Product Specification

OptoBolt

Hardened SC/APC Connectorized Drop Cable
G.657.A2 Single Mode Optical Fiber

Product Details

STL OptoBolt factory terminated single fiber drop cables are designed to significantly reduce cable installation time required for subscriber connection, thereby reducing the total cost to connect. The connectors are ruggedized to provide superior durability, and consistent hardened connectivity.

OptoBoltEC is the Extra Compact version optimized for high-density, compact terminals where space is limited.
Additional drop cable configurations are available upon request.

Features

- Manufactured with UV stabilized jacket & designed for superior crush resistance
- IP 68 rated
- IEC and ITU-T standard compliant
- RoHS Compliant
- Multi-part body architecture with locking mechanism activated only upon full assembly

The OptoBolt® and OptoBoltEC connectors are STL designs that incorporate unique mechanical interfaces, sealing systems, and form factors while meeting or exceeding IEC, ITU-T, Telcordia GR-20, and ICEA performance requirements.

Applications

Suitable for

- Underground in Duct
- Aerial Self Supporting Drop
- Direct Buried

Technical Specifications

Parameter	Specification
Connector Type	• OptoBolt SC/APC • Standard SC/APC with pulling sock • OptoBoltEC SC/APC
Insertion Loss	≤ 0.30dB
Return Loss	≥ 60dB

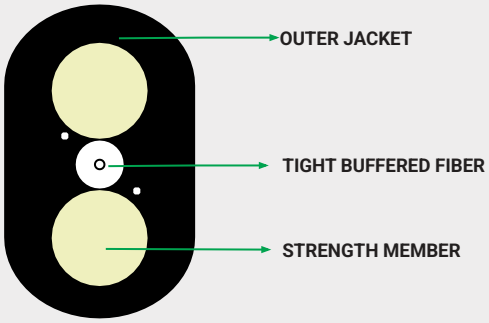
Loading Conditions - Maximum Span Distance				
Type of Cable	**Installation Sag**	**NESC Light ft (m)**	**NESC Medium ft (m)**	**NESC Heavy ft (m)**
Flat Dielectric and Flat Toneable Drop Cable - 3mm	1%	328 (100)	262 (80)	151(46)
	1.5%	394 (120)	289 (88)	164 (50)
	3%	459 (140)	328 (100)	190 (58)
Flat Dielectric and Flat Toneable Drop Cable - 4.5mm	1%	295 (90)	190 (58)	98 (30)
	1.5%	328 (100)	213 (65)	115 (35)
	3%	433 (132)	279 (85)	144 (44)
Round Drop Cable (5mm)	1%	197 (60)	82 (25)	33 (10)
	1.5%	213 (65)	89 (27)	39 (12)
	3%	256 (78)	98 (30)	49 (15)
Round Drop Cable (3mm)	1%	348 (106)	141 (43)	66 (20)
	1.5%	377 (115)	148 (45)	69 (21)
	3%	466 (142)	174 (53)	79 (24)

Ordering Information						
Series Name	**Connector at End 1 (Inner Side) [1]**	**Type of Cable**	**Cable Length**	**Connector at End 2 (Outer Side) [1]**	**Special Character**	**Cable Printing**
OptoBolt	S - OptoBolt SCA E- OptoBoltEC SCA **Other Connector Options** N - No Connector 1 - Standard SCA in Pulling Sock	**Flat Drop** F3 - Dielectric (3mm X 5.4mm) T3 - Toneable (3mm x 7.4mm) FL - Dielectric (4.5 x 8.2) TN - Toneable (4.5 x 9.6) **Round Drop** RD - Round (5mm) R3 - Round (3mm)	XXXX M XXXX F	S - OptoBolt SCA E- OptoBoltEC SCA **Other Connector Options** P - OptoPull SCA N - No Connector 1 - Standard SCA in Pulling Sock	1- Standard Packaging B - BABA compliant, Standard Packaging D - with 24” breakout E - with 3.5” breakout	STL

Note 1. OptoPull SCA Connector (P) and OptoboltEC (E) are not available with 4.5 x 8.2 Dielectric Flat Drop Cable (FL) and 4.5 x 9.6 Toneable Flat Drop Cable (TN)

Product Specification

STL RapidDrop Flat Drop Cable (3mm x 5.4mm)



STL RapidDrop Flat Drop Dielectric Fiber Optic Cable offers ease of installation in an easy access, single-buffer design. This is a Central inner subunit of cable is made up of single optical Fiber with buffer presented and is enclosed in a thermoplastic sheath. The cables have two embedded strength members for anti-buckling property. The dielectric version eliminates any bonding and grounding requirements.

** Typical Construction Diagram - Not to Scale*

Cable Performance Standards

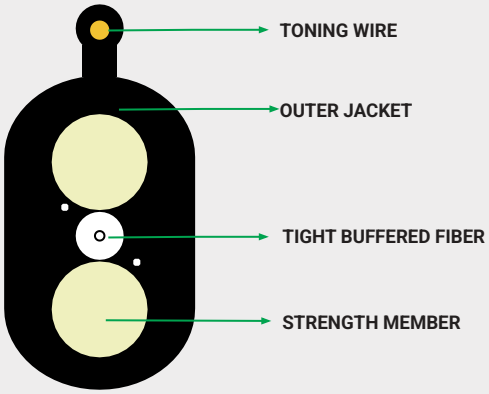
Cable complies to the following standards IEC 60793, ICEA S-110-717, ITU-T, RoHS, REACH.

Physical Characteristics	
Fiber Count	1F
Fiber Type	STL Fiber ITU-T G657A2
Maximum Cabled Attenuation (dB/km)	1310nm : 0.4 & 1550nm : 0.3
Number of Tight Buffer	1
Tight Buffer Color	White
Tight Buffer Diameter (nominal) (µm)	900 µm
Water blocking elements	Water Swellable Yarns
Embedded Strength Members	FRP
Outer Sheath Material	UV Proof Black Polyethylene
Cable Diameter [mm]	3 x 5.4 ± 0.3
Cable Weight [kg/km]	18 ± 10%

Mechanical & Environmental Characteristics [2]		
Cable Characteristics	**Cable Performance**	**Testing Standards**
Tensile Strength (N)	Short Term - 1350 (300 lbf) Long Term - 400 (90 lbf)	ICEA 717 | FOTP-33
Crush Resistance (N/100mm)	1000 (57 lbf/in)	ICEA 717 | FOTP-41
Impact Strength (Nm)	2.9 (25 lbf.in)	ICEA 717 | FOTP-25
Torsion	±180°	ICEA 717 | FOTP-85
Min. Bend Radius	During Installation: 24 X D After Installation: 12 x D	ICEA 717|FOTP-88
Water Penetration Test	1m waterhead, 3m samples, 24 h	ICEA 717 | FOTP-82
Temperature Performance	Max. change in attenuation shall be </= 0.15 dB/km	ICEA 640 | FOTP-3
Installation	-30°C to + 70°C (-22 °F to 158 °F)	
Operation	-40°C to + 70°C (-40 °F to 158 °F)	
Storage/Transport	-40°C to + 70°C (-40 °F to 158 °F)	

Note 2. All tests shall be carried out as per ICEA standards

STL RapidDrop Toneable Flat Drop Cable (3mm x 7.4mm)



** Typical Construction Diagram - Not to Scale*

STL RapidDrop Flat Drop Toneable Fiber Optic Cable offers ease of installation in an easy access, single-buffer design. This is a Central inner subunit of cable is made up of single optical Fiber with buffer presented and is enclosed in a thermoplastic sheath. The cables have two embedded strength members for anti-buckling property. Includes optional 24 AWG toning conductor for underground location tracing – the most popular option for underground and multipurpose installation.

Cable Performance Standards

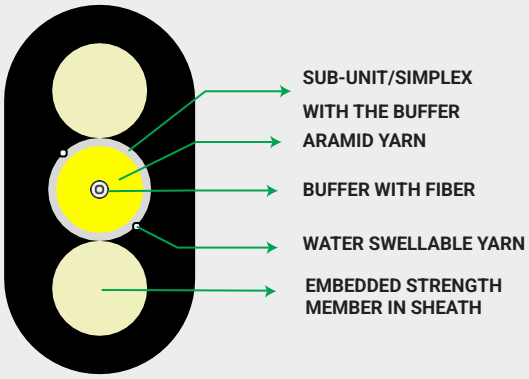
Cable complies to the following standards IEC 60793, ICEA S-110-717, ITU-T, RoHS, REACH.

Physical Characteristics	
Fiber Count	1F
Fiber Type	STL Fiber ITU-T G657A2
Maximum Cabled Attenuation (dB/km)	1310nm : 0.4 & 1550nm : 0.3
Number of Tight Buffer	1
Tight Buffer Color	White
Tight Buffer Diameter (nominal) (µm)	900 µm
Water blocking elements	Water Swellable Yarns
Embedded Strength Members	FRP
Outer Sheath Material	UV Proof Black Polyethylene
Cable Diameter [mm]	3 x 7.4 ± 0.3
Cable Weight [kg/km]	23 ± 10%
Nominal Copper Wire Diameter (mm)	0.5 (24 AWG Copper Toning Wire)

Mechanical & Environmental Characteristics [2]		
Cable Characteristics	**Cable Performance**	**Testing Standards**
Tensile Strength (N)	Short Term - 1350 (300 lbf) Long Term - 400 (90 lbf)	ICEA 717 | FOTP-33
Crush Resistance (N/100mm)	1000 (57 lbf/in)	ICEA 717 | FOTP-41
Impact Strength (Nm)	4.4 (38.94 lbf.in)	ICEA 640 | FOTP-25
Torsion	±180°	ICEA 717 | FOTP-85
Min. Bend Radius	During Installation: 24 X D After Installation: 12 x D	ICEA 717|FOTP-88
Water Penetration Test	1m waterhead, 3m samples, 24 h	ICEA 717 | FOTP-82
Temperature Performance	Max. change in attenuation shall be </= 0.15 dB/km	ICEA 640 | FOTP-3
Installation	-30°C to + 70°C (-22 °F to 158 °F)	
Operation	-40°C to + 70°C (-40 °F to 158 °F)	
Storage/Transport	-40°C to + 70°C (-40 °F to 158 °F)	

Note 2. All tests shall be carried out as per ICEA standards

STL RapidDrop Flat Drop Cable (4.5mm x 8.2mm)



** Typical Construction Diagram - Not to Scale*

The OptoBolt with flat drop cable offers ease of installation in an easy access, single-buffer design. This is a central inner sub unit cable (Simplex) using single optical fiber with a buffer presented and is enclosed in a thermoplastic sheath.The cables have two embedded strength members for anti-buckling property. The dielectric version eliminates any bonding and grounding requirements. These cable assemblies are available in multiple lengths and can be supplied with a single connector and a cable stub end or with a connector on both ends.

Cable Performance Standards

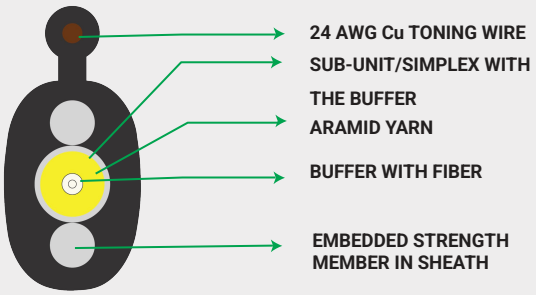
Cable complies to the following standards IEC 60793, IEC 60794, ANSI/ICEA S-87-640, Telcordia GR-20, ITU-T, RoHS, REACH, EIA/TIA-598C.

Physical Characteristics	
Fiber Count	1F
Fiber Type	STL Fiber ITU-T G657A2
Maximum Cabled Attenuation (dB/km)	1310nm : 0.4 & 1550nm : 0.3
Fiber Color	Natural
Number of Semi-Tight Buffer	1
Tight Buffer Color and Material	White
Tight Buffer Size (µm)	900 µm
No. of sub-unit	1
Subunit color and Material	White
Water blocking elements	Water Swellable Tape
Embedded Strength Members	FRP embedded in the outer sheath
Outer Sheath Material	UV Stabilized, Black Polyethylene
Cable Diameter [mm]	4.5 X 8.2
Cable Weight [kg/km]	35

Mechanical & Environmental Characteristics [2]		
Cable Characteristics	**Cable Performance**	**Testing Standards**
Tensile Strength (Max allowable) (N)	1350	ICEA 717 | FOTP-33
Crush Resistance (N/m)	1000	ICEA 717 | FOTP-41
Impact Strength (Nm)	2.9	ICEA 717 | FOTP-25
Torsion	±180°	ICEA 717 | FOTP-85
Min. Bend Radius	During Installation: 24 X D After Installation: 12 x D	ICEA 717|FOTP-88
Water Penetration Test	1m waterhead, 3m samples, 24 h	ICEA 717 | FOTP-82
Temperature Performance	Max. change in attenuation shall be </= 0.15 dB/km	ICEA 640 | FOTP-3
Installation	-30°C to + 70°C (-22 °F to 158 °F)	
Operation	-40°C to + 70°C (-40 °F to 158 °F)	
Storage/Transport	-40°C to + 70°C (-40 °F to 158 °F)	

Note 2. All tests shall be carried out as per ICEA standards

STL RapidDrop Toneable Flat Drop Cable (4.5mm x 9.6mm)



The OptoBolt with Toneable flat drop cable offers the ease of installation in an easy access, single-buffer design. This is a central inner subunit cable (Simplex) using single optical Fiber with buffer presented and is enclosed in a thermoplastic sheath. The cables have two embedded strength members for anti-buckling property. Toneable version adds a 24 AWG conductor that provides underground location tracing – the most popular option for underground and multipurpose installation.

** Typical Construction Diagram - Not to Scale*

Cable Performance Standards

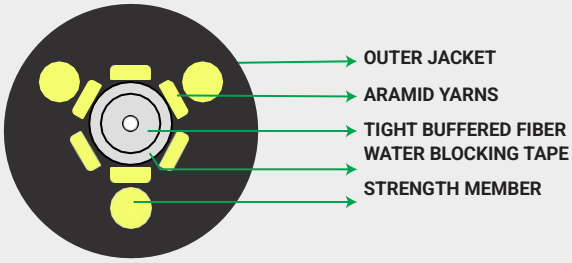
Cable complies to the following standards IEC 60793, IEC 60794, ANSI/ICEA S-87-640, Telcordia GR-20, ITU-T, RoHS, REACH, EIA/TIA-598C.

Physical Characteristics	
Fiber Count	1F
Fiber Type	STL Fiber ITU-T G657A2
Maximum Cabled Attenuation (dB/km)	1310nm : 0.4 & 1550nm : 0.3
Fiber Color	Natural
Number of Semi-Tight Buffer	1
Tight Buffer Color and Material	White
Tight Buffer Size	900 µm
No. of sub-unit	1
Subunit color and Material	White
Copper Wire Diameter (mm)	0.5 (24 AWG Cu TONING WIRE)
Outer Sheath Material	UV Proof Black Polyethylene
Cable Diameter [mm]	4.5 X 9.6
Cable Weight [kg/km]	40

Mechanical & Environmental Characteristics [2]		
Cable Characteristics	**Cable Performance**	**Testing Standards**
Tensile Strength (Max allowable) (N)	1350	ICEA 717 | FOTP-33
Crush Resistance (N/m)	1000	ICEA 717 | FOTP-41
Impact Strength (Nm)	4.4	ICEA 717 | FOTP-25
Torsion	±180°	ICEA 717 | FOTP-85
Min. Bend Radius	During Installation: 20 X D After Installation: 15 x D	ICEA 717|FOTP-88
Water Penetration Test	1m waterhead, 3m samples, 24 h	ICEA 717 | FOTP-82
Temperature Performance	Max. change in attenuation shall be </= 0.15 dB/km	ICEA 640 | FOTP-3
Installation	-30°C to + 70°C (-22 °F to 158 °F)	
Operation	-40°C to + 70°C (-40 °F to 158 °F)	
Storage/Transport	-40°C to + 70°C (-40 °F to 158 °F)	

Note 2. All tests shall be carried out as per ICEA standards

STL RapidDrop 5mm Round Drop Cable



** Typical Construction Diagram - Not to Scale*

The OptoBolt with Round drop cable jacket has three integral aramid rods for excellent crush resistance and bend management and can provide additional support when deployed into conduits. In this round cable design, we overcome the preferential bending of oval/flat cables to ease installation and slack management.

These cable assemblies are available in multiple lengths and can be supplied with a single connector and a cable stub end or with a connector on both ends.

Cable Performance Standards

Cable complies to the standards: GR 20/ ICEA-110-717,IEC, ITU-T, and RoHS.

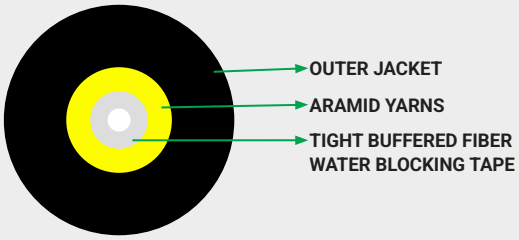
Physical Characteristics	
Fiber Count	1F
Fiber Type	STL Fiber ITU-T G657A2
Maximum Cabled Attenuation (dB/km)	1310nm : 0.4 & 1550nm : 0.3
Fiber Color	White
Semi-Tight Buffer	Semi-Tight LSZH Buffer (20mm single strip, <10N Strip Force)
Tight Buffer Color	White
Tight Buffer Size	900 ± 50µm
Water blocking elements	Water Swellable Tape
Peripheral Strength Elements	Aramid Yarns
Embedded Strength Members	3 ARP (Aramid Reinforced Plastic) embedded in the outer sheath
Outer Sheath Material	UV Stabilized, Black Polyethylene
Nominal Sheath Thickness (mm)	1.3mm
Cable Diameter [mm]	4.9 ± 0.3
Cable Weight [kg/km]	16 ± 2

Mechanical & Environmental Characteristics [3]		
Cable Characteristics	**Cable Performance**	**Testing Standards**
Tensile Strength (Max allowable) (N)	440N at <1.20%	GR 20/ICEA_S-110-717
Maximum Breaking Load (N)	1350 ~ 2450 N	GR 20/ICEA_S-110-717
Crush Resistance (N/100 mm)	1000N	GR 20/ICEA_S-110-717
Impact Strength(Nm)	2.9Nm	GR 20/ICEA_S-110-717
Torsion	±180°	GR 20/ICEA_S-110-717
Min. Bend Radius	10 x D	
Water Penetration Test	1m waterhead, 3m samples, 24 h	GR 20/ICEA_S-110-717
Temperature Performance		GR 20/ICEA_S-110-717
Installation	-10°C to +75°C	
Operation	-40°C to +70°C	
Storage/Transport	-40°C to +70°C	

Note 3. All tests shall be carried out as per GR 20 standard, change in attenuation shall be </= 0.4 dB at 1550 nm

Product Specification

STL RapidDrop 3mm Round Drop Cable



The construction of OptoPull with 3mm round drop cable features an FR TPU sheath, ensuring it meets higher fire safety requirements. It is equipped with an easily removable, rugged thermoplastic jacket that offers UV protection. The cable is flexible, lightweight, and easy to handle and install, making it highly user-friendly. Additionally, the 850 ± 50 µm tight-buffered fibers support fast field installations, enhancing its practicality for various applications.

** Typical Construction Diagram - Not to Scale*

Cable Performance Standards

Cable complies to the standards: IEC 60793,IEC 60794, IEC 60794-2-50 , ITU-T, RoHS, REACH.

Physical Characteristics	
Fiber Count	1F
Fiber Type	STL Fiber ITU-T G657A2
Maximum Cabled Attenuation (dB/km)	1310nm : 0.4 & 1550nm : 0.3
Fiber Color	White
Tight Buffer Material	Low Smoke Zero Halogen (LSZH)
Tight Buffer Color	Natural
Tight Buffer Diameter	900 ± 50µm
Strength Members	Water blocking type aramid yarns distributed over and around tight buffer
Outer Sheath Material	UV Stabilized Thermoplastic Polyurethane (TPU), Black
Cable Diameter (mm)	3 ± 0.2
Cable Weight (kg/km)	8 ±10%

Mechanical & Environmental Characteristics [4]		
Cable Characteristics	**Testing Standards**	**Cable Performance**
Tensile Strength (Max allowable) (N)	Short term:150 Long term: 500	IEC-60794-1-21-E1
Crush Resistance (N/100 mm)	2000	IEC-60794-1-21-E3
Impact Strength(Nm)	5	IEC-60794-1-21-E4
Torsion	±360°	IEC-60794-1-21-E7
Kink Diameter (mm)	15	IEC-60794-21-E10
Min. Bend Radius (During Installation)	20 x D	IEC-60794-1-21-E11
Min. Bend Radius (After Installation)	12 x D	IEC-60794-1-21-E11
Water Penetration Test	1m waterhead, 3m samples, 24 h	IEC-60794-1-22 F5B
Temperature Performance		IEC-60794-1-22-F1
Installation	-20°C to +60°C	
Operation	-40°C to +60°C	
Storage/Transport	-40°C to +60°C	

Note 4. All tests shall be carried out as per IEC 60794 standard.

For additional information please contact your sales representative.

You can also visit our website at www.stl.tech