

Specification  
For  
Zipcord Optical Fiber Cables -LSZH

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1. General

The Zipcord cable uses two buffered fibers surrounded by aramid yarn strength members with a flexible flame-retardant jacket (LSZH). Zipcord cable is 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)<br>Opt: OM2 (InfiniCor 600)<br>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   |           |         |         |
|--------------------------------|---------------------|-----------------|-----------|---------|---------|
| Zipcord O. D. (mm)             |                     | 1.8*3.6         | 2.0*4.0   | 2.4*4.8 | 3.0*6.0 |
| Cable core                     | Buffer Material     | LSZH            |           |         |         |
|                                | Diameter (um)       | 600+/-50        | 900+/-100 |         |         |
|                                | Covering            | APF Aramid Yarn |           |         |         |
| Jacket                         | Material            | LSZH            |           |         |         |
|                                | Nom. Thickness (mm) | 0.3             | 0.4       | 0.45    | 0.5     |
| Cable diameter (Approx.) (mm)  |                     | 1.8*3.6         | 2.0*4.0   | 2.4*4.8 | 3.0*6.0 |
| Cable weight (Approx.) (kg/km) |                     | 7               | 8         | 11      | 13      |
| Tensile Load Max.              | (Short Time) (N)    | 450             | 500       | 500     | 600     |
|                                | (Long Time) (N)     | 113             | 125       | 125     | 150     |
| Bend Radius Min.               | (Loaded) (mm)       | 36              | 40        | 48      | 60      |
|                                | (Installed) (mm)    | 18              | 20        | 24      | 30      |

**3.2 Color code:**

The color scheme of each fiber in the outer jacket is in accordance with Table 4.

**Table 4**

| Item \ Fiber Type  | Single Mode Fiber |       | Multi mode fiber |       |            |       |
|--------------------|-------------------|-------|------------------|-------|------------|-------|
|                    |                   |       | 50/125um         |       | 62.5/125um |       |
| Buffer Color       | 1                 | 2     | 1                | 2     | 1          | 2     |
|                    | Blue              | White | Yellow           | White | Orange     | 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. Temperature Range**

Pulling in: 0°C to + 85 °C

Storage & Operation : -30°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 <sup>2</sup>            | ASTM D638   | 0.8 ↑                  | 1.2           |    |
| Elongation at break         | %                             | ASTM D638   | 150 ↑                  | 392           |    |
| Aging test<br>(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 <sub>max</sub> 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 1000 meter/reel.

**7.2 Marking**

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

**Fig.1 Cross sectional drawing**