220		440	220
Impact Resistance (FOTP-25), N-m	4.4			
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.			
Min. Bend Radius During Installation	15X Cable OD		20x Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD		10x Cable OD	10x Cable OD

RailTuff® Fiber Optic Transit Grade Cable

Multi-Loose Tube Indoor/Outdoor

Gel-Free and Low Smoke Zero Halogen (LSZH)



Standards and Ratings

NFPA 130/502
TIA/EIA-568.3-D
NEC/CEC OFNR-ST1/OFNR-ST1 FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial
Rodent Resistant

Temperature

Operating	-40°C to +70°C Arctic -50°C to +70°C
Storage	-40°C to +70°C Arctic -50°C to +70°C
Installation	-10°C to +60°C Arctic -30°C to +50°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Free
Strength Member	Fiber Glass Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	LSZH/Black	Double Jacket Only
Armor	Non-Armored	
Outer Jacket Material/Color	LSZH/Black	

Options

Other Colors Available
Steel Interlocked Armor also available

All Dielectric, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TT-*LC-002-LRNN	0.431 (10.9)	81 (120)
4	4	5	TT-*LC-004-LRNN	0.431 (10.9)	81 (120)
6	6	5	TT-*LC-006-LRNN	0.431 (10.9)	81 (120)
8	8	5	TT-*LD-008-LRNN	0.431 (10.9)	81 (120)
12	12	5	TT-*LD-012-LRNN	0.431 (10.9)	81 (120)
24	12	5	TT-*LD-024-LRNN	0.431 (10.9)	78 (117)
36	12	5	TT-*LD-036-LRNN	0.431 (10.9)	76 (113)
48	12	5	TT-*LD-048-LRNN	0.431 (10.9)	74 (110)
60	12	5	TT-*LD-060-LRNN	0.431 (10.9)	72 (107)
72	12	6	TT-*LD-072-LRNN	0.448 (11.4)	80 (118)
96	12	8	TT-*LD-096-LRNN	0.506 (12.9)	97 (144)
144	12	12	TT-*LD-144-LRNN	0.642 (16.3)	143 (214)
288	12	24	TT-*LD-288-LRNN	0.748 (19.0)	292 (435)

All Dielectric, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TT-*LC-002-LXNN	0.591 (15.0)	154 (230)
4	4	5	TT-*LC-004-LXNN	0.591 (15.0)	146 (217)
6	6	5	TT-*LC-006-LXNN	0.591 (15.0)	146 (217)
8	8	5	TT-*LD-008-LXNN	0.591 (15.0)	146 (217)
12	12	5	TT-*LD-012-LXNN	0.591 (15.0)	146 (217)
24	12	5	TT-*LD-024-LXNN	0.591 (15.0)	152 (226)
36	12	5	TT-*LD-036-LXNN	0.591 (15.0)	150 (223)
48	12	5	TT-*LD-048-LXNN	0.591 (15.0)	148 (220)
60	12	5	TT-*LD-060-LXNN	0.591 (15.0)	145 (216)
72	12	6	TT-*LD-072-LXNN	0.608 (15.4)	155 (231)
96	12	8	TT-*LD-096-LXNN	0.666 (16.9)	180 (267)
144	12	12	TT-*LD-144-LXNN	0.802 (20.4)	243 (361)
288	12	24	TT-*LD-288-LXNN	0.908 (23.1)	292 (435)

Arctic Grade - All Dielectric, Dry Tube, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
12	12	5	TT-*AD-012-H2NN	0.575 (14.6)	140 (208)
24	12	5	TT-*AD-024-H2NN	0.575 (14.6)	140 (208)
36	12	5	TT-*AD-036-H2NN	0.575 (14.6)	140 (208)

Oil Res II versions available - change PN suffix to -H23N

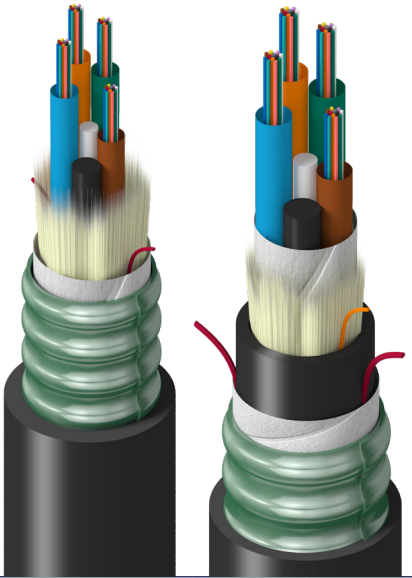
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Non-Armored	
	Single Jacket	Double Jacket
Max. Install Load, lbs (N)	600 (2670)	1000 (4450) Arctic: 990 (4400)
Max. Long Term Load, lbs (N)	180 (800)	300 (1320) Arctic: 290 (1300)
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius during Installation	15X Cable OD	
Min. Bend Radius during Operation	10X Cable OD	

RailTuff® Fiber Optic Transit Grade Cable

Multi-Loose Tube Indoor/Outdoor

Gel-Free and Low Smoke Zero Halogen (LSZH)



Standards and Ratings

NFPA 130/502
TIA/EIA-568.3-D
NEC/CEC OFCR-ST1/OFCR-ST1 FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial
Rodent Resistant

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Free
Strength Member	Fiber Glass Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	LSZH/Black	Double Jacket Only
Armor	Corrugated Steel Tape	
Outer Jacket Material/Color	LSZH/Black	

Options

Other Colors Available

Steel Interlocked Armor also available

Corrugated Steel Tape Armor, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TT-*LC-002-LSNN	0.530 (13.5)	129 (192)
4	4	5	TT-*LC-004-LSNN	0.530 (13.5)	129 (192)
6	6	5	TT-*LC-006-LSNN	0.530 (13.5)	129 (192)
8	8	5	TT-*LD-008-LSNN	0.530 (13.5)	129 (192)
12	12	5	TT-*LD-012-LSNN	0.530 (13.5)	129 (192)
24	12	5	TT-*LD-024-LSNN	0.530 (13.5)	127 (189)
36	12	5	TT-*LD-036-LSNN	0.530 (13.5)	125 (185)
48	12	5	TT-*LD-048-LSNN	0.530 (13.5)	122 (182)
60	12	5	TT-*LD-060-LSNN	0.530 (13.5)	120 (179)
72	12	6	TT-*LD-072-LSNN	0.570 (14.5)	131 (195)
96	12	8	TT-*LD-096-LSNN	0.610 (15.5)	155 (231)
144	12	12	TT-*LD-144-LSNN	0.770 (19.6)	215 (321)
288	12	24	TT-*LD-288-LSNN	0.870 (22.1)	252 (375)

Corrugated Steel Tape Armor, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TT-*LC-002-LTNN	0.690 (17.5)	214 (319)
4	4	5	TT-*LC-004-LTNN	0.690 (17.5)	214 (319)
6	6	5	TT-*LC-006-LTNN	0.690 (17.5)	214 (319)
8	8	5	TT-*LD-008-LTNN	0.690 (17.5)	213 (318)
12	12	5	TT-*LD-012-LTNN	0.690 (17.5)	214 (319)
24	12	5	TT-*LD-024-LTNN	0.690 (17.5)	212 (316)
36	12	5	TT-*LD-036-LTNN	0.690 (17.5)	210 (312)
48	12	5	TT-*LD-048-LTNN	0.690 (17.5)	208 (309)
60	12	5	TT-*LD-060-LTNN	0.690 (17.5)	205 (306)
72	12	6	TT-*LD-072-LTNN	0.730 (18.5)	226 (337)
96	12	8	TT-*LD-096-LTNN	0.770 (19.6)	255 (380)
144	12	12	TT-*LD-144-LTNN	0.930 (23.6)	331 (493)
288	12	24	TT-*LD-288-LTNN	1.050 (26.7)	369 (549)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz·km)	Min. Laser Bandwidth (MHz·km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Corrugated Steel Tape
Max. Install Load, lbs (N)	600 (2670)
Max. Long Term Load, lbs (N)	180 (800)
Crush Resistance (FOTP-41), N/cm	220
Impact Resistance (FOTP-25), N-m	4.4
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.
Min. Bend Radius during Installation	20X Cable OD
Min. Bend Radius during Operation	10X Cable OD

RailTuff® Fiber Optic Transit Grade Cable

Multi-Loose Tube Indoor/Outdoor

Gel-Free and Low Smoke Zero Halogen (LSZH)



Standards and Ratings

NFPA 130/502
TIA/EIA-568.3-D
NEC/CEC OFCR-ST1/OFCR-ST1 FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Free
Strength Member	Fiber Glass Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	LSZH/Black	
Armor	Aluminum Interlocked	
Outer Jacket Material/Color	LSZH/Black	

Options

Other Colors Available
Steel Interlocked Armor also available

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TT-*LC-002-LINN	0.785 (19.9)	271 (403)
4	4	5	TT-*LC-004-LINN	0.785 (19.9)	271 (403)
6	6	5	TT-*LC-006-LINN	0.785 (19.9)	271 (403)
8	8	5	TT-*LD-008-LINN	0.785 (19.9)	271 (403)
12	12	5	TT-*LD-012-LINN	0.785 (19.9)	271 (403)
24	12	5	TT-*LD-024-LINN	0.785 (19.9)	269 (400)
36	12	5	TT-*LD-036-LINN	0.785 (19.9)	266 (396)
48	12	5	TT-*LD-048-LINN	0.785 (19.9)	264 (393)
60	12	5	TT-*LD-060-LINN	0.785 (19.9)	262 (390)
72	12	6	TT-*LD-072-LINN	0.800 (20.3)	273 (407)
96	12	8	TT-*LD-096-LINN	0.920 (23.4)	294 (437)
144	12	12	TT-*LD-144-LINN	1.055 (26.8)	358 (533)
288	12	24	TT-*LD-288-LINN	1.160 (29.5)	429 (639)

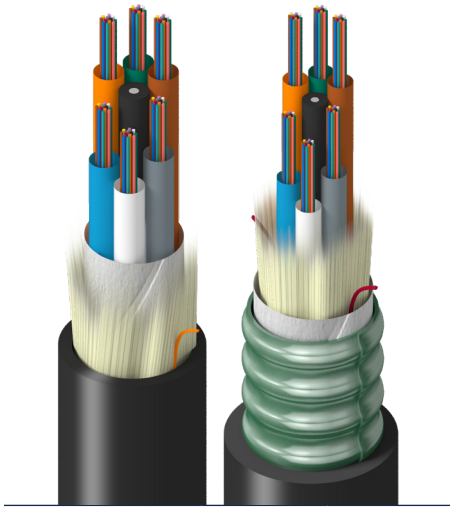
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Interlocked Armor
Max. Install Load, lbs (N)	600 (2670)
Max. Long Term Load, lbs (N)	180 (800)
Crush Resistance (FOTP-41), N/cm	440
Impact Resistance (FOTP-25), N-m	4.4
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.
Min. Bend Radius during Installation	20x Cable OD
Min. Bend Radius during Operation	10x Cable OD

RailTuff® Fiber Optic Transit Grade Cable

Muti-Loose Tube Indoor/Outdoor

Gel-Filled and Low Smoke Zero Halogen (LSZH)



Standards and Ratings

NFPA 130/502
TIA/EIA-568.3-D
NEC/CEC OFNG-ST1/ OFNG-ST1 FT4 (non-armored)
NEC/CEC OFCG-ST1/ OFCG-ST1 FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial
Rodent Resistant (Steel Tape Only)

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D
Buffer Tube	Thermoplastic Gel-Filled
Strength Member	Aramid Yarn
Central Strength Member	E-glass
Armor	Non-Armored or Corrugated Steel Tape
Outer Jacket Material/Color	LSZH/Black

Options

Fiber counts 12-36 are also available in a 6F/Tube Design

Other Colors Available

All Dielectric, Single Jacket					
# of Fibers	Fibers/Subunit	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TT-*LF-002-HNNN	0.454 (11.5)	87 (129)
4	4	5	TT-*LF-004-HNNN	0.454 (11.5)	87 (129)
6	6	5	TT-*LF-006-HNNN	0.454 (11.5)	87 (129)
8	8	5	TT-*LG-008-HNNN	0.454 (11.5)	87 (129)
12	12	5	TT-*LG-012-HNNN	0.454 (11.5)	87 (129)
24	12	5	TT-*LG-024-HNNN	0.454 (11.5)	86 (128)
36	12	5	TT-*LG-036-HNNN	0.454 (11.5)	84 (125)

Corrugated Steel Tape Armor, Single Jacket					
# of Fibers	Fibers/Subunit	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TT-*LF-002-HSNN	0.530 (13.5)	134 (199)
4	4	5	TT-*LF-004-HSNN	0.530 (13.5)	134 (199)
6	6	5	TT-*LF-006-HSNN	0.530 (13.5)	134 (199)
8	8	5	TT-*LG-008-HSNN	0.530 (13.5)	134 (199)
12	12	5	TT-*LG-012-HSNN	0.530 (13.5)	134 (199)
24	12	5	TT-*LG-024-HSNN	0.530 (13.5)	132 (197)
36	12	5	TT-*LG-036-HSNN	0.530 (13.5)	131 (195)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser [^] Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

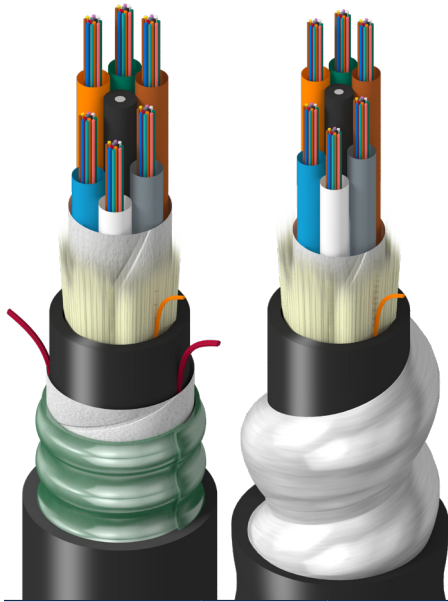
[^]OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Corrugated Steel Tape
Max. Install Load, lbs (N)	600 (2670)	600 (2670)
Max. Long Term Load, lbs (N)	180 (800)	180 (800)
Crush Resistance (FOTP-41), N/cm	220	220
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

RailTuff® Fiber Optic Transit Grade Cable

Multi-Loose Tube Indoor/Outdoor

Gel-Filled and Low Smoke Zero Halogen (LSZH)



Standards and Ratings

NFPA 130/502
TIA/EIA-568.3-D
NEC/CEC OFCG-ST1 / OFCG-ST1 FT4
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial

Rodent Resistant (Steel Tape Only)

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	LSZH/Black	Double Jacket Only
Armor	Corrugated Steel Tape or Aluminum Interlocked	
Outer Jacket Material/Color	LSZH/Black	

Options

Other Colors Available

Steel Interlocked Armor Available

Corrugated Steel Tape Armor, Double Jacket

# of Fibers	Fibers/Subunit	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TT-*LF-002-HTNN	0.650 (16.5)	203 (302)
4	4	5	TT-*LF-004-HTNN	0.650 (16.5)	203 (302)
6	6	5	TT-*LF-006-HTNN	0.650 (16.5)	203 (302)
8	8	5	TT-*LG-008-HTNN	0.650 (16.5)	203 (302)
12	12	5	TT-*LG-012-HTNN	0.650 (16.5)	202 (300)
24	12	5	TT-*LG-024-HTNN	0.650 (16.5)	202 (300)
36	12	5	TT-*LG-036-HTNN	0.650 (16.5)	201 (298)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Fibers/Subunit	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TT-*LF-002-HINN	0.805 (20.4)	282 (420)
4	4	5	TT-*LF-004-HINN	0.805 (20.4)	282 (420)
6	6	5	TT-*LF-006-HINN	0.805 (20.4)	282 (420)
8	8	5	TT-*LG-008-HINN	0.805 (20.4)	282 (420)
12	12	5	TT-*LG-012-HINN	0.805 (20.4)	282 (420)
24	12	5	TT-*LG-024-HINN	0.805 (20.4)	281 (418)
36	12	5	TT-*LG-036-HINN	0.805 (20.4)	280 (416)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser [^] Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)	Subunit Color
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000	Yellow
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.5/1.25	200/500	220/-	300/550	33/-	Orange
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-	Aqua
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-	Erika Violet

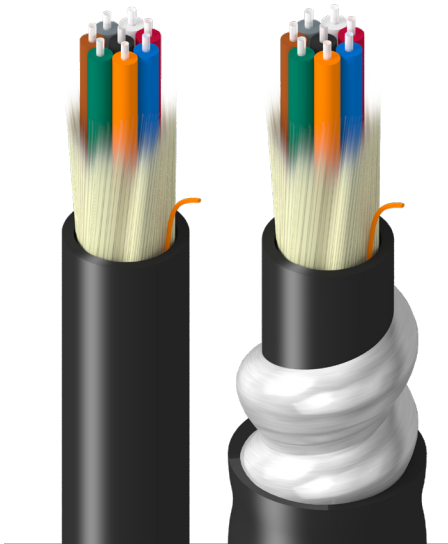
[^]OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Corrugated Steel Tape	Interlocked Armor
Max. Install Load, lbs (N)	600 (2670)	
Max. Long Term Load, lbs (N)	180 (800)	
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	20X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

RailTuff® Fiber Optic Transit Grade Cable

Distribution Indoor/Outdoor

Low Smoke Zero Halogen (LSZH)



Standards and Ratings

NFPA 130/502
TIA/EIA-568.3-D
NEC/CEC OFNG-ST1/ OFNG-ST1 FT4 (non-armored)
NEC/CEC OFCG-ST1/ OFCG-ST1 FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial (except non-unitized all dielectric)

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Fiber Buffer OD	900um	
Subunit OD	2.0mm	
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	Unitized Only
Inner Jacket Material/Color	LSZH/Black	Double Jacket Only
Armor	Non-Armored or Aluminum Interlocked	
Outer Jacket Material/Color	LSZH/Black	

Options

Other Colors Available
Steel Interlocked Armor Available

All Dielectric, Single Jacket

# of Fibers	Fibers/ Subunit	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
			in (mm)	lbs/kft (kg/km)
2	Single Unit	TT-*D9-002-LNNN	0.184 (4.7)	14 (21)
4	Single Unit	TT-*D9-004-LNNN	0.200 (5.1)	17 (25)
6	Single Unit	TT-*D9-006-LNNN	0.220 (5.6)	20 (30)
8	Single Unit	TT-*D9-008-LNNN	0.235 (6.0)	22 (33)
12	Single Unit	TT-*D9-012-LNNN	0.290 (7.4)	30 (45)
24	12	TT-*DK-024-LNNN	0.360 (9.1)	44 (65)
36	12	TT-*DK-036-LNNN	0.688 (17.5)	162 (241)
48	12	TT-*DK-048-LNNN	0.688 (17.5)	158 (235)
72	12	TT-*DK-072-LNNN	0.823 (20.9)	235 (350)
96	12	TT-*DK-096-LNNN	0.977 (24.8)	350 (521)
144	12	TT-*DK-144-LNNN	1.100 (27.9)	376 (559)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Fiber/ subunit	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
			in (mm)	lbs/kft (kg/km)
2	Single Unit	TT-*D9-002-LINN	0.535 (13.6)	107 (159)
4	Single Unit	TT-*D9-004-LINN	0.550 (14.0)	114 (170)
6	Single Unit	TT-*D9-006-LINN	0.570 (14.5)	123 (183)
8	Single Unit	TT-*D9-008-LINN	0.585 (14.9)	129 (192)
12	Single Unit	TT-*D9-012-LINN	0.640 (16.3)	149 (222)
24	12	TT-*DK-024-LINN	0.710 (18.0)	181 (269)
36	12	TT-*DK-036-LINN	1.100 (27.9)	394 (586)
48	12	TT-*DK-048-LINN	1.100 (27.9)	389 (579)
72	12	TT-*DK-072-LINN	1.235 (31.4)	501 (745)
96	12	TT-*DK-096-LINN	1.390 (35.3)	653 (972)
144	12	TT-*DK-144-LINN	1.510 (38.4)	709 (1055)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)	Subunit Color
OS2 - Single Mode	S	1310/1550	0.5/0.5	-	-	5000/-	10,000/40,000	Yellow
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.5/1.25	200/500	220/-	300/550	33/-	Orange
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-	Aqua
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-	Erika Violet

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Interlocked Armor
Max. Install Load, lbs (N)	<24f - 150 (660) 24f - 300 (1320) >24f - 600 (2670)	<24f - 45 (200) 24f - 90 (400) >24f - 180 (800)
Max. Long Term Load, lbs (N)	<24f - 45 (200) 24f - 90 (400) >24f - 180 (800)	<24f - 45 (200) 24f - 90 (400) >24f - 180 (800)
Crush Resistance (FOTP-41), N/cm	220 (440 unitized)	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

RailTuff® Fiber Optic Transit Grade Cable

Distribution Indoor/Outdoor
Plenum Rated



Standards and Ratings

NFPA 130
TIA/EIA-568.3-D
NEC/CEC OFNP / OFNP FT4 (non-armored)
NEC/CEC OFCP / OFCP FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006

Temperature

Static Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	0°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Fiber Buffer OD	900um	
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	Unitized Only
Inner Jacket Material/Color	Flamarrest®/Black	Double Jacket Only
Armor	Non-Armored or Aluminum Interlocked	
Outer Jacket Material/Color	Flamarrest®/Black	

Options

Other Colors Available	
Steel Interlocked Armor also available	

All Dielectric, Single Jacket

# of Fibers	Fibers/Subunit	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
			in (mm)	lbs/kft (kg/km)
2	Single Unit	TT-*D9-002-PNNN	0.174 (4.4)	14 (21)
4	Single Unit	TT-*D9-004-PNNN	0.174 (4.4)	15 (22)
6	Single Unit	TT-*D9-006-PNNN	0.190 (4.8)	15 (22)
8	Single Unit	TT-*D9-008-PNNN	0.222 (5.6)	18 (27)
12	Single Unit	TT-*D9-012-PNNN	0.230 (5.8)	21 (31)
24	12	TT-*DK-024-PNNN	0.623 (15.8)	129 (192)
36	12	TT-*DK-036-PNNN	0.623 (15.8)	129 (192)
48	12	TT-*DK-048-PNNN	0.623 (15.8)	129 (192)
72	12	TT-*DK-072-PNNN	0.756 (19.2)	199 (296)
96	12	TT-*DK-096-PNNN	0.900 (22.9)	310 (461)
144	12	TT-*DK-144-PNNN	1.065 (27.1)	366 (545)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Fibers/Subunit	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
			in (mm)	lbs/kft (kg/km)
2	Single Unit	TT-*D9-002-PINN	0.431 (10.9)	78 (117)
4	Single Unit	TT-*D9-004-PINN	0.431 (10.9)	79 (118)
6	Single Unit	TT-*D9-006-PINN	0.440 (11.2)	103 (154)
8	Single Unit	TT-*D9-008-PINN	0.481 (12.2)	106 (158)
12	Single Unit	TT-*D9-012-PINN	0.506 (12.9)	108 (161)
24	12	TT-*DK-024-PINN	0.590 (14.7)	150 (223)
36	12	TT-*DK-036-PINN	0.971 (24.7)	162 (241)
48	12	TT-*DK-048-PINN	0.971 (24.7)	290 (432)
72	12	TT-*DK-072-PINN	1.106 (28.1)	388 (577)
96	12	TT-*DK-096-PINN	1.246 (31.7)	524 (780)
144	12	TT-*DK-144-PINN	1.411 (35.8)	615 (915)

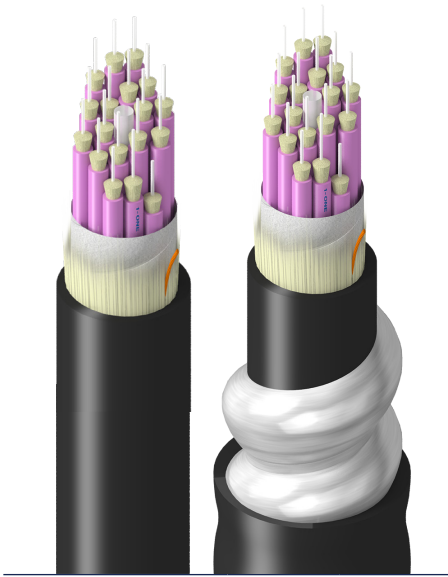
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)	Subunit Color
OS2 - Single Mode	S	1310/1550	0.5/0.5	-	-	5000/-	10,000/40,000	Yellow
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.5/1.25	200/500	220/-	300/550	33/-	Orange
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-	Aqua
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-	Erika Violet

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Interlocked Armor
Max. Install Load, lbs (N)	<24f - 150 (660) 24f - 300 (1320) >24f - 600 (2670)	
Max. Long Term Load, lbs (N)	<24f - 45 (200) 24f - 90 (400) >24f - 180 (800)	
Crush Resistance (FOTP-41), N/cm	200 (440 Unitized)	440
Impact Resistance (FOTP-25), N·m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius during Installation	15X Cable OD	20x Cable OD
Min. Bend Radius during Operation	10X Cable OD	10x Cable OD

RailTuff® Fiber Optic Transit Grade Cable

Breakout Indoor/Outdoor
Low Smoke Zero Halogen (LSZH)



Standards and Ratings

NFPA 130/502
TIA/EIA-568.3-D
NEC/CEC OFNR-ST1/ OFNR-ST1 FT4 (non-armored)
NEC/CEC OFCR-ST1/ OFCR-ST1 FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D
Fiber Buffer OD	900um
Subunit OD	2.0mm
Strength Member	Aramid Yarn
Central Strength Member	E-glass
Inner Jacket Material/Color	LSZH/Black Double Jacket Only
Armor	Non-Armored or Aluminum Interlocked Armor
Outer Jacket Material/Color	LSZH/Black

Options

Fiber Counts 12-36 Available in a 6F/Tube Design

Other Colors Available

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TT-*BB-002-LNND	0.260 (6.6)	27 (40)
4	TT-*BB-004-LNND	0.321 (8.2)	38 (57)
6	TT-*BB-006-LNND	0.358 (9.1)	61 (91)
8	TT-*BB-008-LNND	0.435 (11.0)	79 (118)
12	TT-*BB-012-LNND	0.540 (13.7)	125 (186)
18	TT-*BB-018-LNND	0.530 (13.5)	118 (176)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TT-*BB-002-LINN	0.610 (15.5)	144 (214)
4	TT-*BB-004-LINN	0.675 (17.1)	172 (256)
6	TT-*BB-006-LINN	0.710 (18.0)	203 (302)
8	TT-*BB-008-LINN	0.785 (19.9)	239 (356)
12	TT-*BB-012-LINN	0.950 (24.1)	321 (478)
18	TT-*BB-018-LINN	0.940 (23.9)	311 (463)

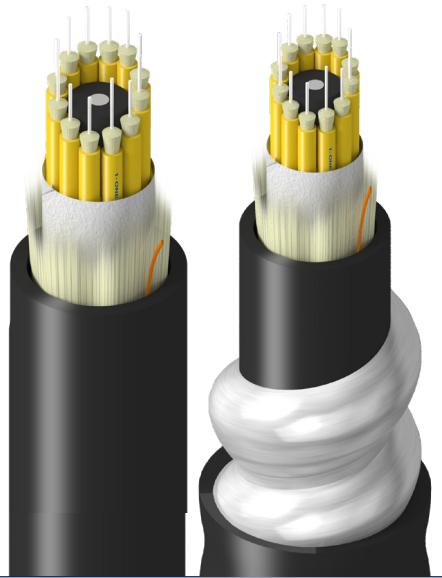
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.5/0.5	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.5/1.25	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1000/550	400/-

[^]OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Interlocked Armored
Max. Install Load, lbs (N)	2f - 150 (660) 4f - 12f - 300 (1320) 18f - 600 (2670)	
Max. Long Term Load, lbs (N)	2f - 45 (200) 4f-12f - 90 (400) 18f - 180 (800)	
Crush Resistance (FOTP-41), N/cm		440
Impact Resistance (FOTP-25), N·m		4.4
Cyclic Flexing (FOTP-104)		25 cycles, 20xOD radius Min.
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

RailTuff® Fiber Optic Transit Grade Cable

Breakout Indoor/Outdoor
Plenum Rated



Standards and Ratings

NFPA 130
TIA/EIA-568.3-D
NEC/CEC OFNP / OFNP FT4 (non-armored)
NEC/CEC OFCP / OFCP FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006

Temperature

Static Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	0°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Fiber Buffer OD	900um	
Subunit OD	2.0mm	
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	>=4F only
Inner Jacket Material/Color	Flamarrest®/ Black	Double Jacket Only
Armor	Non-Armored or Aluminum Interlocked	
Outer Jacket Material/Color	Flamarrest®/Black	

Options

Other Colors Available

Steel Interlocked Armor also available

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TT-*BB-002-PNNN	0.230 (5.8)	20 (29)
4	TT-*BB-004-PNNN	0.263 (6.7)	28 (42)
6	TT-*BB-006-PNNN	0.309 (7.8)	45 (67)
8	TT-*BB-008-PNNN	0.345 (8.8)	59 (88)
12	TT-*BB-012-PNNN	0.416 (10.6)	66 (98)
16	TT-*BB-016-PNNN	0.488 (12.4)	88 (131)

Aluminum Interlocked Armor, Double Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TT-*BB-002-PINN	0.480 (12.2)	96 (142)
4	TT-*BB-004-PINN	0.515 (13.1)	110 (163)
6	TT-*BB-006-PINN	0.560 (14.2)	134 (199)
8	TT-*BB-008-PINN	0.600 (15.2)	157 (233)
12	TT-*BB-012-PINN	0.670 (17.0)	182 (270)
16	TT-*BB-016-PINN	0.836 (21.2)	228 (339)

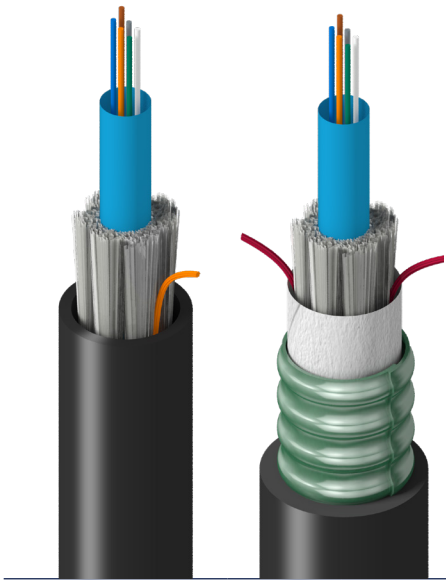
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz·km)	Min. Laser Bandwidth (MHz·km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)	Subunit Color
OS2 - Single Mode	S	1310/1550	0.5/0.5	-	-	5000/-	10,000/40,000	Yellow
OM1 -62.5/125µm Multi-Mode	1	850/1300	3.5/1.25	200/500	220/-	300/550	33/-	Orange
OM3 -50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-	Aqua
OM4 -50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-	Erika Violet

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Interlocked Armor
Max. Install Load, lbs (N)	2f - 150 (660) 4f-8f - 300 (1320) 12f-16f - 600 (2670)	
Max. Long Term Load, lbs (N)	2f - 45 (200) 4f-8f - 90 (400) 12f-16f - 180 (800)	
Crush Resistance (FOTP-41), N/cm	440	
Impact Resistance (FOTP-25), N·m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius during Installation	15X Cable OD	20x Cable OD
Min. Bend Radius during Operation	10X Cable OD	10x Cable OD

RailTuff® Fiber Optic Transit Grade Cable

Central Loose Tube Indoor/Outdoor
Gel-Free and Low Smoke Zero Halogen (LSZH)



Standards and Ratings

NFPA 130/502
TIA/EIA-568.3-D
NEC/CEC OFNR-ST1/ OFNR-ST1 FT4 (non-armored)
NEC/CEC OFCR-ST1/ OFCR-ST1 FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial
Rodent Resistant

Temperature

Static Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Fiber Glass Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	LSZH/Black	Double Jacket Only
Armor	Non-Armored or Corrugated Steel Tape	
Outer Jacket Material/Color	LSZH/Black	

Options

Other Colors Available
Steel Interlocked Armor also available

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TT-*CN-002-LRNN	0.295 (7.5)	39 (58)
4	TT-*CN-004-LRNN	0.295 (7.5)	39 (58)
6	TT-*CN-006-LRNN	0.295 (7.5)	39 (58)
8	TT-*CN-008-LRNN	0.295 (7.5)	39 (58)
10	TT-*CN-010-LRNN	0.295 (7.5)	39 (58)
12	TT-*CN-012-LRNN	0.295 (7.5)	39 (58)
24	TT-*CN-024-LRNN	0.315 (8.0)	43 (64)

Corrugated Steel Tape Armor, Single Jacket

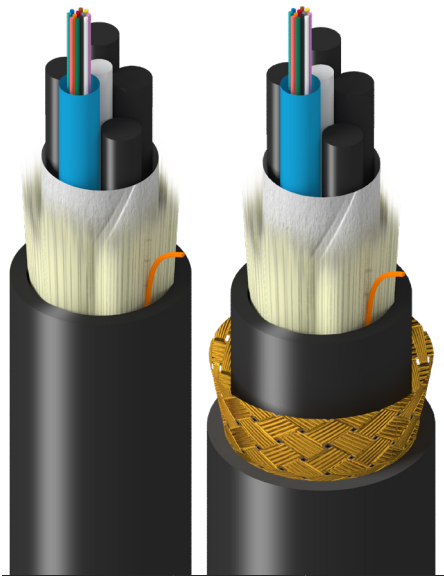
# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TT-*CN-002-LSNN	0.410 (10.4)	82 (122)
4	TT-*CN-004-LSNN	0.410 (10.4)	82 (122)
6	TT-*CN-006-LSNN	0.410 (10.4)	82 (122)
8	TT-*CN-008-LSNN	0.410 (10.4)	82 (122)
10	TT-*CN-010-LSNN	0.410 (10.4)	82 (122)
12	TT-*CN-012-LSNN	0.410 (10.4)	82 (122)
24	TT-*CN-024-LSNN	0.450 (11.4)	89 (133)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Non-Armored	Corrugated Steel Tape
Max. Install Load, lbs (N)	300 (1320)	
Max. Long Term Load, lbs (N)	90 (400)	
Crush Resistance (FOTP-41), N/cm	220	
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius during Installation	15X Cable OD	20x Cable OD
Min. Bend Radius during Operation	10X Cable OD	10x Cable OD

MarineTuff® Fiber Optic Marine Grade Cable

Cables for Shipboard and Platform Environments
 Multi-Loose Tube Indoor/Outdoor
 Gel-Filled and Low Smoke Zero Halogen (LSZH)



Standards and Ratings

ABS Approved
IEEE 45, IEEE 1580 (Braid Only)
TIA/EIA-568.3-D
NEC/CEC OFNG-ST1/ OFNG-ST1 FT4 (non-armored)
NEC/CEC OFCG-ST1/ OFCG-ST1 FT4 (armored)
†Note: fiber counts >36f are not ST1
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	
Inner Jacket Material/Color	LSZH/Black	Double Jacket Only
Armored	Non-Armored or Bronze Braid	
Outer Jacket Material/Color	LSZH/Black	

Options

Fiber Counts 12-36 Available in a 6F/Tube Design

Other Colors Available

All Dielectric, Single Jacket					
# of Fibers	Fibers/ Bundle	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TM-*LF-002-HNAN	0.460 (11.7)	89 (132)
4	4	5	TM-*LF-004-HNAN	0.460 (11.7)	89 (132)
6	6	5	TM-*LF-006-HNAN	0.460 (11.7)	89 (132)
8	8	5	TM-*LG-008-HNAN	0.460 (11.7)	89 (132)
12	12	5	TM-*LG-012-HNAN	0.460 (11.7)	89 (132)
24	12	5	TM-*LG-024-HNAN	0.460 (11.7)	88 (131)
36	12	5	TM-*LG-036-HNAN	0.460 (11.7)	86 (128)
48	12	5	TM-*LG-048-MNAN†	0.460 (11.7)	83 (124)
60	12	5	TM-*LG-060-MNAN†	0.460 (11.7)	82 (122)
72	12	6	TM-*LG-072-MNAN†	0.480 (12.2)	93 (138)
96	12	8	TM-*LG-096-MNAN†	0.547 (13.9)	117 (173)
144	12	12	TM-*LG-144-MNAN†	0.701 (17.8)	201 (300)

Bronze Braid Armor Double Jacket					
# of Fibers	Fibers/ Bundle	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TM-*LF-002-HBAN	0.645 (16.4)	247 (368)
4	4	5	TM-*LF-004-HBAN	0.645 (16.4)	247 (368)
6	6	5	TM-*LF-006-HBAN	0.645 (16.4)	247 (368)
8	8	5	TM-*LG-008-HBAN	0.645 (16.4)	247 (368)
12	12	5	TM-*LG-012-HBAN	0.645 (16.4)	247 (368)
24	12	5	TM-*LG-024-HBAN	0.645 (16.4)	246 (366)
36	12	5	TM-*LG-036-HBAN	0.645 (16.4)	244 (363)
48	12	5	TM-*LG-048-MBAN†	0.645 (16.4)	241 (359)
60	12	5	TM-*LG-060-MBAN†	0.645 (16.4)	240 (357)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)	Subunit Color
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000	Yellow
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-	Orange
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-	Aqua
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1000/550	400/-	Erika Violet

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Bronze Braid Armor
Max. Install Load, lbs (N)	600 (2670)	
Max. Long Term Load, lbs (N)	180 (800)	
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD Radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

MarineTuff® Fiber Optic Marine Grade Cable

Cables for Shipboard and Platform Environments
Distribution Indoor/Outdoor
Low Smoke Zero Halogen (LSZH)



Standards and Ratings

ABS Approved IEEE 45, IEEE 1580 (Braid Only)
TIA/EIA-568.3-D
NEC/CEC OFNR-ST1 / OFNR-ST1 FT4 (non-armored)
NEC/CEC OFCR-ST1 / OFCR-ST1 FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Fiber Buffer OD	900um	
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	Unitized Only
Inner Jacket Material/Color	LSZH/Black	Double Jacket Only
Armor	Non-Armored or Bronze Braid	
Outer Jacket Material/Color	LSZH/Black	

Options

Other Colors Available

All Dielectric, Single Jacket

# of Fibers	Fibers/ Bundle	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	N/A	N/A	TM-*D9-002-LNAN	0.205 (5.2)	18 (27)
4	N/A	N/A	TM-*D9-004-LNAN	0.220 (5.6)	21 (31)
6	N/A	N/A	TM-*D9-006-LNAN	0.240 (6.1)	25 (37)
8	N/A	N/A	TM-*D9-008-LNAN	0.255 (6.5)	28 (42)
12	N/A	N/A	TM-*D9-012-LNAN	0.310 (7.9)	36 (54)
24	6	4	TM-*DJ-024-LNAN	0.570 (14.5)	112 (167)
36	12	4	TM-*DK-036-LNAN	0.688 (17.5)	162 (241)
48	12	4	TM-*DK-048-LNAN	0.688 (17.5)	158 (235)
72	12	6	TM-*DK-072-LNAN	0.823 (20.9)	235 (350)
96	12	8	TM-*DK-096-LNAN	0.977 (24.8)	350 (521)
144	12	12	TM-*DK-144-LNAN	1.100 (27.9)	376 (560)

Bronze Braid Armor Double Jacket

# of Fibers	Fibers/ Bundle	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	N/A	N/A	TM-*D9-002-LBAN	0.360 (9.1)	89 (132)
4	N/A	N/A	TM-*D9-004-LBAN	0.375 (9.5)	95 (141)
6	N/A	N/A	TM-*D9-006-LBAN	0.395 (10.0)	104 (155)
8	N/A	N/A	TM-*D9-008-LBAN	0.410 (10.4)	112 (167)
12	N/A	N/A	TM-*D9-012-LBAN	0.475 (12.1)	134 (199)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)	Jacket & Subunit Color
OS2 - Single Mode	S	1310/1550	0.5/0.5	-	-	5000/-	10,000/40,000	Yellow
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.5/1.25	200/500	220/-	300/550	33/-	Orange
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-	Aqua
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1000/550	400/-	Erika Violet

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Bronze Braid Armor
Max. Install Load, lbs (N)	<24f - 150 (660) 24f - 300 (1320) >24f - 600 (2670)	2f-12f - 600 (2670)
Max. Long Term Load, lbs (N)	<24f - 45 (200) 24f - 90 (400) >24f - 180 (800)	2f-12f - 180 (800)
Crush Resistance (FOTP-41), N/cm	220 (440 Unitized)	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

MarineTuff® Fiber Optic Marine Grade Cable

Cables for Shipboard and Platform Environments
Breakout Indoor/Outdoor
Low Smoke Zero Halogen (LSZH)



All Dielectric, Single Jacket					
# of Fibers	Fibers/ Bundle	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	N/A	N/A	TM-*BB-002-LNAN	0.260 (6.6)	27 (40)
4	N/A	N/A	TM-*BB-004-LNAN	0.321 (8.2)	38 (57)
6	N/A	N/A	TM-*BB-006-LNAN	0.368 (9.3)	61 (91)
8	N/A	N/A	TM-*BB-008-LNAN	0.435 (11.0)	79 (118)
12	N/A	N/A	TM-*BB-012-LNAN	0.550 (14.0)	125 (186)
18	N/A	N/A	TM-*BB-018-LNAN	0.530 (13.5)	118 (176)

Bronze Braid Armor, Double Jacket					
# of Fibers	Fibers/ Bundle	# of Positions	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	N/A	N/A	TM-*BB-002-LBAN	0.455 (11.6)	126 (188)
4	N/A	N/A	TM-*BB-004-LBAN	0.516 (13.1)	154 (229)
6	N/A	N/A	TM-*BB-006-LBAN	0.553 (14.0)	191 (284)
8	N/A	N/A	TM-*BB-008-LBAN	0.630 (16.0)	231 (344)
12	N/A	N/A	TM-*BB-012-LBAN	0.735 (18.7)	307 (457)
18	N/A	N/A	TM-*BB-018-LBAN	0.725 (18.4)	297 (442)

Standards and Ratings

ABS Approved IEEE 45, IEEE 1580 (Braid Only)
TIA/EIA-568.3-D
NEC/CEC OFNR-ST1/ OFNR-ST1 FT4 (non-armored)
NEC/CEC OFCR-ST1/ OFCR-ST1 FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Fiber Buffer OD	900um	
Subunit OD	2.0 mm	
Strength Member	Aramid Yarn	
Central Strength Member	E-glass	>6f Only
Inner Jacket Material/ Color	LSZH/Black	Double Jacket Only
Armor	Non-Armored or Bronze Braid	
Outer Jacket Material/Color	LSZH/Black	

Options

Other Colors Available

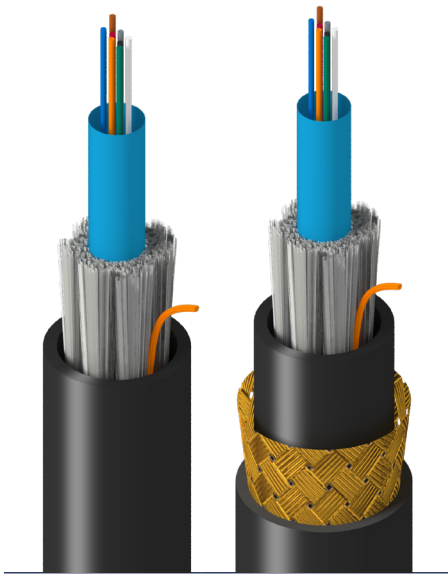
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser* Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.5/0.5	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.25	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Bronze Braid Armor
Max. Install Load, lbs (N)	2f - 150 (660) 4f-12f - 300 (1320) 18f - 600(2570)	600 (2670)
Max. Long Term Load, lbs (N)	2f - 45 (200) 4f-12f - 90 (400) 18f - 180 (800)	180 (800)
Crush Resistance (FOTP-41), N/cm	440	
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

MarineTuff® Fiber Optic Marine Grade Cable

Cables for Shipboard and Platform Environments
 Central Loose Tube Indoor/Outdoor
 Gel-Filled and Low Smoke Zero Halogen (LSZH)



Standards and Ratings

ABS Approved
IEEE 45, IEEE 1580 (Braid Only)
TIA/EIA-568.3-D
NEC/CEC OFNR / OFNR FT4 (non-armored)
NEC/CEC OFCR / OFCR FT4 (armored)
ICEA S-104-696
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial
Rodent Resistant (All Dielectric only)

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-10°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Fiber Glass	
Inner Jacket Material/ Color	LSZH/Black	Double Jacket Only
Armor	Non-Armored or Bronze Braid	
Outer Jacket Material/Color	LSZH/Black	

Options

Other Colors Available

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TM-*CO-002-MRAN	0.315 (8.0)	44 (65)
4	TM-*CO-004-MRAN	0.315 (8.0)	44 (65)
6	TM-*CO-006-MRAN	0.315 (8.0)	44 (65)
8	TM-*CO-008-MRAN	0.315 (8.0)	44 (65)
12	TM-*CO-012-MRAN	0.315 (8.0)	44 (65)
16	TM-*CO-016-MRAN	0.315 (8.0)	44 (65)
24	TM-*CO-024-MRAN	0.315 (8.0)	45 (67)

Bronze Braid Armor, Double Jacket

# of Fibers	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TM-*CO-002-MBAN	0.500 (12.7)	161 (239)
4	TM-*CO-004-MBAN	0.500 (12.7)	161 (239)
6	TM-*CO-006-MBAN	0.500 (12.7)	161 (239)
8	TM-*CO-008-MBAN	0.500 (12.7)	161 (239)
12	TM-*CO-012-MBAN	0.500 (12.7)	161 (239)
16	TM-*CO-016-MBAN	0.500 (12.7)	161 (239)
24	TM-*CO-024-MBAN	0.500 (12.7)	162 (240)

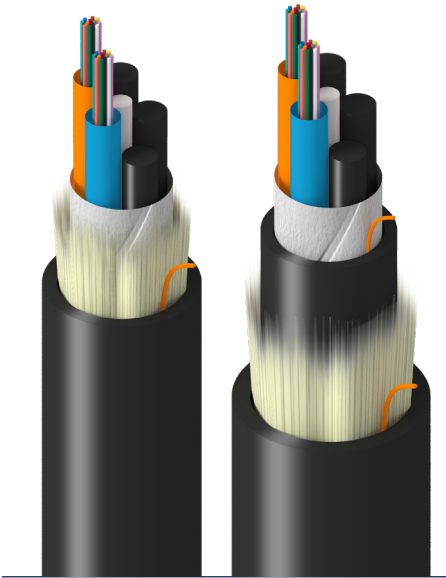
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Bronze Braid Armor
Max. Install Load, lbs (N)	300 (1330)	
Max. Long Term Load, lbs (N)	90 (400)	
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD

DataTuff™ Fiber Optic Renewable Grade Cable

Multi-Loose Tube OSP - Outdoor
Gel-Free and Rodent Resistant



Standards and Ratings

TIA/EIA-568.3-D
ICEA S-87-640
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Telcordia GR-20
Direct Burial
Rodent Resistant

Temperature

Static Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-30°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Polypropylene	Gel-Free
Strength Member	Fiber glass	
Central Strength Member	E-glass	
Inner Jacket Material/Color	MDPE/Black	
Armor	Non-Armored	
Outer Jacket Material/Color	MDPE/Black	

Options

Fiber counts 12-36 are also available in a 6F/Tube Design

All Dielectric, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TR- [*] LC-002-NRUN	0.411 (10.4)	51 (76)
4	4	5	TR- [*] LC-004-NRUN	0.411 (10.4)	51 (76)
6	6	5	TR- [*] LC-006-NRUN	0.411 (10.4)	51 (76)
8	8	5	TR- [*] LD-008-NRUN	0.411 (10.4)	51 (76)
12	12	5	TR- [*] LD-012-NRUN	0.411 (10.4)	51 (76)
24	12	5	TR- [*] LD-024-NRUN	0.411 (10.4)	51 (76)
36	12	5	TR- [*] LD-036-NRUN	0.411 (10.4)	50 (75)
48	12	5	TR- [*] LD-048-NRUN	0.411 (10.4)	50 (75)
60	12	5	TR- [*] LD-060-NRUN	0.411 (10.4)	50 (75)
72	12	6	TR- [*] LD-072-NRUN	0.453 (11.5)	56 (84)
96	12	8	TR- [*] LD-096-NRUN	0.486 (12.3)	70 (105)
144	12	12	TR- [*] LD-144-NRUN	0.622 (15.8)	109 (162)
288	12	24	TR- [*] LD-288-NRUN	0.728 (18.5)	134 (199)

All Dielectric, Double Jacket

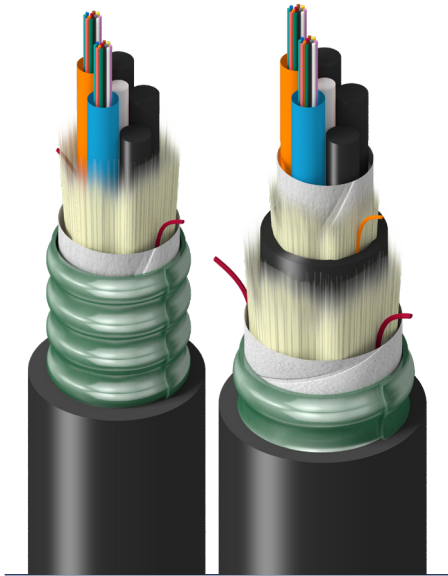
# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TR- [*] LC-002-NXUN	0.531 (13.5)	86 (128)
4	4	5	TR- [*] LC-004-NXUN	0.531 (13.5)	86 (128)
6	6	5	TR- [*] LC-006-NXUN	0.531 (13.5)	86 (128)
8	8	5	TR- [*] LD-008-NXUN	0.531 (13.5)	86 (128)
12	12	5	TR- [*] LD-012-NXUN	0.531 (13.5)	86 (128)
24	12	5	TR- [*] LD-024-NXUN	0.531 (13.5)	85 (127)
36	12	5	TR- [*] LD-036-NXUN	0.531 (13.5)	85 (127)
48	12	5	TR- [*] LD-048-NXUN	0.531 (13.5)	85 (127)
60	12	5	TR- [*] LD-060-NXUN	0.531 (13.5)	84 (125)
72	12	6	TR- [*] LD-072-NXUN	0.548 (13.9)	92 (137)
96	12	8	TR- [*] LD-096-NXUN	0.606 (15.4)	109 (162)
144	12	12	TR- [*] LD-144-NXUN	0.742 (18.8)	155 (230)
288	12	24	TR- [*] LD-288-NXUN	0.848 (21.5)	186 (276)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz·km)	Min. Laser Bandwidth (MHz·km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Non-Armored	
	Single Jacket	Double Jacket
Max. Install Load, lbs (N)	600 (2670)	1000 (4450)
Max. Long Term Load, lbs (N)	180 (800)	300 (1320)
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N·m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius during Installation	15X Cable OD	
Min. Bend Radius during Operation	10X Cable OD	

DataTuff™ Fiber Optic Renewable Grade Cable

Multi-Loose Tube OSP - Outdoor
Gel-Free and Rodent Resistant



Standards and Ratings

TIA/EIA-568.3-D
ICEA S-87-640
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Telcordia GR-20
Direct Burial
Rodent Resistant

Temperature

Static Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-30°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Polypropylene	Gel-Free
Strength Member	Fiber glass	
Central Strength Member	E-glass	
Inner Jacket Material/Color	MDPE/Black	Double Jacket Only
Armor	Corrugated Steel Tape	
Outer Jacket Material/Color	MDPE/Black	

Options

Fiber counts 12-36 are also available in a 6F/Tube Design

Corrugated Steel Tape Armor, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TR-*LC-002-NSUN	0.530 (13.5)	100 (149)
4	4	5	TR-*LC-004-NSUN	0.530 (13.5)	100 (149)
6	6	5	TR-*LC-006-NSUN	0.530 (13.5)	103 (154)
8	8	5	TR-*LD-008-NSUN	0.530 (13.5)	103 (154)
12	12	5	TR-*LD-012-NSUN	0.530 (13.5)	103 (154)
24	12	5	TR-*LD-024-NSUN	0.530 (13.5)	103 (154)
36	12	5	TR-*LD-036-NSUN	0.530 (13.5)	103 (154)
48	12	5	TR-*LD-048-NSUN	0.530 (13.5)	102 (152)
60	12	5	TR-*LD-060-NSUN	0.530 (13.5)	102 (152)
72	12	6	TR-*LD-072-NSUN	0.530 (13.5)	108 (160)
96	12	8	TR-*LD-096-NSUN	0.610 (15.5)	130 (194)
144	12	12	TR-*LD-144-NSUN	0.770 (19.6)	183 (273)
288	12	24	TR-*LD-288-NSUN	0.870 (22.1)	210 (313)

Corrugated Steel Tape Armor, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TR-*LC-002-NTUN	0.650 (16.5)	133 (197)
4	4	5	TR-*LC-004-NTUN	0.650 (16.5)	133 (197)
6	6	5	TR-*LC-006-NTUN	0.650 (16.5)	133 (197)
8	8	5	TR-*LD-008-NTUN	0.650 (16.5)	133 (197)
12	12	5	TR-*LD-012-NTUN	0.650 (16.5)	133 (197)
24	12	5	TR-*LD-024-NTUN	0.650 (16.5)	132 (196)
36	12	5	TR-*LD-036-NTUN	0.650 (16.5)	132 (196)
48	12	5	TR-*LD-048-NTUN	0.650 (16.5)	132 (196)
60	12	5	TR-*LD-060-NTUN	0.650 (16.5)	131 (195)
72	12	6	TR-*LD-072-NTUN	0.650 (16.5)	138 (205)
96	12	8	TR-*LD-096-NTUN	0.730 (18.5)	166 (244)
144	12	12	TR-*LD-144-NTUN	0.870 (22.1)	218 (324)
288	12	24	TR-*LD-288-NTUN	0.930 (23.6)	251 (374)

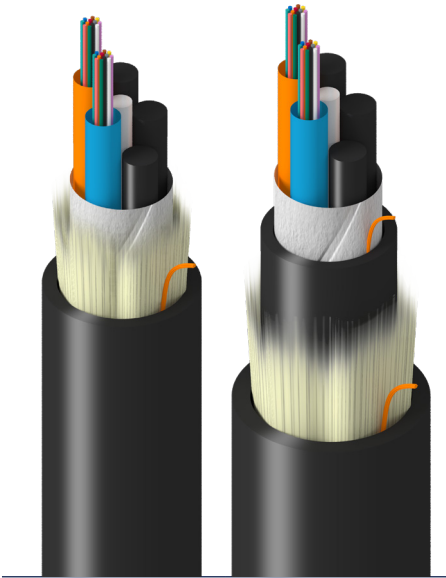
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications

Corrugated Steel Tape	
Max. Install Load, lbs (N)	600 (2670)
Max. Long Term Load, lbs (N)	180 (800)
Crush Resistance (FOTP-41), N/cm	220
Impact Resistance (FOTP-25), N-m	4.4
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.
Min. Bend Radius during Installation	20x Cable OD
Min. Bend Radius during Operation	10x Cable OD

DataTuff™ Fiber Optic Renewable Grade Cable

Multi-Loose Tube OSP - Outdoor
Gel-Filled and Rodent Resistant



Standards and Ratings

TIA/EIA-568.3-D
ICEA S-87-640
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial
Rodent Resistant

Temperature

Static Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-30°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Polypropylene	Gel-Filled
Strength Member	Fiber glass	
Central Strength Member	E-glass	
Inner Jacket Material/Color	MDPE/Black	
Armor	Non-Armored	
Outer Jacket Material/Color	MDPE/Black	

Options

Fiber counts 12-36 are also available in a 6F/Tube Design

All Dielectric, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TR- [*] LF-002-NRUN	0.431 (10.9)	53 (79)
4	4	5	TR- [*] LF-004-NRUN	0.431 (10.9)	53 (79)
6	6	5	TR- [*] LF-006-NRUN	0.431 (10.9)	53 (79)
8	8	5	TR- [*] LG-008-NRUN	0.431 (10.9)	53 (79)
12	12	5	TR- [*] LG-012-NRUN	0.431 (10.9)	53 (79)
24	12	5	TR- [*] LG-024-NRUN	0.431 (10.9)	55 (82)
36	12	5	TR- [*] LG-036-NRUN	0.431 (10.9)	57 (85)
48	12	5	TR- [*] LG-048-NRUN	0.431 (10.9)	59 (87)
60	12	5	TR- [*] LG-060-NRUN	0.431 (10.9)	60 (90)
72	12	6	TR- [*] LG-072-NRUN	0.448 (11.4)	69 (103)
96	12	8	TR- [*] LG-096-NRUN	0.506 (12.9)	88 (130)
144	12	12	TR- [*] LG-144-NRUN	0.642 (16.3)	135 (201)

All Dielectric, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TR- [*] LF-002-NXUN	0.531 (13.5)	88 (131)
4	4	5	TR- [*] LF-004-NXUN	0.531 (13.5)	88 (131)
6	6	5	TR- [*] LF-006-NXUN	0.531 (13.5)	88 (131)
8	8	5	TR- [*] LG-008-NXUN	0.531 (13.5)	88 (131)
12	12	5	TR- [*] LG-012-NXUN	0.531 (13.5)	88 (131)
24	12	5	TR- [*] LG-024-NXUN	0.531 (13.5)	90 (134)
36	12	5	TR- [*] LG-036-NXUN	0.531 (13.5)	92 (136)
48	12	5	TR- [*] LG-048-NXUN	0.531 (13.5)	93 (139)
60	12	5	TR- [*] LG-060-NXUN	0.531 (13.5)	95 (142)
72	12	6	TR- [*] LG-072-NXUN	0.543 (13.8)	105 (156)
96	12	8	TR- [*] LG-096-NXUN	0.606 (15.4)	126 (188)
144	12	12	TR- [*] LG-144-NXUN	0.742 (18.8)	181 (269)

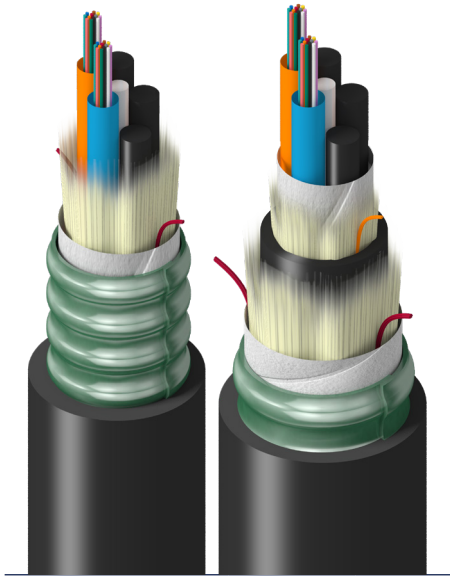
Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser* Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	
	Single Jacket	Double Jacket
Max. Install Load, lbs (N)	600 (2670)	1000 (4450)
Max. Long Term Load, lbs (N)	180 (800)	300 (1320)
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius during Installation	15X Cable OD	
Min. Bend Radius during Operation	10X Cable OD	

DataTuff™ Fiber Optic Renewable Grade Cable

Multi-Loose Tube OSP - Outdoor
Gel-Filled and Rodent Resistant



Standards and Ratings

TIA/EIA-568.3-D
ICEA S-87-640
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial
Rodent Resistant

Temperature

Static Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-30°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Polypropylene	Gel-Filled
Strength Member	Fiber glass	
Central Strength Member	E-glass	
Inner Jacket Material/Color	MDPE/Black	Double Jacket Only
Armor	Corrugated Steel Tape	
Outer Jacket Material/Color	MDPE/Black	

Options

Fiber counts 12-36 are also available in a 6F/Tube Design

Corrugated Steel Tape Armor, Single Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TR-*LF-002-NSUN	0.530 (13.5)	102 (152)
4	4	5	TR-*LF-004-NSUN	0.530 (13.5)	102 (152)
6	6	5	TR-*LF-006-NSUN	0.530 (13.5)	102 (152)
8	8	5	TR-*LG-008-NSUN	0.530 (13.5)	105 (157)
12	12	5	TR-*LG-012-NSUN	0.530 (13.5)	105 (157)
24	12	5	TR-*LG-024-NSUN	0.530 (13.5)	107 (160)
36	12	5	TR-*LG-036-NSUN	0.530 (13.5)	109 (162)
48	12	5	TR-*LG-048-NSUN	0.530 (13.5)	111 (165)
60	12	5	TR-*LG-060-NSUN	0.530 (13.5)	113 (168)
72	12	6	TR-*LG-072-NSUN	0.570 (14.5)	121 (179)
96	12	8	TR-*LG-096-NSUN	0.610 (15.5)	148 (220)
144	12	12	TR-*LG-144-NSUN	0.770 (19.6)	209 (311)

Corrugated Steel Tape Armor, Double Jacket

# of Fibers	Fibers/ Subunit	# of Positions	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
				in (mm)	lbs/kft (kg/km)
2	2	5	TR-*LF-002-NTUN	0.650 (16.5)	135 (200)
4	4	5	TR-*LF-004-NTUN	0.650 (16.5)	135 (200)
6	6	5	TR-*LF-006-NTUN	0.650 (16.5)	135 (200)
8	8	5	TR-*LG-008-NTUN	0.650 (16.5)	135 (200)
12	12	5	TR-*LG-012-NTUN	0.650 (16.5)	135 (200)
24	12	5	TR-*LG-024-NTUN	0.650 (16.5)	137 (203)
36	12	5	TR-*LG-036-NTUN	0.650 (16.5)	138 (206)
48	12	5	TR-*LG-048-NTUN	0.650 (16.5)	140 (209)
60	12	5	TR-*LG-060-NTUN	0.650 (16.5)	142 (211)
72	12	6	TR-*LG-072-NTUN	0.650 (16.5)	151 (224)
96	12	8	TR-*LG-096-NTUN	0.730 (18.5)	183 (273)
144	12	12	TR-*LG-144-NTUN	0.870 (22.1)	244 (363)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz·km)	Min. Laser Bandwidth (MHz·km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

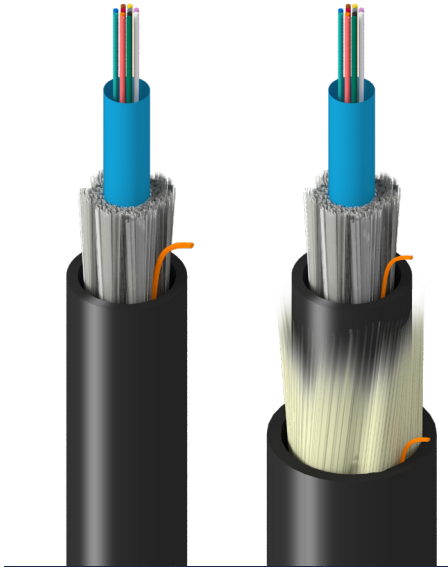
*OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications

	Corrugated Steel Tape
Max. Install Load, lbs (N)	600 (2670)
Max. Long Term Load, lbs (N)	180 (800)
Crush Resistance (FOTP-41), N/cm	220
Impact Resistance (FOTP-25), N·m	4.4
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.
Min. Bend Radius during Installation	20x Cable OD
Min. Bend Radius during Operation	10x Cable OD

DataTuff™ Fiber Optic Renewable Grade Cable

Central Loose Tube OSP - Outdoor
Gel-Free and Rodent Resistant



Standards and Ratings

TIA/EIA-568.3-D
ICEA S-87-640
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Telcordia GR-20
Direct Burial
Rodent Resistant

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-30°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Polypropylene	Gel-Free
Strength Member	Fiber Glass	
Inner Jacket Material/Color	MDPE/Black	Double Jacket Only
Armor	Non-Armored	
Outer Jacket Material/Color	MDPE/Black	

Options

Fiber counts 12-36 are also available in a 6F/Tube Design

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TR-*CN-002-NRUN	0.275 (7.0)	25 (37)
4	TR-*CN-004-NRUN	0.275 (7.0)	25 (37)
6	TR-*CN-006-NRUN	0.275 (7.0)	25 (37)
8	TR-*CN-008-NRUN	0.275 (7.0)	25 (37)
12	TR-*CN-012-NRUN	0.275 (7.0)	25 (37)
24	TR-*CN-024-NRUN	0.295 (7.5)	26 (39)

All Dielectric, Double Jacket

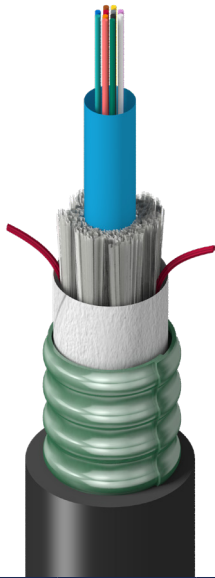
# of Fibers	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TR-*CN-002-NXUN	0.420 (10.7)	49 (73)
4	TR-*CN-004-NXUN	0.420 (10.7)	49 (73)
6	TR-*CN-006-NXUN	0.420 (10.7)	49 (73)
8	TR-*CN-008-NXUN	0.420 (10.7)	49 (73)
12	TR-*CN-012-NXUN	0.420 (10.7)	49 (73)
24	TR-*CN-024-NXUN	0.440 (11.2)	50 (74)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Non-Armored	
	Single Jacket	Double Jacket
Max. Install Load, lbs (N)	300 (1320)	600 (2670)
Max. Long Term Load, lbs (N)	90 (400)	180 (800)
Crush Resistance (FOTP-41), N/cm	220	440
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 12 lbs, 20xOD radius Min.	
Min. Bend Radius during Installation	15X Cable OD	
Min. Bend Radius during Operation	10X Cable OD	

DataTuff™ Fiber Optic Renewable Grade Cable

Central Loose Tube OSP - Outdoor
Gel-Free and Rodent Resistant



Standards and Ratings

TIA/EIA-568.3-D
ICEA S-87-640
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Telcordia GR-20
Direct Burial
Rodent Resistant

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-30°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Polypropylene	Gel-Free
Strength Member	Fiber Glass	
Armor	Corrugated Steel Tape	
Outer Jacket Material/Color	MDPE/Black	

Options

Fiber counts 12-36 are also available in a 6F/Tube Design

Corrugated Steel Tape Armor, Single Jacket

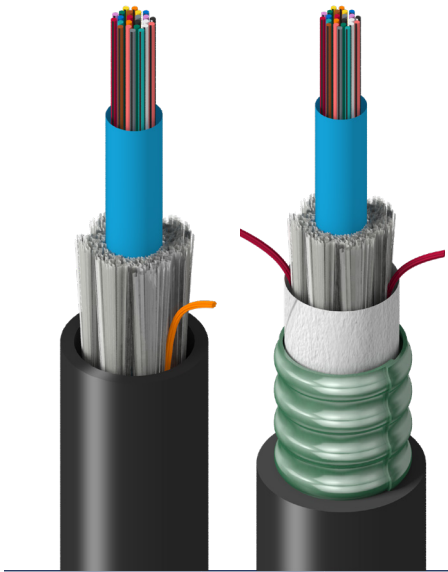
# of Fibers	Part Number ¹ <small>¹Substitute * with Fiber Grade Code</small>	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	TR-*CN-002-NSUN	0.410 (10.4)	64 (95)
4	TR-*CN-004-NSUN	0.410 (10.4)	64 (95)
6	TR-*CN-006-NSUN	0.410 (10.4)	64 (95)
8	TR-*CN-008-NSUN	0.410 (10.4)	64 (95)
12	TR-*CN-012-NSUN	0.410 (10.4)	64 (95)
24	TR-*CN-024-NSUN	0.410 (10.4)	64 (95)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.35/0.25	-	-	5000/-	10,000/40,000

Mechanical Specifications	Corrugated Steel Tape
Max. Install Load, lbs (N)	300 (1320)
Max. Long Term Load, lbs (N)	90 (400)
Crush Resistance (FOTP-41), N/cm	220
Impact Resistance (FOTP-25), N-m	4.4
Cyclic Flexing (FOTP-104)	25 cycles, 12 lbs, 20xOD radius Min.
Min. Bend Radius during Installation	20x Cable OD
Min. Bend Radius during Operation	10x Cable OD

DataTuff™ Fiber Optic Renewable Grade Cable

Central Loose Tube OSP - Outdoor
Gel-Filled and Rodent Resistant



Standards and Ratings

TIA/EIA-568.3-D
ICEA S-87-640
ROHS II 2011/65/EU
ROHS III 2015/863/EU
REACH EC1907-2006
Direct Burial
Rodent Resistant

Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C
Installation	-30°C to +60°C

Materials

Fiber Colors	Per TIA/EIA 598-D	
Buffer Tube	Thermoplastic	Gel-Filled
Strength Member	Fiber Glass	
Armor	Non-Armored or Corrugated Steel Tape	
Outer Jacket Material/Color	MDPE/Black	

Options

Steel and Aluminum Interlocked Armor w/ Double Jacket Available (change last two characters of part number to 80 or 70)

All Dielectric, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	FS*C002N0	0.315 (8.0)	33 (49)
4	FS*C004N0	0.315 (8.0)	33 (49)
6	FS*C006N0	0.315 (8.0)	33 (49)
8	FS*C008N0	0.315 (8.0)	33 (49)
10	FS*C010N0	0.315 (8.0)	34 (51)
12	FS*C012N0	0.315 (8.0)	34 (51)
24	FS*C024N0	0.315 (8.0)	34 (51)

Corrugated Steel Tape Armor, Single Jacket

# of Fibers	Part Number ¹ ¹ Substitute * with Fiber Grade Code	Nom. OD	Cable Bulk Weight
		in (mm)	lbs/kft (kg/km)
2	FS*C00260	0.410 (10.4)	71 (106)
4	FS*C00460	0.410 (10.4)	71 (106)
6	FS*C00660	0.410 (10.4)	71 (106)
8	FS*C00860	0.410 (10.4)	71 (106)
10	FS*C01060	0.410 (10.4)	72 (107)
12	FS*C01260	0.410 (10.4)	72 (107)
24	FS*C02460	0.410 (10.4)	72 (107)

Glass Type	Fiber Grade Code (*)	Operating Wavelength (nm)	Attenuation (dB/km)	Min. OFL Bandwidth (MHz-km)	Min. Laser Bandwidth (MHz-km)	1 Gigabit Ethernet Min Link Length (m)	10 Gigabit Ethernet Min Link Length (m)
OS2 - Single Mode	S	1310/1550	0.4/0.3	-	-	5000/-	10,000/40,000
OM1 - 62.5/125µm Multi-Mode	1	850/1300	3.25/1.0	200/500	220/-	300/550	33/-
OM3 - 50/125µm Multi-Mode	3	850/1300	3.0/1.0	1500/500	2000/-	1000/550	300/-
OM4 - 50/125µm Multi-Mode	4	850/1300	3.0/1.0	3500/500	4700/-	1100/550	550/-

OM1 is an RML (Restricted Mode Launch) value

Mechanical Specifications	Non-Armored	Corrugated Steel Tape
Max. Install Load, lbs (N)	300 (1320)	
Max. Long Term Load, lbs (N)	90 (400)	
Crush Resistance (FOTP-41), N/cm	220	
Impact Resistance (FOTP-25), N-m	4.4	
Cyclic Flexing (FOTP-104)	25 cycles, 20xOD radius Min.	
Min. Bend Radius During Installation	15X Cable OD	20x Cable OD
Min. Bend Radius During Operation	10X Cable OD	10x Cable OD



About Belden

Belden Inc. delivers the infrastructure that makes the digital journey simpler, smarter and secure. We're moving beyond connectivity, from what we make to what we make possible through a performance driven portfolio, forward thinking expertise and purpose-built solutions. With a legacy of quality and reliability spanning 120 plus years, we have a strong foundation to continue building the future. We are headquartered in St. Louis and have manufacturing capabilities in North America, Europe, Asia, and Africa. For more information, visit us at www.belden.com; follow us on [Facebook](#), [LinkedIn](#) and [Twitter](#).

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