F.O. CTV STRANDED DROPWIRE, ARMORED

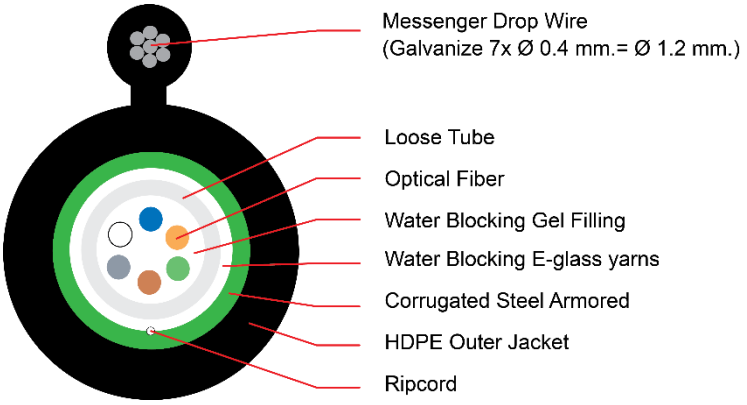
UFC95XXDSA
UFC55XXDSA
UFC45XXDSA
UFC35XXDSA
UFC25XXDSA

Scope of Application

This specification covers the construction and properties of Outdoor, CTV Stranded Dropwire, Armored, fiber optic cable for aerial installation. LINK fiber optic cable supports application such as 25/40/50/100/200/400Gbps Ethernet, IEEE802.3ae 10G Ethernet, IEEE802.3z Gigabit Ethernet, IEEE802.3u Fast Ethernet, 52/155/622Mbps, 1.2Gbps ATM, FDDI, Fiber channel, FTTx, CATV, CCTV and others.

LINK Outdoor, CTV Stranded Dropwire, Armored, fiber optic cable, Singlemode and Multimode color coded fibers, single loose tube, the interstices between the optical fibers filled with a suitable waterproof compound. The filling compound is non-hygroscopic, water blocking E-glass yarn provide tensile strength and water blocking, rip cord, corrugated steel tape armored provided for rodent protection, messenger drop wire provided by Stranded Extra High Strength Galvanized Steel Wire and UV-proof black HDPE jacket.

Drawing



Technical Standard

- ANSI/TIA-568.3-E
- ANSI/TIA-568.3-D
- ANSI/ICEA 640
- Telcordia (Bellcore) GR-20-CORE
- ITU-T G.652D (Singlemode)
- ITU-T G.651 (Multimode)
- ISO/IEC 11801:2011
- ISO/IEC 11801:2017
- IEC 60793, IEC 60794-1-2
- EN 50173-1
- TIS 2166-2548
- RoHS Compliant

OPTICAL FIBER

Items		Specifications
Fiber Type		9/125 μm (OS2)
Max. / Typ. Attenuation	1310 nm	≤ 0.35/0.33 dB/km
	1383 nm	≤ 0.35/0.31 dB/km
	1550 nm	≤ 0.21/0.19 dB/km
	1625 nm	≤ 0.23/0.20 dB/km
Core	Mode Field Diameter	9.2±0.4 μm @ 1310 nm 10.4±0.5 μm @ 1550 nm
Cladding Diameter		125 ± 0.7μm
Coating Diameter, Primary		242 ± 5 μm
Coating Diameter, Secondary		250 ± 5 μm
Cladding Non-circularity		≤ 0.7 %
Core/Cladding Concentricity error		≤ 0.5 μm
Coating/Cladding Concentricity error		≤ 12 μm
Attenuation (Homogeneity)		Max 0.1 dB/km
Zero Dispersion Wavelength		1300 ~ 1324 nm
Zero Dispersion Slope		≤ 0.092 ps/(nm^2.km)
Cut-off Wavelength	λ o (Fiber)	1150 ~ 1330 nm
	λ ∞ (Cable)	≤1260nm
Proof Test Stress		100 Kpsi
Chromatic Dispersion	λ ; 1285~1340 nm	≤ 3.5 ps/nm.km
	λ = 1550 nm	≤ 18 ps/nm.km
	λ = 1625 nm	≤ 22 ps/nm.km
Polarization mode dispersion (PMD)		≤ 0.20 ps/√km
Fiber Curl		≥ 4M
Numerical Aperture		0.130 ± 0.010
Group refractive index	1310 nm	1.4676
	1550 nm	1.4682

Table 1 The Optical, Geometrical Performance of the Singlemode Fiber (The specification conforms to the requirement of ISO/IEC11801, ANSI/TIA-568.3-E, IEC 60793-2B1.3, ITU-T G.652D)

OPTICAL FIBER

Items		Specifications			
Fiber Type		50/125 µm (OM2)	50/125 µm (OM3)	50/125 µm (OM4)	50/125 µm (OM5)
Max./ Typ. Attenuation (dB/km)	850 nm	≤ 2.7 / ≤ 2.5	≤ 2.7 / ≤ 2.3	≤ 2.7 / ≤ 2.3	≤ 2.7 / ≤ 2.3
	1300 nm	≤ 0.8 / ≤0.7	≤ 0.8 / ≤ 0.6	≤ 0.8 / ≤ 0.6	≤ 0.8 / ≤ 0.6
	953 nm	N.A	N.A	N.A	≤ 2.3 / ≤ 2.0
Bandwidth (MHz/km)	850 nm	≥ 500	≥ 1500	≥ 3500	≥ 3500
	1300 nm	≥ 500	≥ 500	≥ 500	≥ 500
	953 nm	N.A	N.A	N.A	≥ 1850
850nm Laser Bandwidth (MHz/km)		N.A	≥ 2000	≥ 4700	≥ 4700
953nm Laser Bandwidth (MHz/km)		N.A	N.A	N.A	≥ 2470
Core Diameter (µm)		50.0 ± 2.5	50.0 ± 2.5	50.0 ± 2.5	50.0 ± 2.5
Cladding Diameter (µm)		125 ± 1	125 ± 1	125 ± 1	125 ± 1
Core Non-circularity (%)		≤ 5	≤ 5	≤ 5	≤ 5
Cladding Non-circularity (%)		≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0
Core/Cladding Concentricity error (µm)		≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Coating Diameter, Primary (µm)		242 ± 5	242 ± 5	242 ± 5	242 ± 5
Coating Diameter, Secondary (µm)		250 ± 5	250 ± 5	250 ± 5	250 ± 5
Coating Non-Circularity (%)		≤5	≤5	≤5	≤5
Coating/Cladding Concentricity error (µm)		≤12	≤12	≤12	≤12
Attenuation (Homogeneity)		Max 0.1 dB/km	Max 0.1 dB/km	Max 0.1 dB/km	Max 0.1 dB/km
Proof Test Stress (kpsi)		100	100	100	100
Bending Loss @ 850 & 1300 nm (100 turns,		≤ 0.5 dB	≤ 0.5 dB	≤ 0.5 dB	≤ 0.5 dB
Zero-Dispersion Wavelength		1295~1315nm	1295~1315nm	1295~1315nm	1295~1315nm
Zero-Dispersion Slope (ps/(nm^2.km))		≤ 0.101	≤ 0.101	≤ 0.101	≤ 0.101
Numerical Aperture		0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015
Group refractive index	850 nm	1.482	1.482	1.482	1.482
	1300 nm	1.477	1.477	1.477	1.477

Table 2 The optical, Geometrical Performance of the Multimode Fiber (The specification conforms to the requirement of ISO/IEC11801, ANSI/TIA-568.3-E, IEC 60793-2A1a, IEC 60793-2A1b, ITU -T G.651)

CABLE CONSTRUCTION

The construction of the cable shall be in accordance with Table 3 below.

Items		Specifications	
Number of fiber		4, 6, 8	12
Loose tube	Material	PBT (Polybutylene Terephthalate)	
	Color	White	
	Filling Compound	Thixotropic jelly compound	
Additional Strength Member	Material	Water blocking E-Glass yarns (To provide the required tensile strength and water blocking)	
Rip Cord	Material	Plastic thread	
Armored	Material	Corrugated chrome steel tape coated with polymer on both side	
Outer Jacket	Material	UV-Proof, Black HDPE	
	Thickness (Approx.)	1.6 mm.	
Web	Thickness	0.5 x 1.0 mm. (HxW)	
Messenger Wire	Material	Stranded Extra High Strength Galvanized Steel Wire	
	Diameter	7 x 0.4 mm. (1.2mm.)	
Cable Diameter (Approx.)		7.7 ± 0.5 mm.	8.2 ± 0.5 mm.
Overall Diameter (Approx.)		11.4 ± 1.0 mm.	11.9 ± 1.0 mm.
Cable Weight (Approx.)		67 ± 10 kg/km.	75 ± 10 kg/km.

Table 3 Construction of Outdoor, CTV Stranded Drop wire, Armored, Fiber optic cable.

TEMPERATURE RANGE

For the cables covered by this specification, the following temperature ranges apply.

- Operation Temperature : -40°C to +70°C
- Installation Temperature : -40°C to +70°C
- Storage/Shipping Temperature : -40°C to +75°C

MECHANICAL SPECIFICATION

Item		Specification
Maximum Span Length	Sag 0.5%	40 m.
	Sag 1.0%	80 m.
Maximum Wind Velocity		126 km./hr.
Maximum Tensile load	Installation	1,200 N.
	Operation	600 N.
Maximum Crush resistance		2,200 N. /10 cm.
Minimum bending Radius	Installation	20 x Cable Diameter
	Operation	10 x Cable Diameter

Table 4 Mechanical Specification of the cable.

FIBER AND LOOSE TUBE IDENTIFICATION

The color code of the loose tubes and the individual fibers within each loose tube shall be in accordance with Table 5 TIA/EIA-598-C (Rev. TIA/EIA-598-A) and EIA-359-A Color Code for Fiber and Loose tube Identification.

No.	Fiber color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Rose
12	Aqua

Table 5 TIA/EIA-598-C Color Code for Fiber and Loose tube Identification.

MECHANICAL PERFORMANCE TEST

- Tensile loading Test — TIA/EIA-455-33A and IEC 60794-1-2-E1A
- Compression Test — TIA/EIA-455-41A and IEC 60794-1-2-E3
- Repeated Bending Test — TIA/EIA-455-104A and IEC 60794-1-2-E6
- Impact Test — TIA/EIA-455-25B and IEC 60794-1-2-E4
- Cable Bending Test — IEC 60794-1-2-E11B
- Cable Twist or Torsion Test — TIA/EIA-455-85A and IEC 60794-1-2-E7
- Temperature Cycling Test — TIA/EIA-455-3A and IEC 60794-1-2-F1
- Water Penetration Test — TIA/EIA-455-82B and IEC 60794-1-2-F5

ORDER INFORMATION

OUTDOOR, CTV STRANDED DROPWIRE, ARMORED, FIBER OPTIC CABLE

Descriptions	OS2, SM 9/125 µm	OM2, MM 50/125 µm	OM3, MM 50/125 µm	OM4, MM 50/125 µm	OM5, MM 50/125 µm
4 Core	UFC9504DSA	UFC5504DSA	UFC4504DSA	UFC3504DSA	UFC2504DSA
6 Core	UFC9506DSA	UFC5506DSA	UFC4506DSA	UFC3506DSA	UFC2506DSA
8 Core	UFC9508DSA	UFC5508DSA	UFC4508DSA	UFC3508DSA	UFC2508DSA
12 Core	UFC9512DSA	UFC5512DSA	UFC4512DSA	UFC3512DSA	UFC2512DSA