

OptoBolt

Hardened SC/APC Connectorised 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 field hardened to provide superior durability, consistent connectivity and interface with alike hardened connector terminals.

Additional drop cable configurations are available upon request.

Features

- Compatible with legacy hardened terminals and connectors
- Manufactured with UV stabilized jacket & designed for superior crush resistance
- IP 68 rated
- IEC and ITU-T standard complaint
- RoHS Compliant

Applications

Suitable for

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

Technical Specifications

Parameter	Specification
Connector Type	<ul style="list-style-type: none">• OptoBolt SC/APC• Standard SC/APC with pulling sock
Insertion Loss	$\leq 0.30\text{dB}$
Return Loss	$\geq 60\text{dB}$

Loading Conditions - Maximum Span Distance

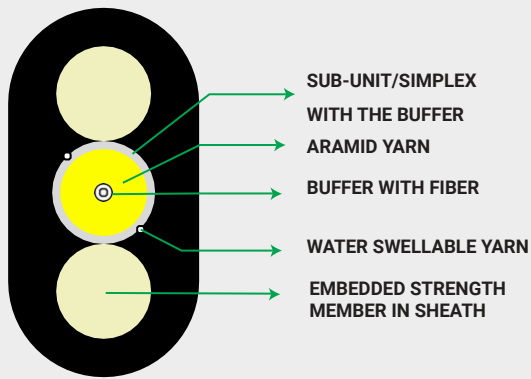
Type of Cable	Installation Sag	NESC Light ft (m)	NESC Medium ft (m)	NESC Heavy ft (m)
Flat Dielectric and Flat Toneable Drop Cable	1%	295 (90)	190 (58)	98 (30)
	1.5%	328 (100)	213 (65)	115 (35)
	3%	433 (132)	279 (85)	144 (44)
Round Drop Cable (5mm)	1%	197 (60)	82 (25)	33 (10)
	1.5%	213 (65)	89 (27)	39 (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)	Type of Cable	Cable Length	Connector at End 2 (Outer Side)	Packaging ¹	Cable Printing
OptoBolt	S - OptoBolt SCA N - No Connector 1 - Standard SCA	FL - Flat	XXXX M XXXX F	S - OptoBolt SCA N - No Connector 1 - Standard SCA	1- Standard D - 25” breakout	STL
		TN - Flat Toneable				
	S - OptoBolt SCA P - OptoPull SCA N - No Connector 1 - Standard SCA	RD - Round (5mm)		S - OptoBolt SCA P - OptoPull SCA N - No Connector 1 - Standard SCA	1- Standard	
		R3 - Round (3mm)				

Note 1. Standard packaging is a cardboard coil and multiple coils are packed in a box with a cable length <350m and a drum for the length more than 350m.

Flat Drop Cable



* 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

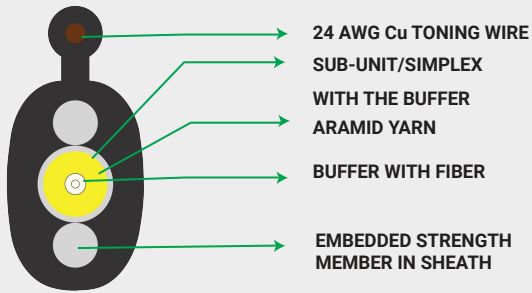
Cable complies to the following standards IEC 60793, IEC 60794, ANSI/ICEA S-87-640, Telcordia GR-20, ITU-T, RoHS, REACH, EIA/TIA-598C.

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	0.90
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

Toneable Flat Drop Cable



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, attached by a web for easy tear-away separation from the cable – the most popular option for underground and multipurpose installation.

* Typical Construction Diagram - Not to Scale

Cable Performance Standards

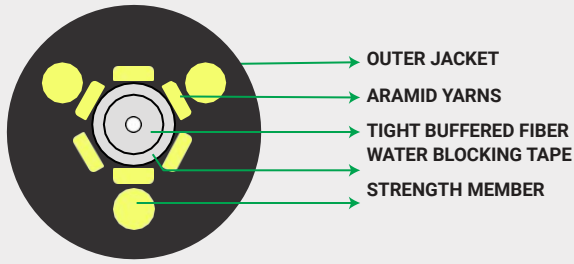
Cable complies to the following standards IEC 60793, IEC 60794, ANSI/ICEA S-87-640, Telcordia GR-20, ITU-T, RoHS, REACH, EIA/TIA-598C.

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	0.90
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 ³		
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 3. All tests shall be carried out as per ICEA standards

Round Drop Cable (5mm)



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.

* Typical Construction Diagram - Not to Scale

Cable Performance Standards

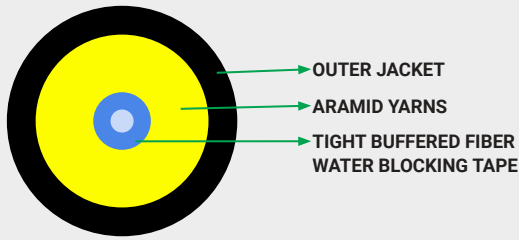
Cable complies to the standards: GR 20/ ICEA-110-717, IEC, ITU-T, and RoHS.

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	0.90 ± 0.05 mm
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 ⁴		
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 4. All tests shall be carried out as per GR 20 standard, change in attenuation shall be <= 0.4 dB at 1550 nm

Round Drop Cable (3mm)



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 $850 \pm 50 \mu\text{m}$ 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	Blue
Tight Buffer Fiber	Cladding Diameter $125 + 0.7 \mu\text{m}$ Coating Diameter Uncolored fibre $242 + 7 \mu\text{m}$
Tight Buffer Material	Low Smoke Zero Halogen (LSZH) or Poly Vinyl Chloride (PVC)
Tight Buffer Color	Blue/Natural
Tight Buffer Diameter	$0.85 \pm 0.05 \text{ mm}$
Strength Members	Water blocking type aramid yarns distributed over and around tight buffer
Outer Sheath Material	UV Proof Black TPU
Cable Diameter (mm)	3 ± 0.2
Cable Weight (kg/km)	$8 \pm 10\%$

Mechanical & Environmental Characteristics ⁵		
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)	10	IEC-60794-1-21-E4
Torsion	$\pm 180^\circ$	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)	10 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 +65°C	
Operation	-20°C to +60°C	
Storage/Transport	-20°C to +60°C	

Note 5. All tests shall be carried out as per IEC 60794 standard.

06/072024

For additional information please contact your sales representative.

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

The information given herein, including drawings, illustrations and schematics are intended for illustration purposes only and is believed to be reliable. However, STL makes no warranties to its accuracy or completeness and disclaims any liability in connection with its use. STL obligations shall be only set forth in STL standard terms and conditions of the sale and in no case, STL be liable for any incidental, indirect or consequential damages arising out of sale, resale, use or misuse of the product. Users of STL products should make their own evaluation to determine the suitability of such each product for the specific application.