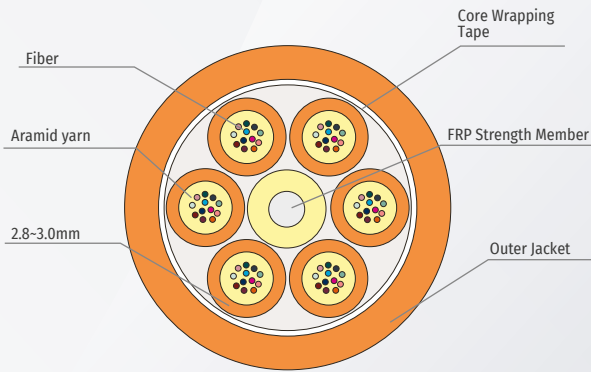


## LMIC - Micro-Indoor Cable

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 62.5/125um, OM2 50/125um, OM3 and OM4 fibers are available.

This micro indoor cable is suitable for environment at where high density cabling is preferable. With the micro subunits with 250um fibers inside and FRP as central strength member, the diameter of the cable can be minimized without compromising the overall stiffness.

Pre-terminated with connectors on micro indoor cable is a very cost effective solution by saving the rack space and labour cost.



### Features

- Fiber count up to 288 core
- Ideal for indoor structure cabling, especially horizontal installation in premises
- Suitable for pre-terminated with connector or field termination
- Small bending radius, light weight and non-metallic structure
- Colour coded fibers for easy identification
- 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 >= 280°C)
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, ASTM D-2863
Halogen Free	IEC 60754-1/2, BS EN 50267-2-3 Annex A (pH >=4.3)

### Specifications

#### General

Fiber count	12/16/24/36/48/72/96/144/288
Fiber characteristic (OD)	245±10 um
Fiber Color	blue/orange/green/brown/grey/white/red/black/yellow/purple/pink/aqua
Dashed	blue/orange/green/brown/grey/white/red/black/yellow/purple/pink/aqua
Aramid yarn	Round strength
Out jacket	LSZH or PVC
Cladding diameter	125±1.0um
Cladding non-circularity	≤1.0%
Coating/cladding concentricity error	≤12.5Um
Coating diameter	245±10um
Operation	-20-70°C
Storage	-20-70°C

#### Mechanical Characteristics

	12	24	48	72	96	144	288	Unit
Fiber Count	12	24	48	72	96	144	288	
Outer Diameter	3.0±0.15	4.5±0.15	9.0±0.15	11.2±0.15	13.5±0.15	17.5±0.15	21.0±0.15	mm
Nominal Weight	78	72	79	126	178	285	455	kg/km
Max. Tension (Short-term)	150	300	600	1000	1000	1000	1000	N
Max. Tension (Long-term)	80	160	200	300	300	300	300	N
Max. Crushing Resistance (Short-term)	500	1000	1000	1000	1000	1000	1000	N/100mm <sup>2</sup>
Max. Crushing Resistance (Long-term)	150	300	300	300	300	300	300	N/100mm <sup>2</sup>
Bending Radius (Loading)					20			D
Bending Radius (Without Loading)					10			D

## Fiber Specifications (Singlemode)

Characteristics		G652D	G657A1	G657A2
<b>Optical Characteristics</b>				
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 <sup>2</sup> ·km	≤0.092 ps/nm <sup>2</sup> ·km	≤0.092 ps/nm <sup>2</sup> ·km
Typical value		0.086 ps/nm <sup>2</sup> ·km	0.086 ps/nm <sup>2</sup> ·km	0.04 ps/nm <sup>2</sup> ·km
<b>PMD</b>				
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 λ <sub>cc</sub>		≤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
<b>Geometrical Characteristics</b>				
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
<b>Geometry Characteristics</b>					
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	125.0±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
<b>Optical Characteristics</b>					
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/ 550 m	-
1000BASE-SR	850nm	-	750 m	1000 / 1100 m	-
<b>DMD Specification</b>					
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 <sub>0</sub>		1320-1365 nm	1295-1340 nm	1295-1340 nm	1297-1328 nm
Zero Dispersion Slope,S <sub>0</sub>		-	-	-	≤4(-103)/(840λ√840) <sup>4</sup> )
		-	-	-	ps/nm <sup>2</sup> ·km
Zero Dispersion Slope,S <sub>0</sub> 1295nm≤λ <sub>0</sub> ≤1310nm		-	≤0.105 ps/nm <sup>2</sup> ·km	≤0.105 ps/nm <sup>2</sup> ·km	-
1310nm≤λ <sub>0</sub> ≤1340nm		-	≤0.000375(1590-λ <sub>0</sub> ) ps/nm <sup>2</sup> ·km	-	-
1320nm≤λ <sub>0</sub> ≤1348nm		≤0.11 ps/nm <sup>2</sup> ·km	-	≤0.000375(1590-λ <sub>0</sub> )ps/nm <sup>2</sup> ·km	-
1348nm≤λ <sub>0</sub> ≤1365nm		≤0.001(1458-λ <sub>0</sub> ) ps/nm <sup>2</sup> ·km	-	-	-

\*Attenuation loss of barefiber

# Product Diagram



## Ordering Information

\* Ordering Code Example

