



Description

LANLINE Aerial ADSS (All Dielectric Self Supporting) Fibre Optic OSP cable series are suitably designed for installation on poles in distribution and transmission environment where live wire installation is required. These cables are designed based on required span length and the prevailing. The HUBNETIX's LANLINE Aerial cable family includes Multi-tube ADSS Single Jacket, Multi-tube ADSS Double Jacket and Uni-tube Fig-8 cables. LANLINE Aerial Cables are best suited as backbone in overhead applications. ADSS cables are suitable for use in harsh environment. These cables are designed based on the required span length and the prevailing environmental conditions. These cables offer reliable transmission over a broad temperature range. They can be installed either pole-to-pole, or lashed to existing infrastructure available for long medium & short span routes. LANLINE All Dielectric OSP cables are available in Singlemode (OS2 ITU-T G.652.D standards), Multimode-OM1, OM2, OM3 and OM4 fiber types. HUBNETIX's all LANLINE FO cables are compliance with IEC 60794, EIA/TIA, and ITU-T standards. These OSP cables are thoroughly tested and verified to Telcordia GR-20 standards and they are RoHS and CE compliant.

Aerial ADSS Multi-Tube – Double Jacket construction

The Aerial ADSS MT single jacket Optical fibers are placed inside gel filled buffer tubes. The core is constructed by stranding the buffer tubes around a central strength member. The core is covered with a water-blocking tape. Inner PE is provided over with a layer of Aramid Yarns for necessary tensile strength and a black Outer Sheath is extruded over this core. Ripcords facilitate access to Outer Sheath for ease of entry. The Aerial ADSS MT Double jacket design offers the core is wrapped with flexible strength members covered with a water-blocking tape, then encased with a black inner sheath. Aramid yarns and a black outer jacket are applied. Ripcords facilitate access to the cable core.

Advantages

- Live Power line Installation
- Multiple Network Applications
- Dielectric design eliminates grounding issues
- Increase in lifetime due to anti-tracking property
- Reduces number of tools required due to absence of messenger
- Improves compressive strength and rodent protection

Features

- Fibre Count: 12F to 144F
- Singlemode, Multimode and Hybrid to outfit a variety of applications
- Dry core standard (optional)
- Anti-Tracking Resistance
- Self-Supporting
- Uni-tube designs are available from 2F to 24F

Standard Compliance

- Telcordia GR-20, IEC 60794
- EIA/TIA, ITU-T, EN187000
- RUS1755.900, IEEE.P-1222

Environmental Specifications (Temperature)

- Operation / Storage : -40°C to +70°C
- Installation : -30°C to +75°C

Application

- Aerial, Direct Burial, Underground Ducts
- Trunk, Distribution and Feeder cable
- Local loop, Metro, Long-haul and Broadband Network
- ADSS Double jacket for Power Utilities

Physical Characteristics

Fibre Count	Cable Outer Diameter (mm) Nominal	Weight (kg/km) (Nominal)	Tensile Strength (Nominal)		Crush Resistance (N/10cm)	Bending Radius (mm)	
			Installation	Operation		Temporary	Permanent
12-24	13.5	140	4000	2500	2000	135	270
26-48	13.5	140	4000	2500	2000	135	270
50-72	14.5	160	5000	3000	2000	145	290
74-96	15.5	180	6000	4000	2000	155	310
98-120	17.0	220	6000	4000	2000	170	340
122-144	18.5	260	6000	4000	2000	185	370

Aerial (ADSS) Double Jacket Outside Plant Cable



Fibre Technical Specifications

Optical Characteristics

Multi-Mode - Fibre Type & Grade

Characteristics	Conditions	Specified Values		Units
		62.5/125µm – OM1	50/125µm – OM2/OM3/OM4	
Attenuation	850nm	≤ 3.5	≤ 3.0	dB/km
	1300 nm	≤ 1.5	≤ 1.0	dB/km
Bandwidth	850 nm	≥ 200	≥ 500 / ≥ 1500 / ≥ 3500	MHz.km
	1300 nm	≥ 600	≥ 500 / ≥ 500 / ≥ 500	MHz.km
Ethernet Performance 10GBE	850nm	33	150 /300/ 550	m
Ethernet Performance 1000GBE	850nm	220	750 /1000/ 1100	m
Numerical Aperture		0.275 ± 0.015	0.200 ± 0.015	

Geometrical Characteristics

Core Diameter		62.5 ± 2.5	50.0 ± 2.5	µm
Core Non – Circularity		≤ 5.0	≤ 5.0	%
Core/Cladding Concentricity Error		≤ 1.5	≤ 1.5	µm
Cladding Diameter		125.0 ± 1.0	125.0 ± 1.0	µm
Cladding Non – Circularity		≤ 1.0	≤ 1.0	%
Primary Coating Diameter		245 ± 10	245 ± 10	µm
Coating/Cladding Concentricity Error		≤ 12	≤ 12	µm
Primary Coating Material (Colored)		UV Cured Acrylate	UV Cured Acrylate	

Mechanical Characteristics

Bending Induced Attenuation				
10 Turns @60mm Radius	850nm	≤ 0.5		dB
	1300 nm	≤ 0.5		dB
100 Turns @ 37.5mm Radius	850nm		≤ 0.50	dB
	1300 nm		≤ 0.50	dB
2 Turns @ 15mm Radius	850nm		≤ 1.0	dB
	1300 nm		≤ 1.0	dB
Proof Stress Level		≤ 1.0	≤ 1.0	%
		≤ 100	≤ 100	kpsi

Optical Characteristics

Single-Mode - Fibre Type & Grade

Characteristics	Conditions	Specified Values			Units
		ITU-T G.652.D	ITU-T G.657.A1	ITU-T G.657.A2	
Attenuation	1310 nm	≤ 0.36	≤ 0.36	≤ 0.38	dB/km
	1550 nm	≤ 0.23	≤ 0.23	≤ 0.23	dB/km
Chromatic Dispersion	1285 - 1330 nm		≤ 3.5		ps/(nm.km)
	1550 nm		≤ 18.0		ps/(nm.km)
Cable cutoff wavelength λ _{cc}			≤ 1260		nm
Zero Dispersion wavelength			1300 - 1324		nm
Zero Dispersion slope			≤ 0.092		ps/nm ² .km
Polarization mode Dispersion (PMD)	Fibre		≤ 0.2		ps/km
	Link Design Value		≤ 0.08		ps/km

Geometrical Characteristics

Mode Field Diameter (MFD)	1310 nm	9.2 ± 0.4	8.6 ± 0.4	6.3 ± 9.5	µm
	1550 nm	10.4 ± 0.5	9.8 ± 0.5		µm
Cladding Diameter			125.0 ± 1.0		µm
Cladding Non – Circularity			≤ 1.0		%
Core/Cladding Concentricity Error			≤ 0.5		µm
Coating/Cladding Concentricity Error			≤ 12.0		µm
Primary Coating Diameter			245 ± 10		µm
Primary Coating Material (Colored)			UV Curved Acrylate		
Fibre Curl (Radius)			≥ 4		m

Note- The optical attenuation/PMD given values may change due to fibre cabling.

Mechanical Characteristics - SM

Single-Mode - Fibre Type & Grade

	Conditions	Specified Values			Units
		ITU-T G.652.D	ITU-T G.657.A1	ITU-T G.657.A2	
Bending Induced Attenuation					
1 Turn @32mm Diameter	1550 nm		≤ 0.05		dB
100 Turns @ 50mm Diameter	1310 nm		≤ 0.05		dB
	1550 nm		≤ 0.05		dB
100 Turns @ 60mm Diameter	1625 nm		≤ 0.05		dB
Proof Stress Level			≥ 1.00		%
			≥ 100		kpsi

Environmental Characteristics

Environmental Tests				
Temperature Dependence	-60 to +85°C		≤ 0.05	dB/km
Temperature-Humidity Cycling	-10 to +85°C		≤ 0.05	dB/km
Water Immersion	23		≤ 0.05	dB/km
Dry Heat Aging	85		≤ 0.05	dB/km
Damp Heat	85°C @ 85% RH		≤ 0.05	dB/km

Aerial (ADSS) Double Jacket Outside Plant Cable



Fibre Color Code

1	RD – Red	7	BR – Brown	13	RD – Ring mark every 50mm	19	BR – Ring mark every 50mm
2	GR – Green	8	VT – Violet	14	GR – Ring mark every 50mm	20	VT – Ring mark every 50mm
3	BL – Blue	9	TQ – Turquoise	15	BL – Ring mark every 50mm	21	TQ – Ring mark every 50mm
4	YL – Yellow	10	BK – Black	16	YL – Ring mark every 50mm	22	BK – Ring mark every 50mm
5	WT – White	11	OR – Orange	17	WT – Ring mark every 50mm	23	OR – Ring mark every 50mm
6	GY – Grey	12	PK – Pink	18	GY – Ring mark every 50mm	24	PK – Ring mark every 50mm

Ordering Info & Part Numbers

Part Number Example	Description
HLH-FAA2M3N48-XX	LANLINE 48-Fibre, OM3 MM, Aerial ADSS, Multi-tube Double Jacket, Non-rated OSP Cable

HUBNETIX Prefix			1	2	3	4	5	6
H	L	H	F	AA2	M3	N	48	XX

1=F - Fibre Optic	2=Cable construction	3=Fibre type	4=Flame Rating	5=XX - Fibre Count	6=XX - Fibre Color code
	AA1 – Outside plant (OSP), Aerial ADSS Multi-tube Single jacket	S1 – Singlemode OS1 9/125µm	L – Low Smoke Zero Halogen H – HDPE	12 – 12-fibre 24 – 24-fibre 36 – 36-fibre 48 – 48-fibre 72 – 72-fibre 96 – 96-fibre 120 – 120-fibre 144 – 144-fibre	BK – BLACK
	AA2 – Outside plant (OSP), Aerial ADSS Multi-tube Double jacket	S2 – Singlemode OS2 9/125µm (ITU G.652.D)	N – Non-Rated		
	FM – Outside plant (OSP), Aerial Multi-tube Figure 8	M1 – Multimode OM1 62.5/125µm			
	FU – Outside plant (OSP), Aerial Uni-tube Figure 8	M2 – Multimode OM2 50/125µm			
		M3 – Multimode OM3 50/125µm			
		M4 – Multimode OM4 50/125µm			

Note: All packaging is 2,000 mtr drum reel. The above shown cable designs are HUBNETIX standard designs. Other lengths and customised designs are available upon specific request.

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The dimensions and specifications in this document are for reference purposes only and are subject to change without notice. Consult HUBNETIX Corp. for the latest dimensions and design specifications.

