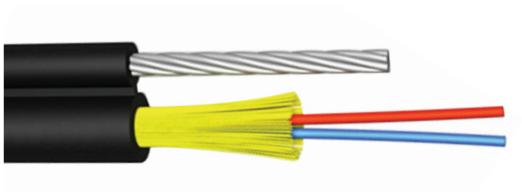
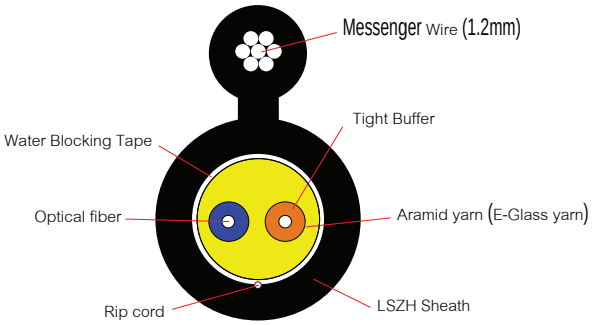
SHOGUN
Technology Solution

FTTH Fiber Optic Cable

Fiber to the Home with messenger wire





Application

FTTH telecom is a comprehensive access solution for all services. Although the main driving force of FTTH is broadband video services in the future, FTTH must be able to support a variety of existing narrowband and broadband services, as well as possible new services in the future. FTTH system must be able to provide integrated access so that users can enjoy multiple services at the same time.

Standard

ANSI/TIA-568-C.3
ANSI/TIA/EIA-568-B.3
ISO/IEC 11801:2002
ANSI/ICEA 696
Telcordia (Bellcore) GR-20-CORE
ITU-T G.657A1/G.657A2 (Singlemode)
ITU-T G.651 (Multimode)
IEC 60332-1
IEC 60332-2& IEC 60332
IEC 60793/60794
IEC60754-1&2
IEC61034-2
ANSI/ICEA 596
EIA/TIA-455
UL, RoHS Compliant 2002/95/EC

Applications

Communication network
Optical distribution network
Lan system
FTTH (Fiber to the home)
SC APC/ UPC Connector

Properties

Excellent performance
Low insertion loss and high return loss
High tensile strength
Telcorda GR326, IEC, TIA/EIA standard compliant

Characteristic

The structure is 1-4 core fiber
Standard steel wire
Tight buffer
Optical fiber
Aramid yarn/E-Glass yarn
Outer jacket HDPE (FR-LSZH)
Rip cord
Water Blocking Tape
Solid Messenger wire 7 x 0.4 mm (1.2mm.)

SHOGUN
Technology Solution

FTTH Fiber Optic Cable

Fiber to the Home with messenger wire

Construction Specification

Fiber Count	2
Cable Diameter	3.5*6.5MM
Cable Weight	26.0KG/KM

Construction Details

Number of fiber	2 Cores
Fiber type	Single-mode (G657A1/G657A2)
	Diameter : 250um ±5um
Tight buffer	PVC
	Diameter : 0.9mm
Strength member	Material : kevlar
Outer sheath	Material : LSZH
	Diameter : 3.5*6.5mm

Mechanical Characteristic

Items	Cable Diameter	Weight
1cores	3.5*6.5mm	23kg/km
2cores	3.5*6.5mm	26kg/km

Installation Temperature range	-20 -+80^{O}C	
Operation and transport temperature	-20 -+80^{O}C	
Storage temperature	-20 -+80^{O}C	
Min allowable Tensile strength	800N	(Long time)
	1200N	(Short time)
Min allowable Crush load (N/100mm)	1000N	Long time)
	2200N	(Short time)
Min Bending Radius(mm)	15D mm	(operation)
	30D mm	(installation)

Optical Characteristic

Characteristics	Wavelenght	Specified Values	Units
Attenuation	1310nm	≤0.35	[dB/Km]
	1383nm	≤0.35	[db/Km]
	1460nm	≤0.25	[db/Km]
	1550nm	≤0.21	[db/Km]
	1625nm	≤0.23	[db/Km]
"Attenuation vs.Wavelength	1285-1330nm	≤0.03	[db/Km]
Max. α difference"	1525-1575nm	≤0.02	[db/Km]
Dispersion coefficient	1285~1340nm	≥-3.4 ≤3.4	ps/(nm×Km)
	1550nm	≤18	ps/(nm×Km)
	1625nm	≤22	ps/(nm×Km)
Zero dispersion wavelength		1300~1324	[nm]
Zero dispersion slope		≤0.092	ps/(nm²×Km)
"PMD Maximum Individual Fibre		≤0.2	[ps/√km]
Link Design Value (M=20, Q=0.01%)		≤0.1	[ps/√km]
Typical value "		0.04	[ps/√km]
Cable cutoff wavelength λ		≤1260	[nm]
Mode field diameter (MFD)	1310nm	8.4±9.2	[nm]
		9.3±10.3	[nm]
1550nm "Effective group index of	1310nm	1.466	
Refraction(Neff)"	1550nm	1.167	

SHOGUN
Technology Solution

FTTH Fiber Optic Cable

Fiber to the Home with messenger wire

Optical Characteristic

Point discontinuities	1310nm	≤0.05	[dB]
	1550nm	≤0.05	[dB]
Cladding diameter		125.8±0.7	[um]
Cladding non-circularity		≤0.7	[%]
Coating diameter		245±5	[um]
Coating-cladding concentricity error		≤12.0	[um]
Coating non-circularity		≤6.0	[%]
Core-cladding concentricity error		≤0.5	[um]
Curl (radius)		≥4	[m]
Delivery length		2.1 to 50.4	[km/reel]