

Specification
For
Simplex Optical Fiber Cables-LSZH

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1. General

The Simplex cable uses a buffered fiber surrounded by aramid yarn strength members with a flexible, flame-retardant jacket (LSZH). Simplex cables are ideal for interconnect applications.

2.Characteristics of optical fiber:

2.1 Single-mode fiber:

The optical fiber shall comply with ITU-T Recommendation G.652 D

The geometric and optical characteristics of single-mode fiber in the cable comply with that listed in Table 1.

Table 1

ITEM			SPECIFICATION
			SMF-28e
Fiber	Core	Fiber material	Silica glass
		Mode field diameter at 1310nm	9.2 ±0.4 μm
	Cladding	Reference surface diameter	125±1.0um
		Non-circularity of cladding	<0.7 %
		Core-Clad offset	<0.3um
Attenuation Max. (@1310/1550nm)(dB/km)			0.4 / 0.3

2.2 Multi-mode fiber:

The geometric and optical characteristics of multi-mode fiber in the cable comply with that listed in Table 2.

Table 2

ITEM			SPECIFICATION	
Multi-mode fiber type			50/125um	62.5/125um
Fiber	Core	Fiber material	Silica glass	
		Core diameter	50±3.0um	62.5±3.0um
		Non-circularity of core	<6 %	
	Cladding	Reference surface diameter	125±2.0um	
		Non-circularity of cladding	<2 %	
		Core-Clad offset	<3um	
Numerical Aperture			0.2±0.02	0.275±0.015
Attenuation Max. (@850/1300nm) (dB/km)			3.0 / 1.0	3.5 / 1.0
Bandwidth Min. (@850/1300nm) (MHz-km)			Std. : OM1 (400/600) Opt: OM2 (InfiniCor 600) OM3 (InfiniCor SX+)	Std. : 160/500

3. Cable structure:

3.1 The structure of the cable is in accordance with Table 3.

Table 3

ITEM		SPECIFICATION		
Simplex O.D (mm)		2.0	2.4	3.0
Cable core	Buffer Material	LSZH		
	Diameter (μm)	900+/-100		
	Covering	APF Aramid Yarn		
Jacket	Material	LSZH		
	Nom. Thickness (mm)	0.4	0.45	0.5
Cable diameter (Approx.) (mm)		2.0	2.4	3.0
Cable weight (Approx.) (kg/km)		4.0	5.5	6.5
Tensile Load Max.	Short Time (N)	300	300	300
	Long Time (N)	75	75	75
Bend Radius Min.	Loaded (mm)	40	48	60
	Installed (mm)	20	24	30

3.2 Color code:

3.2.1 The color scheme of each fiber in the outer jacket is in accordance with Table 3.

Table 4

Item \ Fiber Type	Single Mode Fiber	Multi-Mode Fiber	
		50/125 μm	62.5/125 μm
Buffer Color	White	White	White
Outer Jacket Color	Yellow	Orange	Orange

4. Identification of the cable:

The following identification marks will be printed on the sheath :

- 1) Description of cable type
- 2) Manufacturer name
- 3) Sequential length marking in meter
- 4) The other customer required

5. Environmental Specifications

Storage Temperature : -40 °C to +85 °C

Operating Temperature : -40 °C to +85 °C

6. Flame retardant:

6.1 Meet UL 94V0 flame retardant rating.

6.2 Properties of LSZH jacket:

The properties of LSZH jacket shall be capable of meeting the following tests. That listed in Table 5.

Table 5

Item	Unit	Test method	Spec. value	Measure value
Tensile Strength	kg/mm ²	ASTM D638	0.8 ↑	1.2
Elongation at break	%	ASTM D638	150 ↑	392
Aging test (90°C/4 days)	Retention of tensile strength	ASTM D638	80 ↑	95
	Retention of elongation	ASTM D638	65 ↑	90
Limited oxygen index (LOI)		ASTM D2863	30 ↑	32
Smoke Density		ASTM E662	D _{max} 250 ↓	150
Corrosivity of gases	PH value	IEC 754-2	3.5 ↑	4.0

7. Packing:

7.1 Cable drum

- 1) Each length of cable will be packed on a wooden drum.
- 2) Cable length of drum : Standard length is 2000 meter/reel.

7.2 Marking

Cable drum will be marked with cable type, cable length, manufacturer's name and other information for identification.

Fig.1 Cross sectional drawing

