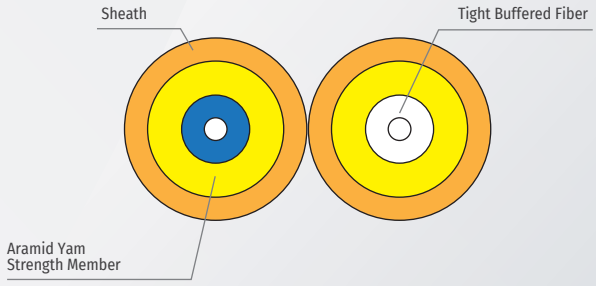
Fiber Cable



Duplex Cable

Lightem offers a board variety of fiber optic cable for all indoor access and structure cabling application such as simplex, duplex, tight buffer, distribution, breakout and ribbon cable. Fitting most of the indoor application environment , whatever for short distance cabling or premises structure cabling.
G652D, G657A1/A2, OM1 62.5/125μm, OM2 50/125μm, OM3 and OM4 fibers are available. Lightem also provides the customization service on the fiber, colours and construction of the cables for catering different cases.

Features

- Dual fiber design, optimum for patchcord preparation
- Indoor short distance cabling
- Small bending, light weight and highly flexible
- Easy to Install and terminate
- Flame retardant or LSZH jacket is available
- Comply to TIA/EIA568b-3 and ISO/IEC 11801

Fire Performances

General	
Flame Retardant	IEC 60332-1, IEC 60332-2, IEC 60332-3, BS EN 50265, BS EN 50266
Fire Retardant	BS EN ISO 4589-3 Annex A (FT >= 280ºC)
Low Smoke Capacity	IEC 61034 1/2, BS EN 50268-2 Annex B (>=60% Light Transmittance)
The Values for The Light Transmittance	BS EN 50268-2
Oxygen Index Testing Method	BS EN ISO 4589-2, ASTMD-2863
Halogen Free	IEC 60754-1/2, BS EN 50267-2-3 Annex A (pH >=4.3)

Specifications

General	
Flame Rating	LSZH / FRNC*
Fiber Category	Singlemode / Multimode
Temperature Range	
Installation	-5°C to +50°C
Operation	-20°C to +60°C
Storage	-25°C to +70°C
Cable Design	
Fiber Count	2
Buffering Diameter	900 μm
Tight Buffer Type	Standard strip up to 10cm or Easy strip
Tight Buffer Colour	Singlemode: White + Yellow
	Multimode: White + Orange
Tensile Strength Elements and/or Armouring Layer 1	Aramid yarn
Outer Jacket Material	PVC/Flame-retardant, non-corrosive / low-smoke, zero-halogen (FRNC / LSZH)
Outer Jacket Colour **	Yellow / Orange / Aqua
Outer Jacket Nominal Thickness	0.6mm

*For LSZH model only
**Customized colour available upon request

Mechanical Characteristics					Unit
Fiber Count	2	2	2	2	
Outer Diameter	1.6*3.3	1.8*3.7	2.0*4.1	2.8*5.7	mm
Nominal Weight	5.7	6.7	8.2	13.2	kg/km
Max. Tension (Short-term)	160	160	200	300	N
Max. Tension (Long-term)	80	80	100	160	N
Max. Crushing Resistance	1000				N/100mm2
Bending Radius (Loading)	20				D
Bending Radius (Without Loading)	10				D

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Fiber Specifications (Singlemode)

Characteristics		G652D	G657A1	G657A2
Optical Characteristics *				
Attenuation	1310nm	≦0.40 dB/km	≦0.40 dB/km	≦0.40 dB/km
	1383nm	≦0.34 dB/km	≦0.35 dB/km	≦0.35 dB/km
	1460nm	-	≦0.25 dB/km	≦0.25 dB/km
	1490nm	-	-	≦0.23 dB/km
	1550nm	≦0.30 dB/km	≦0.30 dB/km	≦0.30 dB/km
	1625nm	≦0.23 dB/km	≦0.23 dB/km	≦0.23 dB/km
Attenuation vs. Wavelength	1285-1330nm	≦0.03 dB/km	≦0.03 dB/km	≦0.03 dB/km
Max. α difference	1525-1575nm	≦0.02 dB/km	≦0.02 dB/km	≦0.02 dB/km
Dispersion coefficient	1285-1340nm	≧-3.4≦3.4 ps/(nm · km)	≧-3.4≦3.4 ps/(nm · km)	-
	1550nm	≦18 ps/(nm · km)	≦18 ps/(nm · km)	-
	1625nm	≦22 ps/(nm · km)	≦22 ps/(nm · km)	-
Zero dispersion wavelength		1312±12 nm	1300~1324 nm	1300~1324 nm
Zero dispersion slope		≦0.091 ps/nm^2 · km	≦0.092 ps/nm^2 · km	≦0.092 ps/nm^2 · km
Typical value		0.086 ps/nm^2 · km	0.086 ps/nm^2 · km	0.04 ps/nm^2 · km
PMD				
Maximum Individual Fibre		≦0.1 ps/√km	≦0.1 ps/√km	≦0.1 ps/√km
Link Design Value(M=20,Q=0.01%)		≦0.06 ps/√km	≦0.06 ps/√km	≦0.06 ps/√km
Typical value		0.04 ps/√km	0.04 ps/√km	0.04 ps/√km
Cable cutoff wavelength λcc		≦1260 nm	≦1260 nm	≦1260 nm
Mode field diameter(MFD)	1310nm	8.7~9.5 um	8.4~9.2um	8.4~9.2 um
	1550nm	9.9~10.9 um	9.3~10.3 um	9.3~10.3 um
Effective group index of refraction(Neff)	1310nm	1.466	1.466	1.466
	1550nm	1.467	1.467	1.467
Point discontinuities	1310nm	≦0.05 dB	≦0.05 dB	≦0.05 dB
	1550nm	≦0.05 dB	≦0.05 dB	≦0.05 dB
Geometrical Characteristics				
Fiber Core Diameter		9 +/-1um	9 +/-1um	9 +/-1um
Cladding diameter		125.0±0.7 um	125.0±0.7 um	125.0±0.7 um
Cladding non-circularity		≦1.0 %	≦0.7 %	≦0.7 %
Coating diameter		245.0±7 um	245.0±5 um	245.0±5 um
Coating-cladding concentricity error		≦12.0 um	≦12.0 um	≦12.0 um
Coating non-circularity		≦6.0 %	≦6.0 %	≦6.0 %
Core-cladding concentricity error		≦0.6 um	≦0.5 um	≦0.5 um
Curl(radius)		≧4 m	≧4 m	≧4 m
Delivery length		2.1 to 50.4 km/reel	2.1 to 50.4 km/reel	2.1 to 50.4 km/reel

*Attenuation loss of barefiber

Fiber Specifications (Multimode)

Characteristics		62.5/125 (OM1)	50/125 (OM2)	OM3/OM4	OM5
Geometry Characteristics					
Core Diameter		62.5±2.5 um	50±2.5 um	50±2.5 um	50±2.5 um
Core Non-circularity		≦5.0 %	≦5.0 %	≦5.0 %	≦5.0 %
Cladding Diameter		125.0±1.0 um	125.0±1.0 um	125.0±1.0 um	125.050±1.0 um
Cladding Non-circularity		≦1.0 %	≦1.0 %	≦0.6 %	≦0.6 %
Coating Diameter		245±7 um	245±7 um	245±7 um	245±7 um
Coating/Cladding Concentricity Error		≦10.0 um	≦10.0 um	≦10.0 um	≦10.0 um
Coating Non-circularity		≦6.0 %	≦6.0 %	≦6.0 %	≦6.0 %
Core/Cladding Concentricity Error		≦1.5 um	≦1.5 um	≦1.0 um	≦1.0 um
Delivery Length		up to 17.6 km/reel	up to 17.6 km/reel	up to 8.8 km/reel	up to 8.8 km/ reel
Optical Characteristics *					
Attenuation	850nm	≦3.5 dB/km	≦3.5 dB/km	≦3.5 dB/km	≦3.5 dB/km
	953nm	-	-	-	≦1.7 dB/km
	1300nm	≦1.5 dB/km	≦1.5 dB/km	≦1.5 dB/km	≦1.5 dB/km
Overfilled Modal Bandwidth	850nm	≧200 MHz · km	≧500 MHz · km	≧1500/≧3500 MHz · km	≧3500 MHz · km
	953nm	-	-	-	≧1850 MHz · km
	1300nm	≧500 MHz · km	≧500 MHz · km	≧500/≧500 MHz · km	≧500 MHz · km
Effective Modal Bandwidth	850nm	-	-	≧2000/≧4700 MHz · km	≧4700 MHz · km
	953nm	-	-	-	≧2470 MHz · km
10Gb/sWDM		-	-	-100/150 m	150 m
40Gb/sWDM		-	-	300/500 m	440 m
40GBASE-SR4 / 100GBASE SR10	850nm	-	-	1000/1100 m	200 m
10GBASE-SR	850nm	-	150 m	300/ 500 m	-
1000BASE-SR	850nm	-	750 m	1000/ 1100 m	-
DMD Specification		-	-	-	-
Numerical Aperture		0.275±0.015	0.200±0.015	0.200±0.015	0.200±0.015
Group Refractive index		1,496	1,482	1.482	1,482
		1,491	1,477	1.477	1,477
Zero Dispersion Wavelength, λ_0		1320-1365 nm	1295-1340 nm	1295-1340 nm	1297-1328 nm
Zero Dispersion Slope,S_0		-	-	-	≦4(-103)/(840λ√840)^4)
		-	-	-	ps/nm^2 · km
Zero Dispersion Slope,S0	1295nm≦λ_0≦1310nm	-	≦0.105 ps/nm^2 · km	≦0.105 ps/nm^2 · km	-
	1310nm≦λ_0≦1340nm	-	≦0.000375(1590-λ_0) ps/nm^2 · km	-	-
	1320nm≦λ_0≦1348nm	≦0.11 ps/nm^2 · km	-	≦0.000375(1590-λ_0)ps/nm^2 · km	-
	1348nm≦λ_0≦1365nm	≦0.001(1458-λ_0) ps/nm^2 · km	-	-	-

*Attenuation loss of barefiber

Ordering Information

* Ordering Code Example