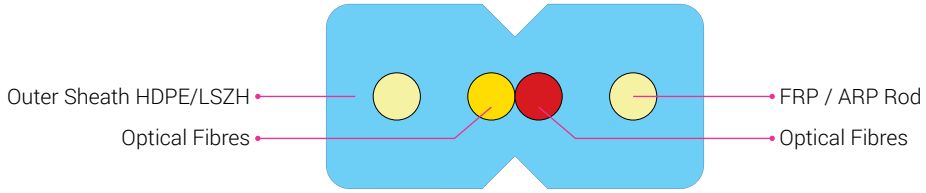
HUBNETIX
FTTH High Bend Flexi Drop Cable

LANLINE



Description

HUBNETIX LANLINE FTTH Fibre Optic cables are suitable for delivery of communications signal over optical fiber from the operator's switching equipment all the way to a home or business, thereby replacing existing copper infrastructure such as telephone wires and coaxial cable. LANLINE FTTH cables enables robust video, internet and voice services by providing higher bandwidth. HUBNETIX LANLINE FTTH cable adopts the popular design in industry, its structure and performance is optimized for FTTH applications. HUBNETIX FTTH drop cables are small diameter and light weight, this makes it space-saving and easy to handle. The cables are designed to make fibre pulling easily out from the cables. The FTTH drop cables are ideal to use for direct installation into the houses.

Cable Construction

HUBNETIX LANLINE high bend flexi drop cable is designed for use in aerial and duct/conduit environments. The optical fibres are embedded in the sheath. Dielectric strength members (FRP/ARP rods) placed parallel to optical fibres provide the necessary longitudinal strength.

Standard Compliance

- Telecordia GR-20, IEC 60794
- EIA/TIA, ITU-T, EN187000, RUS1755.900

Environmental Specifications (Temperature)

- Operation / Storage : -40°C to +70°C
- Installation : -10°C to +70°C

Features

- Multiple Fibre types including bend resistant G657A
- Strength members available in metallic (optional)
- Fibre count available up to 4F

Application

- FTTH Aerial and Duct/Conduit
- Local loop
- Broadband Network

Advantages

- Easy drop
- Multiple Network Applications
- Reduces cable preparation and Installation time
- Reduces cost
- Easy installation

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
2	2.0 x 3.1	10	200	100	500	30	60
4	2.2 x 3.5	11	200	100	500	30	60

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Fibre Technical Specifications

Optical Characteristics — Multi-Mode - Fibre Type & Grade

		62.5/125µm – OM1	50/125µm – OM2/OM3/OM4	
Characteristics	Conditions	Specified Values		Units
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

		ITU-T G.652.D	ITU-T G.657.A1	ITU-T G.657.A2	
Characteristics	Conditions	Specified Values			Units
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 λcc		≤ 1260			nm
Zero Dispersion wavelength		1300 - 1324			nm
Zero Dispersion slope		≤ 0.092			ps/nm².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

		ITU-T G.652.D	ITU-T G.657.A1	ITU-T G.657.A2	
	Conditions	Specified Values			Units
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

FTTH High Bend Flexi Drop Cable

Ordering Info & Part Numbers

Part Number Example	Description
HLH-FFBS2H04-BK	LANLINE 04-Fibre, OS2 SM, FTTH High bend flexi drop cable, Black

HUBNETIX Prefix			1	2	3	4	5	6
H	**L**	**H**	**F**	**FB**	**S2**	**H**	**04**	**BK**

1=F - Fibre Optic	2=Cable construction	3=Fibre type	4=Flame Rating	5=XX - Fibre Count	6=XX - Fibre Color code
	FB – FTTH high bend flexi drop cable	**S1 – Singlemode** OS1 9/125µm **S2 – Singlemode** OS2 9/125µm (ITU G.652.D) **M1** – Multimode OM1 62.5/125µm **M2 – Multimode** OM2 50/125µm **M3 – Multimode** OM3 50/125µm **M4 – Multimode** OM4 50/125µm	**L** – Low Smoke Zero Halogen **H** – HDPE **N** – Non-Rated	**02** – 02-fibre **04** – 04-fibre	**BK** – BLACK

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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