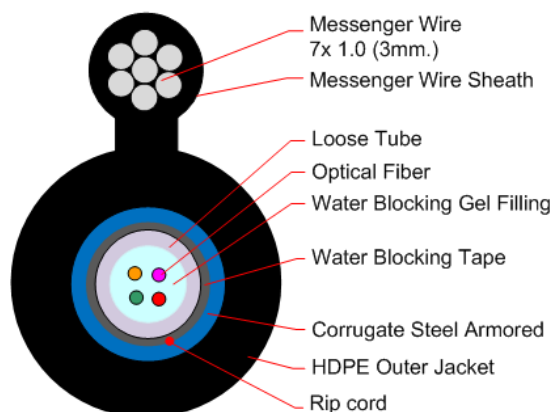


FIBER OPTIC CABLE OUTDOOR FIG-8 ARMORED FOR CCTV OR CTV



Outdoor, CCTV or CTV, Fig-8 Armored.

Outdoor stranded Fig-8 Armored, Fiber optic cable for aerial installation. It support application such as IEEE802.3, 10G Ethernet, Gigabit Ethernet, Fast Ethernet, Ethernet, ATM, FDDI Fiber channel and others.

Cable Structure

- Outdoor, CTV or CCTV Fig-8 Armored fiber optic cable
- Singlemode and 50 or 62.5 /125um, multimode color coded fiber
- Single loose tube
- The interstices between the fibers filled with suitable waterproof compound.
- Filling compound is non-hygroscopic, electrically non conductive, homogenous and free from any metallic or foreign particle
- Self-supporting (Figure-8) provided by stranded galvanize steel wire
- Black HDPE jacket or other each PE, LDPE, MDPE, and LSZH with customer requested

Feature

- High tensile strength of stranded galvanizes steel wire meet requirement of self-supporting and reduce the installation cost.
- Excellent mechanical and temperature performance.
- High strength loose tube that is hydrolysis resistant.
- Special tube filling compound ensure a critical protection of fiber.
- Messenger wire size 7x 1.0 +/- 0.1mm (3.0mm) stranded galvanizes steel wire for tensile strength.
- Small diameter and light weight.
- Designed for aerial installation with strand messenger wire.

Fiber Optic Cable in accordance with Standard as below.

- ISO 9001:2008	- RoHS compliant 2002/95/EC	- IEC 60794-1-2-F1
- ISO/IEC 11801:2002	- IEC 60793	- IEC 60794-1-2-F5
- ANSI/TIA/EIA-568-B.3	- IEC 60794-1-2	- IEC 60794-1-2-E11B
- ANSI/TIA-568-C.3	- IEC 60794-1-2-E1A	- EN 50173-1
- ANSI/ICEA 640	- IEC 60794-1-2-E3	- EIA- 455
- ITU-T G.652D (Singlemode)	- IEC 60794-1-2-E4	- TIS 2165-2548
- ITU-T G.651 (Multimode)	- IEC 60794-1-2-E6	
- Telcordia (Bellcore) GR-20-CORE	- IEC 60794-1-2-E7	

*Specification subject to change without notice.

FIBER OPTIC CABLE OUTDOOR FIG-8 ARMORED FOR CCTV OR CTV

Optical Fiber of Singlemode as detail below.

Table for the Optical, Geometrical Performance of the Singlemode Fiber (The specification confirms to the requirement of ISO/IEC 11801:OS2, ANSI/TIA-568-C.3 IEC 60793-2B1.3, ITU-T G.652D)

Item		Specification
Fiber Type		9/125um(OS2)
Max. / typical attenuation	1310 nm	$\leq 0.36 / \leq 0.34$ dB/km.
	1383 nm	$\leq 0.36 / \leq 0.32$ dB/km.
	1550 nm	$\leq 0.25 / \leq 0.21$ dB/km.
	1625 nm	$\leq 0.35 / \leq 0.24$ dB/km.
Core	Mode Field Diameter	9.2 $\pm$ 0.4 μ m @ 1310 nm 10 $\pm$ 0.6 μ m @ 1550 nm
Cladding Diameter		125 $\pm$ 1.0 μ m
Coating Diameter		250 $\pm$ 5.0 μ m
Cladding Non-circularity		≤ 1.0 %
Core/Cladding Concentricity error		≤ 0.5 μ m
Coating/Cladding Concentricity error		≤ 12 μ m
Zero Dispersion Wavelength		1300 ~ 1324 nm
Zero Dispersion Slope		≤ 0.092 ps/(nm ² .km)
Cut-off Wavelength	λ_0 (Fiber)	1150 ~ 1330 nm
	λ_∞ (Cable)	≤ 1260 nm
Proof Test Stress		100 Kpsi
Chromatic Dispersion	λ ; 1285 ~ 1340nm	≤ 3.5 ps/nm.km
	$\lambda=1550$ nm	≤ 18 ps/nm.km
	$\lambda=1625$ nm	≤ 22 ps/nm.km
Polarization mode dispersion (PMD)		≤ 0.20 ps/ $\sqrt{\text{km}}$
Fiber Curl		≥ 4 M
Numerical Aperture		0.130 $\pm$ 0.010
Group refractive index		1.469@1310nm and 1550nm

*Specification subject to change without notice.

FIBER OPTIC CABLE OUTDOOR FIG-8 ARMORED FOR CCTV OR CTV

Optical Fiber of Multimode as detail below.

The optical, Geometrical Performance of the Multimode Fiber (The specification conforms to the requirement of ISO/IEC 11801, ANSI/TIA-568-C.3, IEC 60793-2A1a, IEC 60793-2A1b, ITU – T G.651)

Items		Specifications		
Fiber Type		62.5/125 μ m (OM1)	50/125 μ m (OM2)	50/125 μ m (OM3)
Max. /Typ. Attenuation (db/km)	850 nm	$\leq 3.0/\leq 2.7$	$\leq 2.7/\leq 2.5$	$\leq 2.7/\leq 2.3$
	1300 nm	$\leq 0.8/\leq 0.6$	$\leq 0.8/\leq 0.7$	$\leq 0.8/\leq 0.6$
Bandwidth (MHz/Km)	850 nm	≥ 200	≥ 500	≥ 1500
	1300 nm	≥ 600	≥ 500	≥ 500
850 nm Laser Bandwidth (MHz/km)		N.A	N.A	2000
Core Diameter (μ m)		62.5 ± 2.5	50.0 ± 2.5	50.0 ± 2.5
Cladding Diameter (μ m)		125 ± 1	125 ± 1	125 ± 1
Core Non-circularity (%)		≤ 5	≤ 5	≤ 5
Cladding Non-circularity (%)		≤ 1.0	≤ 1.0	≤ 1.0
Core/Cladding Concentricity error (μ n)		≤ 1.5	≤ 1.5	≤ 1.5
Coating Diameter (μ m)		245 ± 5	245 ± 5	245 ± 5
Colored Fiber Diameter (μ m)		250 ± 5	250 ± 5	250 ± 5
Coating Non-circularity (%)		≤ 5	≤ 5	≤ 5
Coating/Cladding Concentricity error (μ n)		≤ 6	≤ 6	≤ 6
Proof test Stress (kpsi)		100	100	100
Bending Loss @ 850 & 1300 nm (100 turns, D=75 mm)		≤ 0.5 dB	≤ 0.5 dB	≤ 0.5 dB
Zero-Dispersion Wavelength		1320 ~ 1356 nm	1297 ~ 1316 nm	1297 ~ 1316 nm
Zero-Dispersion Slope (ps/(nm ² .km))		≤ 0.097	≤ 0.101	≤ 0.101
Numerical Aperture		0.275 ± 0.015	0.200 ± 0.015	0.200 ± 0.015
Group refractive index		1.496	1.483	1.483

*Specification subject to change without notice.

FIBER OPTIC CABLE OUTDOOR FIG-8 ARMORED FOR CCTV OR CTV

CABLE CONSTRUCTION

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

Construction of Outdoor, CTV Stranded Drop wire, Armored, fiber optic cable.

Items		Specifications
Number of fiber		4, 6, 8, 12 Core
Loose tube	Material	PBT (Polybutylene Terephthalate)
	Outer Diameter	3.0~4.2 ± 0.2 mm
	Color	Natural
	Filling Compound	Thyrotrophic jelly compound
Water Blocking Tape		Thickness 0.3 ± 0.05 mm
Ripcord		Polyester Cord
Armored	Material	0.25 mm; Corrugated Steel Tape Coated with Polymer
Sheath	Material	UV – Proof, Black HDPE
	Thickness	1.5 ± 0.2 mm
Web	Thickness	1.5 × 1.0 mm
Messenger Wire	Material	Galvanize Steel Wire
	Diameter	7 × 1.0 ± 0.1 mm (3.0 mm)
Water Resistant Test		Sample-3m/water-1m/1h
Cable Diameter (Approx.)		8.6± 0.2 mm
Overall Diameter (Approx.)		14.5 ± 0.5 mm
Cable Weight (Approx.)		122 ± 10 kg/km

TEMPERATURE RANGE

For the cables covered by this specification. The Following temperature range 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

Table Mechanical Specification of the cable

Item		Specification
Maximum Span Length		60 m
Maximum Wind Velocity		100 km/hr
Maximum Tensile Load	Installation	6000 N
	Operation	3000 N
Maximum Crush resistance		4400 N/10cm
Minimum Bending Radius	Installation	20 × Cable Diameter
	Operation	10 × Cable Diameter

*Specification subject to change without notice.

FIBER OPTIC CABLE OUTDOOR FIG-8 ARMORED FOR CCTV OR CTV

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 below TIA/EIA-598-C (Rev. TIA/EIA-598-A) and EIA-359-A Color Code for Fiber and Loose tube Identification.

Table TIA/EIA-598-C 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

MECHANICAL PERFORMANCE TEST

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

Ordering Information

Descriptions	Part Number		
	4 core	6 core	12 core
Fiber Optic Outdoor, CCTV or CTV FIG-8 Armored, SM. 9/125um(OS2)	BELL-SMAA09U04C	BELL-SMAA09U06C	BELL-SMAA09U12C
Fiber Optic Outdoor, CCTV or CTV FIG-8 Armored, MM. 62.5/125um(OM1)	BELL-MMAA50U04C	BELL-MMAA50U06C	BELL-MMAA50U12C
Fiber Optic Outdoor, CCTV or CTV FIG-8, Armored, MM. 50/125um(OM2)	BELL-MMAA62U04C	BELL-MMAA62U06C	BELL-MMAA62U12C
Fiber Optic Outdoor, CCTV or CTV FIG-8 Armored, MM. 50/125um XG(OM3)	BELL-MMAA50XGU04C	BELL-MMAA50XGU06C	BELL-MMAA50XGU12C

*Specification subject to change without notice.