OCCMGY-09G652XXX-SJ-IN

Optical Fiber Cable dielectric anti-rodent, Aerial (Lashed) non-Armored Multi-Tube Cable. 06F/12F/ 24F/ 48F/ 96F/ 144F/ 192F

Cable Description	**12F/24F/48F/96F/144F/192F SINGLE SHEATH UNARMOURED FOR DUCT APPLICATION**
Type of Fibre	**Single Mode, G.652D**

Introduction

DUCT optic cable containing LWP-SMF in full compliance with ITU-T G 652D. The offered cables are fully compliant to the relevant IEC specifications.

Cable Design

* Enhance low water peak single mode fibers in full compliance with ITU-T-G652D .
* Non-metallic and anti-buckling element FRP rod used as Central Strength Member.
* Loose buffer tubes filled with Fibers & Dry Element (WS Yarn).
* Loose buffer tubes S-Z Stranded.
* S-Z core is Dry & Wrapping with Water Swellable Tape.
* Peripheral Strength Member - Glass Yarn.
* Outer sheath - HDPE, Black.
* Rip Cord to open the sheath.

Application

* Suitable for Duct installation .

Special Features

* Single layer stranded construction.
* Offers exceptional strength for Duct application.
* Flexible buffer tubes provide easy fibre routing inside closure.
* All dielectric construction

Cable Physical Characteristics

Fibre Count	**6**	**12**	**24**	**48**	**96**	**144**	**192**
Number of Fibres in each Loose Tube	12						
Number of Loose Tube in each cable	1		2	4	8	12	16
Number of Filler (if Required)	4		3	1	0		2
Number of layer of SZ stranded	1						
Cable Diameter (mm)	**11.0**				**13.5**	**16.5**	**17.5**
Tolerance ± (mm)	0.5						
Nominal Cable Weight (kg/km)	**85**				**125**	**190**	**195**
Standard Length (meters)	4000 ± 5%					2000 ± 5%	

Cable Mechanical & Environmental Characteristics

Test	**Standard**	**Product Performance**
Temperature Range (°C)	[IEC 60794-1-2-F1]	-20 °C to +70 °C
Cable Bending Radius (mm)	[IEC 60794-1-2-E11 A & B]	20 X D , D= Cable diameter
Reapeted Banding	[IEC 60794-1-2-E6]	25 Cycle, r= 20 X D, 5 Kg , D = Cable Diameter
Tensile Force (N)	[IEC 60794-1-2-E1]	Short Term - 2700 N, Long Term - 1600 N
Impact Resistance (Nm)	[IEC 60794-1-2-E4]	4.4 Nm
Crush Resistance (N)	[IEC 60794-1-2-E3 A]	2000 N/(100 mm X 100 mm)
Torsion Resistance	[IEC 60794-1-2-E7]	10 Cycle (± 180°), L= 2 Mtr
Water Penetration	[IEC 60794-1-2-F5 B]	1 Meter Water Head, 3 Meters Cable Sample, 24 Hours

Cable Transmission Characteristics

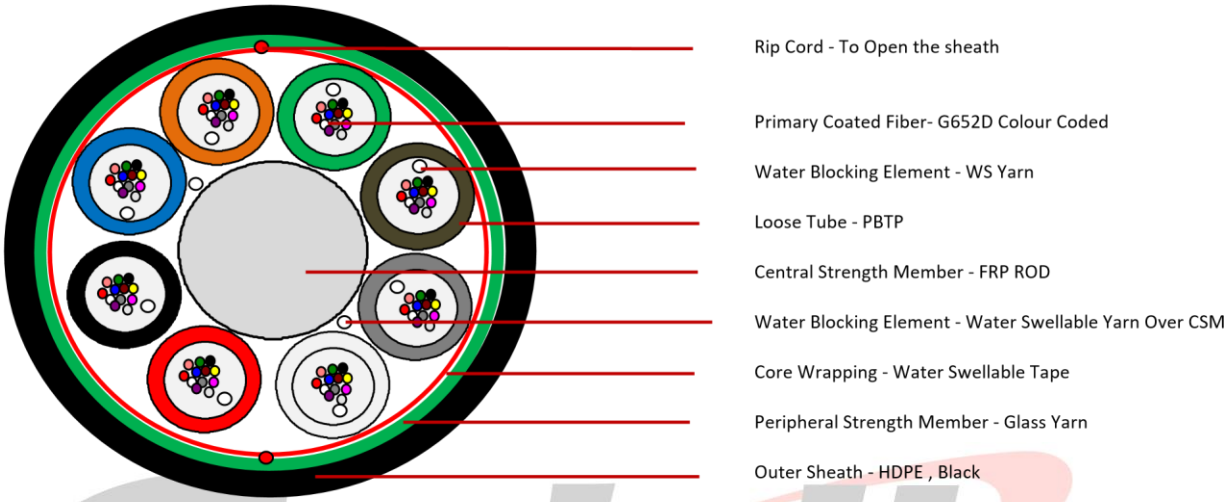
Fibre Type		**Attenuation Coefficient (dB/Km)**					**PMD**	**Cable Cut-Off**	**MFD**
		850	**1300**	**1310**	**1550**		**ps/sqrt.km**	**nm**	**µm**
Single Mode	G.652D	-	-	≤ 0.36	≤ 0.23		≤ 0.2	≤ 1260	9.2 ± 0.4

OCCMGY-09G652XXX-SJ-IN

Optical Fiber Cable dielectric anti-rodent, Aerial (Lashed) non-Armored Multi-Tube Cable. 06F/12F/ 24F/ 48F/ 96F/ 144F/ 192F

Cable Constructional Details

Cable Cross Sectional Diagram of 96F Cable [Drawing not to scale]



Identification of Fibers and Loose Tubes by TIA-598 Color Code

Fiber Color	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua
Loose Tube Color	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua
Loose Tube color	1st Layer of 192F	Blue	Orange	Green	Brown	Slate	White					
	2nd Layer of 192F	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	
Color of filler	Black											

Technical Data Sheet

Specification of Single Mode Matched Clad Type Optical Fiber Conforming to ITU - T Rec. G.652D

Properties	Unit		Values
Transmission			
	dB/km	≤ 0.34	
	dB/km	≤ 0.20	
	dB/km	≤ 0.23	
Point discontinuity at 1310 & 1550 nm	dB		≤ 0.05
Difference in maximum attenuation in the range from			
1285 to 1330 nm w.r.t attenuation at 1310 nm	dB/km		≤ 0.03

OCCMGY-09G652XXX-SJ-IN

Optical Fiber Cable dielectric anti-rodent, Aerial (Lashed) non-Armored Multi-Tube Cable. 06F/12F/ 24F/ 48F/ 96F/ 144F/ 192F

1530 to 1570 nm w.r.t attenuation at 1550 nm	dB/km	≤ 0.02
Maximum chromatic dispersion at:		
1285 - 1330 nm wavelength range	ps/nm.km	≤ 3.5
1270 - 1340 nm wavelength range	ps/nm.km	≤ 5.3
1550 nm	ps/nm.km	≤ 18.0
1625 nm	ps/nm.km	≤ 22.0
Zero dispersion wavelength	nm	1302 to 1322
Zero dispersion slope	nm².km	≤ 0.092
PMD at 1310 & 1550 nm	ps/sqrt.km	≤ 0.15
PMD Link Design Value at 1310 & 1550 nm**	ps/sqrt.km	≤ 0.06
Fiber cut-off wavelength	nm	≤ 1320
Cable cut-off wavelength	nm	≤ 1260
Mode field diameter range at 1310 nm	µm	9.2 ± 0.4
Mode field diameter range at 1550 nm	µm	10.4 ± 0.5
Geometrical		
Cladding Diameter	µm	125 ± 0.7
Cladding non circularity	%	≤ 0.7
Primary Coating Diameter (uncolored)	µm	242 ± 5
Coating Diameter (colored)	µm	252 ± 10
Core/Clad or Mode Field concentricity error	µm	≤ 0.5
Coating / Cladding Concentricity error	µm	≤ 12
Numerical Aperture**		0.14
Refractive Index at 1310 & 1550 nm**	1.467 & 1.468	
Mechanical**		
Proof Test for minimum strain level	kpsi, Gpa, %	≥ 100, ≥ 0.69, ≥ 1
Change in Attenuation with Bending		
100 Turns on 60 mm Diameter Mandrel		
at 1310	dB	≤ 0.05
at 1550	dB	≤ 0.05
1 Turn on 32 mm Diameter Mandrel		
at 1310	dB	≤ 0.5
at 1550	dB	≤ 0.5
Strippability force to remove primary coating of fiber	Newton	1.3 ≤ F ≤ 8.9
Fiber Curl	radius of curve.	≥ 4 mtrs
Dynamic tensile strength (unaged)	kpsi	≥ 550
Dynamic tensile strength (Aged)	kpsi	≥ 440
Dynamic Fatigue		≥ 20
Environmental**		
Induced attenuation at 1310 nm, 1550 nm & 1625 nm for		
Temperature & Humidity cycle from -10°C to +85°C at 98 % humidity (min), Reference Temperature 23°C	dB/km	≤ 0.05
Temperature cycle from -60°C to +85°C, Reference Temperature 23°C	dB/km	≤ 0.05
Water Immersion at 23 ± 2°C	dB/km	≤ 0.05
Accelerated Ageing (Temperature) at 85 ± 2°C, Reference Temperature 23°	dB/km	≤ 0.05