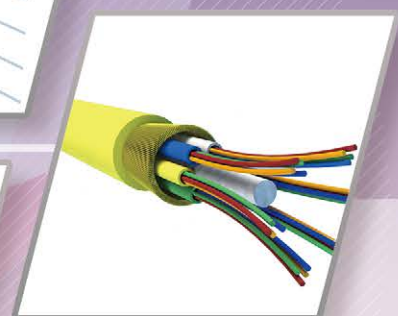


# D



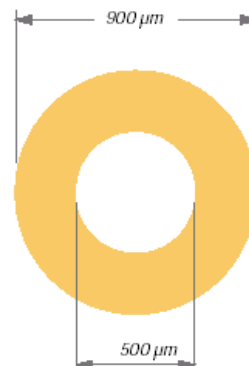
## Fibers

|                        |     |
|------------------------|-----|
| • Tubing .....         | 359 |
| • Fibers .....         | 362 |
| • Optical Cables ..... | 363 |
| • Plastic Cables ..... | 376 |
| • Patchcords .....     | 377 |

## 900 Micron UL94 V-0 Grade Hytrel Tubing

Unice's self-extinguishing UL94 V-0 grade 900 micron Hytrel tubing can be employed as buffering material and provide additional protection for use with 250 um fiber

- \* Protect bare fiber in any situation against mechanical damage during handling and installation.
- \* Bare fiber can be easily installed more than 5 meters.
- \* High resistance to creep, impact, and flex fatigue; flexibility at low temperature; and good retention of properties at elevated temperatures.



### Dimension of Tubing

|                |             |
|----------------|-------------|
| Outer Diameter | 900 ± 50 μm |
| Inner Diameter | 500 ± 50 μm |

### Material Properties

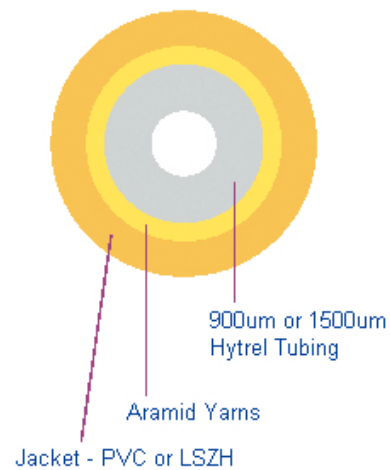
|                                                        |                           |                |      |
|--------------------------------------------------------|---------------------------|----------------|------|
| Operating Temperature                                  |                           | -40°C ~ + 85°C |      |
| Storage Temperature                                    |                           | -20°C ~ + 60°C |      |
| Tubing Shrinkage                                       |                           | ≤ 1.0          |      |
| Material                                               | Property                  | Value          | Unit |
| Self-Extinguishing Engineering Thermoplastic Elastomer | Tensile Modulus           | 555            | MPa  |
|                                                        | Tensile Strength at Yield | 27.5           | MPa  |
|                                                        | Elongation at Yield       | 16             | %    |
|                                                        | Flexural Modulus          | 660            | MPa  |
|                                                        | Flexural Strength         | 24.5           | MPa  |
|                                                        | Vicat Softening Point     | 197            | °C   |
|                                                        | Water Absorption          | 0.2            | %    |
|                                                        | Shrinkage                 | 1.5%           |      |
|                                                        | Flammability, UL94        | V-0            |      |
|                                                        | Operating Temperature, °C | -40 ~ +90      |      |

| Product Code | Color      | Product Code | Color |
|--------------|------------|--------------|-------|
| T009VHWT     | Natural    | T009VHBU     | Blue  |
| T009VHYW     | Yellow     | T009VHRD     | Red   |
| T009VHOR     | Orange     | T009VHBK     | Black |
| T009VHGN     | Green      | T009VHGY     | Gray  |
| T009VHVT     | Violet     | T009VHBK     | Pink  |
| T009VHLB     | Light Blue | T009VHBR     | Brown |

\*\*\* Recommend to pre-shrinkage before using in passive components assembly.

## Simplex Fanout Tubing

Simplex Fanout Tubing can provide superior extra protection for use with 250, 500, 600, and 900 um fibers with aramid strength member inside to enhance the protection and strain-relief. Outer Jacket can be Flame-retardant PVC which meets the requirements of National Electrical Code (NEC article 770) and is OFNR rated or LSZH material which meets the requirement of Green Policy in Europe countries.

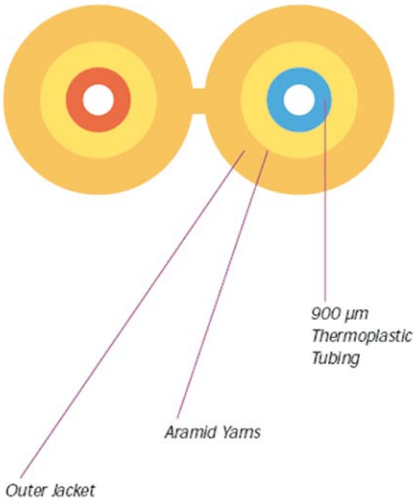


### Specification

| Inside/Outside Diameter of Buffer Tubing, um |            | 500 / 900                          |     |     |     | 1100 / 1500                             |     |
|----------------------------------------------|------------|------------------------------------|-----|-----|-----|-----------------------------------------|-----|
| Material for Buffer Tubing                   |            | Hytrel                             |     |     |     | Hytrel                                  |     |
| Cable Diameter, mm                           |            | 1.6                                | 2.0 | 2.4 | 2.9 | 2.5                                     | 3.0 |
| Weight, kg/km                                |            | 2.8                                | 4.3 | 5.6 | 8.0 | 5.5                                     | 7.8 |
| Max. Tensile Load                            | Load, N    | 80                                 | 200 | 400 | 400 | 200                                     | 400 |
|                                              | Unload, N  | 40                                 | 100 | 200 | 200 | 100                                     | 200 |
| Min. Bend Radius                             | Load, cm   | 3.2                                | 4.0 | 4.8 | 5.8 | 5.0                                     | 6.0 |
|                                              | Unload, cm | 1.6                                | 2.0 | 2.4 | 2.9 | 2.5                                     | 3.0 |
| Applications                                 |            | For the protection of 250 um fiber |     |     |     | For 500, 600, & 900 um fiber protection |     |
| Jacket Color                                 |            | Yellow or Orange                   |     |     |     |                                         |     |
| Application Temperature                      | PVC        | -40 ~ +80 °C                       |     |     |     |                                         |     |
|                                              | LSZH       | -20 ~ +70 °C                       |     |     |     |                                         |     |
| Crush Resistance                             |            | 40 N/cm                            |     |     |     |                                         |     |
| Impact Resistance                            |            | 10 Impacts                         |     |     |     |                                         |     |
| Cyclic Flex Resistance                       |            | 500 Cycles                         |     |     |     |                                         |     |

Zipcord Type Fanout Tubing

Unice’s Zipcord Fanout Tubing can provide superior extra protection for protection of 250um fibers and aramid strength member inside to enhance the cable strength. Outer jacket can be Flame-retardant PVC which meets the requirements of National Electrical Code (NEC article 770) and also meets the requirement of Green Policy in Europe countries.



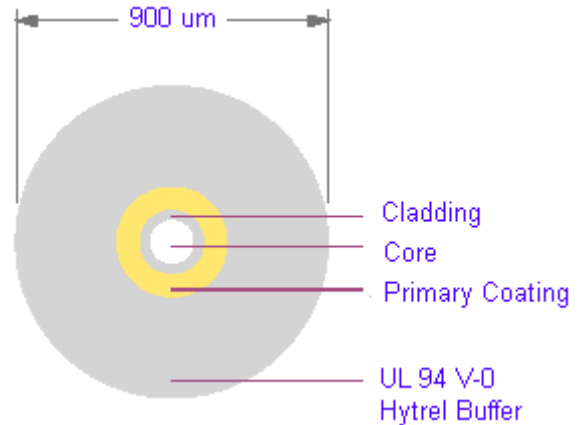
Specification

|                                     |            |                                    |             |         |         |
|-------------------------------------|------------|------------------------------------|-------------|---------|---------|
| Inner Diameter of Buffer Tubing, um |            | 500 ± 50                           |             |         |         |
| Outer Diameter of Buffer Tubing, um |            | 900 ± 50                           |             |         |         |
| Material for Buffer Tubing          |            | Hytrel                             |             |         |         |
| Cable Diameter, mm                  |            | 1.6×3.7                            | 2.0×4.2     | 2.4×5.0 | 2.9×6.0 |
| Weight, kg/km                       |            | 2.8                                | 4.3         | 5.6     | 8.0     |
| Max. Tensile Load                   | Load, N    | 80                                 | 200         | 400     | 400     |
|                                     | Unload, N  | 40                                 | 100         | 200     | 200     |
| Min. Bend Radius                    | Load, cm   | 3.2                                | 4.0         | 4.8     | 5.8     |
|                                     | Unload, cm | 1.6                                | 2.0         | 2.4     | 2.9     |
| Applications                        |            | For the protection of 250 um fiber |             |         |         |
| Jacket Color                        |            | Yellow, Orange or Aqua             |             |         |         |
| Application Temperature             |            | PVC                                | -40 ~ +85 ° |         |         |
|                                     |            | LSZH                               | -20 ~ +70 ° |         |         |



## 0.9mm UL94 V-0 Grade Hytrel Buffered Optical Fiber (100 Kpsi Proof-Tested)

Unice's 0.9 mm UL94 V-0 Grade Hytrel buffered optical fiber is ideal for interconnect & pigtail inside equipment for connecting transmitter or receiver. It offers higher flame retardance as well as severe performance requirements of good abrasion, superior tensile strength after aging, and a wide service temperature.



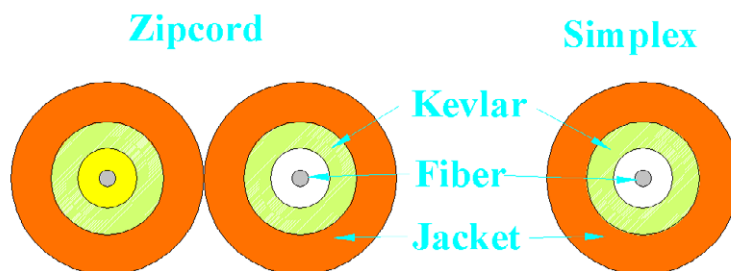
|                                              |               |
|----------------------------------------------|---------------|
| Flame Rating of Tight-Buffered Optical Fiber | UL1581 VW-1   |
| Flame Rating of Buffering Material (Hytrel)  | UL94 V-0      |
| Operating Temperature Range                  | -40 to +85 °C |
| Storage Temperature Range                    | -40 to +85 °C |

| Optical Transimission Performance |                |               |               |
|-----------------------------------|----------------|---------------|---------------|
| Fiber Type                        | Single-Mode    | 50/125 μm     | 62.5/125 μm   |
|                                   | (1310/1550 nm) | (850/1300 nm) | (850/1300 nm) |
| Max. Attenuation, dB/km           | 1.5/1.5        | 4.5/2.0       | 4.5/2.0       |
| Typical Attenuation, dB/km        | 0.8/0.8        | 3.5/1.5       | 3.5/1.5       |
| Minimum Bandwidth, MHz · km       | Not Applicable | 500/500       | 160/500       |

| Mechanical Properties |                            |                       |                      |           |                     |            |
|-----------------------|----------------------------|-----------------------|----------------------|-----------|---------------------|------------|
| 0.9mm Buffered Fiber  | Nominal Outer Diameter, mm | Nominal Weight, kg/km | Maximum Tensile Load |           | Minimum Bend Radius |            |
|                       |                            |                       | Load, N              | Unload, N | Load, cm            | Unload, cm |
|                       | 0.9                        | 0.9                   | 6.0                  | 3.0       | 5.0                 | 2.5        |

| Fiber Type | Part Number | Color | Remarks                                                                                                                         |
|------------|-------------|-------|---------------------------------------------------------------------------------------------------------------------------------|
| SM         | F909VHWT    | White | Final specification for sales is to be discussed between us and customer. Color-coded fiber is available through minimum order. |
| 50/125     | F509VHWT    | White |                                                                                                                                 |
| 62.5/125   | F609VHWT    | White |                                                                                                                                 |

## SM / MM Tight-Buffer Patch Cord / Pigtail Optical Cables



### Features

- \* Building interconnections (Campus LAN).
- \* Trunking lines direct to telecommunications closet.
- \* Fiber patch panels within communications closets.
- \* Links between electronic equipment and fiber patch panels.
- \* Connectorized patch cords for cross connect applications.
- \* High strength with peripheral dielectric strength member (Kevlar) to provide sufficient tensile strength.
- \* All dry cord can be easily terminated without chemically clean task.
- \* All dielectric structure free of EMI & Thunder and Lighting.

### Applications

- \* 10GBASE-SR/SW
- \* 10GBASE-LX4
- \* IEEE 802.3 FOIRL
- \* IEEE 802.3 10BASE-F
- \* IEEE 802.3 1000BASE-SX/LX
- \* FDDI
- \* ATM
- \* Fiber Channel FC-PH
- \* SM & MM fiber complied with ITU-T standard G652D , G655 , G657A , G651..etc.
- \* Meet the National Electrical Code (NEC article 770) and Telcordia GR-409-CORE standard.

### Specification

| Singlemode                  |                 | Multimode     |               |                    |
|-----------------------------|-----------------|---------------|---------------|--------------------|
| Fiber Type (μm)             | 9/125           | 50/125        | 62.5/125      | OM3-10Gigabit-300M |
| Core Diameter (μm)          | 8.3             | 50±3          | 62.5±3        | 50±3               |
| Mode Field Diameter (μm)    | 9.2±0.4@1310nm  | ---           | ---           | ---                |
|                             | 10.4±0.5@1550nm |               |               |                    |
| Cladding Diameter (μm)      | 125±1           | 125±2         | 125±2         | 125±2              |
| Coating Diameter (μm)       | 245±15          | 245±15        | 245±15        | 245±15             |
| Core Clad Concentricity(μm) | ≤0.5            | ≤3.0          | ≤3.0          | ≤3.0               |
| Cladding Non-Circularity(%) | ≤1.0            | ≤2.0          | ≤2.0          | ≤2.0               |
| Cable Cutoff Wavelength     | ≤1260nm         | ---           | ---           | ---                |
| Numerical Aperture          | 0.13            | 0.200 ± 0.015 | 0.275 ± 0.015 | 0.200 ± 0.015      |
| Tensile proof test (Kpsi)   | 100             | 100           | 100           | 100                |

## SM / MM Tight-Buffer Patch Cord / Pigtail Optical Cables

### Description

1 or 2 C colored tight buffer fiber (colored sequence refer to below table) are surrounded by high strength aramid yarns (Kevlar) and encased with Riser-Rated or Plenum-Rated PVC or LSZH (low smoke, zero halogen) jacket. They are flexible and craft-friendly for use.

### Buffer Colored Sequence

| 1     | 2      | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  |
|-------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| White | Yellow | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

### Cable Specification

| Type / Fiber Count           | Cable Diameter, mm          |          | Cable Nominal Weight, kg/km |                    |
|------------------------------|-----------------------------|----------|-----------------------------|--------------------|
| Simplex (1C) / Zipcord (2C)  | 2.9 ± 0.1 / 2.9 ± 0.1 x 6.0 |          | 8.0 / 16                    |                    |
| Simplex (1C) / Zipcord (2C)  | 2.4 ± 0.1 / 2.4 ± 0.1 x 4.8 |          | 5.6 / 11.2                  |                    |
| Simplex (1C) / Zipcord (2C)  | 2.0 ± 0.1 / 2.0 ± 0.1 x 4.0 |          | 4.3 / 8.6                   |                    |
| Simplex (1C) / Zipcord (2C)  | 1.6 ± 0.1 / 1.6 ± 0.1 x 3.2 |          | 2.8 / 5.6                   |                    |
| Fiber Type                   | 9/125                       | 50/125   | 62.5/125                    | OM3-10Gigabit-300M |
| Attenuation typical (nm)     | 1310/1550                   | 850/1300 | 850/1300                    | 850/1300           |
| Maximum Attenuation (dB/km)  | 0.4/0.35                    | 3.5/1.5  | 3.5/1.5                     | 3.5/1.5            |
| Typical Attenuation (dB/km)  | 0.4/0.3                     | 3.0/1.0  | 3.0/1.0                     | 3.0/1.0            |
| Minimum Bandwidth (MHz · km) | N/A                         | 500/500  | 160/500                     | 1500/500           |

### Mechanical Properties

|                                     |                                                   | Standard          |
|-------------------------------------|---------------------------------------------------|-------------------|
| Maximum Tensile Load - Loaded (N)   | 50(S1.6) / 200(S2.0) / 400(S2.4/S2.9/Zipcord)     | IEC 60794-1-2 E1  |
| Maximum Tensile Load - Unloaded (N) | 20(S1.6) / 100(S2.0) / 200(S2.4/S2.9/Zipcord)     |                   |
| Min. bend radius installed (mm)     | 32(S1.6) / 40(S2.0) / 48(S2.4) / 58(S2.9/Zipcord) | IEC 60794-1-2 E11 |
| Min. bend radius long term (mm)     | 16(S1.6) / 20(S2.0) / 24(S2.4) / 29(S2.9/Zipcord) |                   |
| Storage Temperature                 | -40 to +85oC(PVC) / -20 to +70oC (LSZH)           | IEC 60794-1-2 F1  |
| Operating Temperature               | -40 to +85oC(PVC) / -20 to +70oC (LSZH)           |                   |

### Order Information

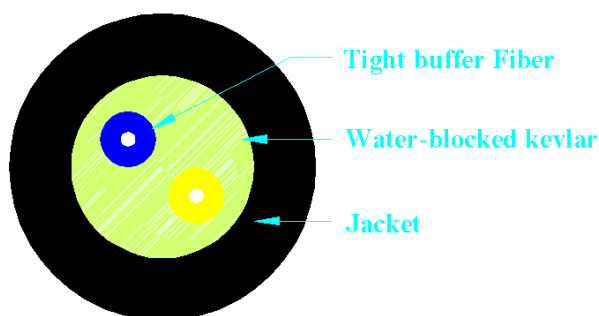
| Type / Diameter | 9/125   | 50/125  | 62.5/125 | OM3-10G-300M |
|-----------------|---------|---------|----------|--------------|
| Simplex / xx    | S9xx■YW | S5xx■OR | S6xx■OR  | S4xx■AQ      |
| Zipcord / xx    | Z9xx■YW | Z5xx■OR | Z6xx■OR  | Z4xx■AQ      |

\* Annotation:

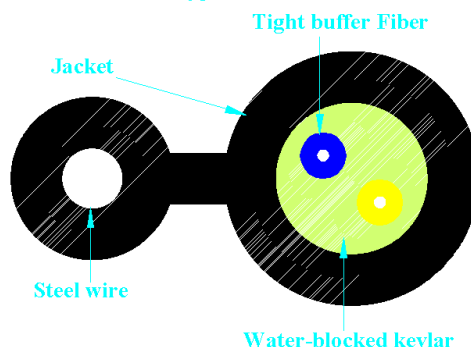
1. "■" indicates that jacket material is C -- PVC or L -- LSZH.
2. "xx" indicates cable's diameter, 16 – 1.6mm, 20 – 2.0mm, 24 – 2.4mm, 29 – 2.9mm.
3. Jacket's color : SM - Yellow, 50/125 & 62.5/125 – Orange, OM3 – Aqua, and available for assigned.

## NSS / SS 1~2C Tight-Buffer, All Dry Water-prevent, Drop Optical Cables

NSS Type 2C



SS Type 2C



### Features

- \* Flame-Retardant Jacket enables to drop from outdoor into building up to FTTH network without transition point requirement.
- \* High strength with peripheral dielectric water- blocked strength member (Kevlar) for long pulling distances and water prevention.
- \* Tight-buffer fiber offers the craft-friendly termination without messy gel, and RoHS compliant buffer material provides water blocked and full optical fiber protection.
- \* SS (Self-Support) type is figure-8 shape for easy aerial installations.

### Applications

- \* 10BASE-FL
- \* 100BASE-SX/100BASE-FX
- \* ATM 155/ATM 622
- \* 1000BASE-SX/1000BASE-LX
- \* Fiber Channel 1.062/2.125
- \* 10GBASE-SR/SW
- \* 10GBASE-LX4
- \* SM & MM fiber complied with ITU-T standard G652D , G655 , G657A , G651..etc.
- \* Meet the National Electrical Code (NEC article 770) and Telcordia GR-409-CORE standard.

### Specification

| Singlemode                  |                | Multimode     |               |                    |
|-----------------------------|----------------|---------------|---------------|--------------------|
| Fiber Type (μm)             | 9/125          | 50/125        | 62.5/125      | OM3-10Gigabit-300M |
| Core Diameter (μm)          | 8.3            | 50±3          | 62.5±3        | 50±3               |
| Mode Field Diameter (μm)    | 9.2±0.4@1310nm |               |               |                    |
| 10.4±0.5@1550nm             | ---            | ---           | ---           |                    |
| Cladding Diameter (μm)      | 125±1          | 125±2         | 125±2         | 125±2              |
| Coating Diameter (μm)       | 245±15         | 245±15        | 245±15        | 245±15             |
| Core Clad Concentricity(μm) | ≤0.5           | ≤3.0          | ≤3.0          | ≤3.0               |
| Cladding Non-Circularity(%) | ≤1.0           | ≤2.0          | ≤2.0          | ≤2.0               |
| Cable Cutoff Wavelength     | ≤1260nm        | ---           | ---           | ---                |
| Numerical Aperture          | 0.13           | 0.200 ± 0.015 | 0.275 ± 0.015 | 0.200 ± 0.015      |
| Tensile proof test (Kpsi)   | 100            | 100           | 100           | 100                |

## NSS / SS 1~2C Tight-Buffer, All Dry Water-prevent, Drop Optical Cables

### Description

These cables incorporate 1~2C tight-buffer fiber that are surrounded by high strength water-blocked aramid yarns (Kevlar), encased with Flame-Retardant PE jacket. SS type is co-extruded with a galvanized steel wire as figure-8 shape for easy aerial installations. They are suitable to drop from outdoor into building up to FTTH network.

### Buffer Colored Sequence

| 1    | 2      | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  |
|------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Blue | Yellow | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

### Cable Specification

| Type / Fiber Count | Steel Wire Diameter, mm | Cable Sheath Thickness, mm | Steel Sheath Thickness, mm | Cable Outside Diameter, mm | Cable Nominal Weight, kg/km |
|--------------------|-------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|
| NSS / 1C           | ---                     | 0.75 ± 0.10                | ---                        | 3.0 ± 0.15                 | 15                          |
| SS / 1C            | 1.2                     | 0.75 ± 0.10                | 0.9                        | 6.5±0.5 x 3.0±0.15         | 35                          |
| NSS / 2C           | ---                     | 1.0                        | ---                        | ≤ 5.0                      | 20                          |
| SS / 2C            | 1.2                     | 1.0                        | 1.0                        | 9.2 x 5.0                  | 41                          |

| Fiber Type                   | 9/125     | 50/125   | 62.5/125 | OM3-10Gigabit-300M |
|------------------------------|-----------|----------|----------|--------------------|
| Attenuation typical (nm)     | 1310/1550 | 850/1300 | 850/1300 | 850/1300           |
| Maximum Attenuation (dB/km)  | 0.4/0.35  | 3.5/1.5  | 3.5/1.5  | 3.5/1.5            |
| Typical Attenuation (dB/km)  | 0.4/0.3   | 3.0/1.0  | 3.0/1.0  | 3.0/1.0            |
| Minimum Bandwidth (MHz · km) | N/A       | 500/500  | 160/500  | 1500/500           |

### Mechanical Properties

|                                     |                       | Standard          |
|-------------------------------------|-----------------------|-------------------|
| Maximum Tensile Load - Loaded (N)   | 450N (1C) / 670N (2C) | IEC 60794-1-2 E1  |
| Maximum Tensile Load - Unloaded (N) | 300 N                 |                   |
| Min. bend radius installed (mm)     | 10 x cable O.D.       | IEC 60794-1-2 E11 |
| Min. bend radius long term (mm)     | 20 x cable O.D.       |                   |
| Storage Temperature                 | -20oC to + 70oC       | IEC 60794-1-2 F1  |
| Operating Temperature               | -20oC to + 70oC       |                   |

### Order Information

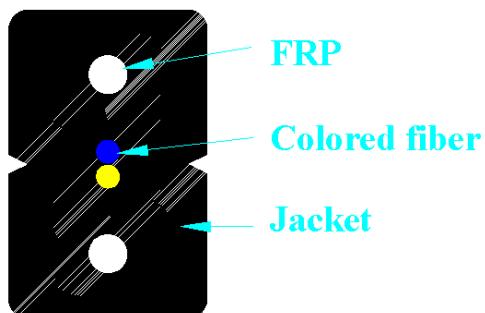
| Type / Fiber Count | 9/125             | 50/125         | 62.5/125       | OM3-10G-300M   |
|--------------------|-------------------|----------------|----------------|----------------|
| NSS / 1C           | CHT-DROP-NJF1C    | 5DROP-NJF1C    | 6DROP-NJF1C    | 4DROP-NJF1C    |
| SS / 1C            | CHT-DROP-NJF1C-S1 | 5DROP-NJF1C-S1 | 6DROP-NJF1C-S1 | 4DROP-NJF1C-S1 |
| NSS / 2C           | CHT-DROP-NJF2C    | 5DROP-NJF2C    | 6DROP-NJF2C    | 4DROP-NJF2C    |
| SS / 2C            | CHT-DROP-NJF2C-S1 | 5DROP-NJF2C-S1 | 6DROP-NJF2C-S1 | 4DROP-NJF2C-S1 |

\* Annotation: 1.Fiber type and single mode fiber's grade is suitable for assigned.  
2.Jacket's color is black (UV stabilized).

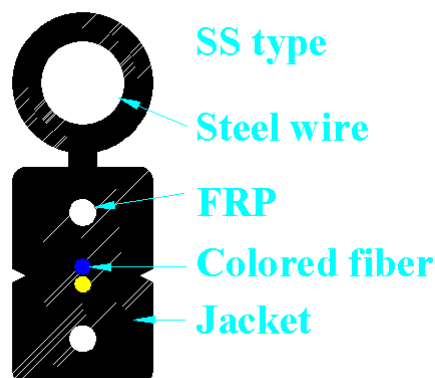


## NSS / SS Flat 1~2C versatile Indoor / Drop Optical Cables

NSS type



SS type



### Features

- \* Small diameter and light weight provide easy deployment in limited conduit space up to FTTH network.
- \* Sheath contains dual buried-FRP to provide high tensile strength and crush resistant.
- \* Suitable for versatile utilization (drop into house, vertical, horizontal installations).
- \* Self-Support type is for aerial deployed or fixed on wall when building without shaft or conduit.
- \* FR-PE jacket is suitable to drop into house without transition point requirement.

### Applications

- \* 10GBASE-SR/SW
- \* 10GBASE-LX4
- \* IEEE 802.3 FOIRL
- \* IEEE 802.3 10BASE-F
- \* IEEE 802.3 1000BASE-SX/LX
- \* FDDI
- \* ATM
- \* Fiber Channel FC-PH
- \* SM & MM fiber complied with ITU-T standard G652D, G655, G657A, G651, ..etc.
- \* Meet the National Electrical Code (NEC article 770) and Telcordia GR-409-CORE standard.

### Fiber Specification

| Singlemode                  |                 | Multimode     |               |                    |
|-----------------------------|-----------------|---------------|---------------|--------------------|
| Fiber Type (μm)             | 9/125           | 50/125        | 62.5/125      | OM3-10Gigabit-300M |
| Core Diameter (μm)          | 8.3             | 50±3          | 62.5±3        | 50±3               |
| Mode Field Diameter (μm)    | 9.2±0.4@1310nm  | ---           | ---           | ---                |
|                             | 10.4±0.5@1550nm |               |               |                    |
| Cladding Diameter (μm)      | 125±1           | 125±2         | 125±2         | 125±2              |
| Coating Diameter (μm)       | 245±15          | 245±15        | 245±15        | 245±15             |
| Coloring Diameters (μm)     | 250±15          | 250±15        | 250±15        | 250±15             |
| Core Clad Concentricity(μm) | ≤0.5            | ≤3.0          | ≤3.0          | ≤3.0               |
| Cladding Non-Circularity(%) | ≤1.0            | ≤2.0          | ≤2.0          | ≤2.0               |
| Cable Cutoff Wavelength     | □≤1260nm        | ---           | ---           | ---                |
| Numerical Aperture          | 0.13            | 0.200 ± 0.015 | 0.275 ± 0.015 | 0.200 ± 0.015      |
| Tensile proof test (Kpsi)   | 100             | 100           | 100           | 100                |

## NSS / SS Flat 1~2C versatile Indoor / Drop Optical Cables

### Description

FRP-buried sheath incorporates 1~2 colored fibers (color sequence refer to below table) can be integrated vertical and horizontal installation up for FTTH network. The core is all dry without messy gel. Fiber type (SM/MM) and fiber grade and fiber count (1 or 2) are suitable for assigned.

### Fiber Coloring Sequence

| 1    | 2      | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  |
|------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Blue | Yellow | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

### Cable Specification

| Type / Fiber Count           | FRP Diameter , mm / Count | Steel wire Diameter , mm | Cable Outside Diameter, mm | Cable Nominal Weight, kg/km |
|------------------------------|---------------------------|--------------------------|----------------------------|-----------------------------|
| NSS / 1,2 Fibers             | 0.4 ± 0.05 / 2            | ---                      | 3.1±0.2 x 2.0±0.2          | 10                          |
| SS / 1,2 Fibers              | 0.4 ± 0.05 / 2            | 1.2                      | 5.3±0.3 x 2.0±0.2          | 30                          |
| Fiber Type                   | 9/125                     | 50/125                   | 62.5/125                   | OM3-10Gigabit-300M          |
| Attenuation typical (nm)     | 1310/1550                 | 850/1300                 | 850/1300                   | 850/1300                    |
| Maximum Attenuation (dB/km)  | 0.4/0.35                  | 3.5/1.5                  | 3.5/1.5                    | 3.5/1.5                     |
| Typical Attenuation (dB/km)  | 0.4/0.3                   | 3.0/1.0                  | 3.0/1.0                    | 3.0/1.0                     |
| Minimum Bandwidth (MHz · km) | N/A                       | 500/500                  | 160/500                    | 1500/500                    |

### Mechanical Properties

|                                     |                 | Standard          |
|-------------------------------------|-----------------|-------------------|
| Maximum Tensile Load - Loaded (N)   | 100 N           | IEC 60794-1-2 E1  |
| Maximum Tensile Load - Unloaded (N) | 50 N            |                   |
| Min. bend radius installed (mm)     | 10 x cable O.D. | IEC 60794-1-2 E11 |
| Min. bend radius long term (mm)     | 20 x cable O.D. |                   |
| Storage Temperature                 | -20 to +70oC    | IEC 60794-1-2 F1  |
| Operating Temperature               | -20 to +70oC    |                   |

### Order Information

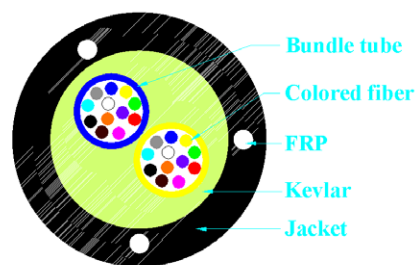
| Type / Fiber Count | 9/125      | 50/125     | 62.5/125   | OM3-10G-300M |
|--------------------|------------|------------|------------|--------------|
| NSS / 1C           | FC901LBK   | FC501LBK   | FC601LBK   | FC401LBK     |
| NSS / 2C           | FC902LBK   | FC502LBK   | FC602LBK   | FC402LBK     |
| SS / 1C            | FC901LBK-S | FC501LBK-S | FC601LBK-S | FC401LBK-S   |
| SS / 2C            | FC902LBK-S | FC502LBK-S | FC602LBK-S | FC402LBK-S   |

\* Annotation: 1. Fiber's grade is suitable for assigned.  
2. Jacket's color is black.

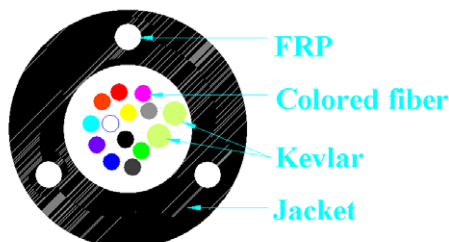
## 2C & 12C & 24C EZ-T (Easy Through) with Kevlar Optical Cables



2C EZ-T Cable



12C EZ-T Cable



24C EZ-T Cable



### Bundle Tube Coloring Sequence

| 1    | 2      | 3     | 4     | 5    | 6     | 7   | 8     | 9      | 10     | 11   | 12   |
|------|--------|-------|-------|------|-------|-----|-------|--------|--------|------|------|
| Blue | Orange | Green | Brown | Gray | White | Red | Black | Yellow | Violet | Pink | Aqua |

### Cable Specification

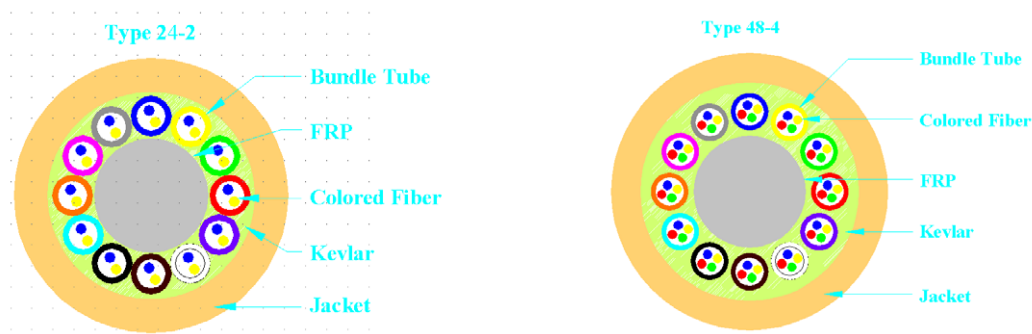
| Fiber Count         | Strength Member        | Micro-Tube # | Cable Outside Diameter, mm | Cable Nominal Weight, kg/km |
|---------------------|------------------------|--------------|----------------------------|-----------------------------|
| 2 Fibers            | FRP+Kevlar             | NA           | 3.0 ± 0.20                 | 8.7                         |
| 12 Fibers           | FRP+Kevlar             | NA           | 3.5 ± 0.20                 | 8.9                         |
| 24 Fibers           | FRP+Kevlar             | 2            | 5.0 ± 0.20                 | 22.7                        |
| Cable Color         | Black or Yellow        |              |                            |                             |
| Fiber Type          | ITU-T G657 A1          |              |                            |                             |
| Maximum Attenuation | @1310 nm               |              | 0.4 (dB/km)                |                             |
|                     | @1550 nm               |              | 0.3 (dB/km)                |                             |
|                     | @1625 nm               |              | 0.3 (dB/km)                |                             |
| Jacket Material     | Low Smoke Zero Halogen |              | IEC-60332-1-2              |                             |

### Mechanical Properties

|                                   |                     | Standard          |
|-----------------------------------|---------------------|-------------------|
| Maximum Tensile Load-Loaded (N)   | 400 N               | IEC 60794-1-2 E1  |
| Maximum Tensile Load-Unloaded (N) | 200 N               |                   |
| Min. bend radius installed (mm)   | 10 x cable O.D.     | IEC 60794-1-2 E11 |
| Min. bend radius long term (mm)   | 5x cable O.D.       |                   |
| Maximum Crush Resistance          | 200kg/100mm         | IEC 60794-1-2 E1  |
| Storage Temperature               | -20 to +70oC (LSZH) | IEC 60794-1-2 F1  |
| Operating Temperature             | -20 to +70oC (LSZH) |                   |

\*\* These specifications are subject to change without prior notification.

## Pull-able Mansion's Vertical Backbone Optical Cables



### Features

- \* High density, small diameter and light weight to achieve cost advantages over conventional cabling system.
- \* High performance in mansion's vertical backbone cabling up to FTTH network, and cost saving than air blown optical fiber units.
- \* Each bundle tube can be easily pulled out to terminate into floor's terminal box.
- \* All dry cord can be easily terminated without chemically clean task.
- \* Using FRP for central strength member and enhancing Kevlar to provide high tensile strength and all dielectric structure free of EMI & Thunder and Lighting.

### Applications

- \* 10GBASE-SR/SW
- \* 10GBASE-LX4
- \* IEEE 802.3 FOIRL
- \* IEEE 802.3 10BASE-F
- \* IEEE 802.3 1000BASE-SX/LX
- \* FDDI
- \* ATM
- \* Fiber Channel FC-PH
- \* SM fiber complied with ITU-T standard G652D, G657A,...etc.
- \* Meet the National Electrical Code (NEC article 770) and Telcordia GR-409-CORE standard.

### Fiber Specification

|                                             |                |
|---------------------------------------------|----------------|
| Fiber Type (μm)                             | 9/125          |
| Core Diameter (μm)                          | 8.3            |
| Mode Field Diameter (μm)<br>10.4±0.5@1550nm | 9.2±0.4@1310nm |
| Cladding Diameter (μm)                      | 125±1          |
| Coating Diameter (μm)                       | 245±15         |
| Coloring Diameters (μm)                     | 250±15         |
| Core Clad Concentricity(μm)                 | ≤0.5           |
| Cladding Non-Circularity(%)                 | ≤1.0           |
| Cable Cutoff Wavelength                     | ≤1260nm        |
| Numerical Aperture                          | 0.13           |
| Tensile proof test (Kpsi)                   | 100            |

### Bundle Loose Tube Specification

| Type   | Bundle Tube Count | Bundle Tube Diameter, mm | Bundle Tube Thickness, mm |
|--------|-------------------|--------------------------|---------------------------|
| 12-2   | 6                 | 1.0 ± 0.1                | 0.13 ± 0.05               |
| 24-2   | 12                | 1.0 ± 0.1                | 0.13 ± 0.05               |
| 24-4   | 6                 | 1.1 ± 0.1                | 0.13 ± 0.05               |
| 48-4   | 12                | 1.1 ± 0.1                | 0.13 ± 0.05               |
| 24-6   | 4                 | 1.2 ± 0.1                | 0.13 ± 0.05               |
| 48-6   | 8                 | 1.2 ± 0.1                | 0.13 ± 0.05               |
| 48-12  | 4                 | 1.5 ± 0.1                | 0.13 ± 0.05               |
| 96-12  | 8                 | 1.5 ± 0.1                | 0.13 ± 0.05               |
| 144-12 | 12                | 1.5 ± 0.1                | 0.13 ± 0.05               |



## Pull-able Mansion's Vertical Backbone Optical Cables

### Description

These cables incorporate several stranded all dry bundle tubes, these are composed of high density fiber count, with FRP for central strength member and enhanced by high tensile strength Kevlar. Each bundle tube can be easily and independently pulled out to terminate. They have high performance in mansion's vertical backbone up to FTTH network.

### Fiber & Bundle Tube Colored Sequence

| 1    | 2      | 3     | 4   | 5      | 6     | 7     | 8     | 9    | 10     | 11   | 12    |
|------|--------|-------|-----|--------|-------|-------|-------|------|--------|------|-------|
| Blue | Yellow | Green | Red | Violet | White | Brown | Black | Aqua | Orange | Pink | Slate |

### Cable Specification

| Fiber Count                 | Type                     | Cable Outside Diameter, mm | Cable Sheath Thickness, mm  | Cable Nominal Weight, kg/km |
|-----------------------------|--------------------------|----------------------------|-----------------------------|-----------------------------|
| 12 Fibers                   | 12-2                     | $\leq 5.5$                 | $0.8 \pm 0.2$               | 24                          |
| 24 Fibers                   | 24-2                     | $\leq 7.1$                 | $0.8 \pm 0.2$               | 45                          |
| 24 Fibers                   | 24-4                     | $\leq 5.7$                 | $0.8 \pm 0.2$               | 24                          |
| 48 Fibers                   | 48-4                     | $\leq 7.7$                 | $0.8 \pm 0.2$               | 45                          |
| 24 Fibers                   | 24-6                     | $\leq 6.0$                 | $0.8 \pm 0.2$               | 26                          |
| 48 Fibers                   | 48-6                     | $\leq 6.7$                 | $0.8 \pm 0.2$               | 40                          |
| 48 Fibers                   | 48-12                    | $\leq 7.0$                 | $0.8 \pm 0.2$               | 28                          |
| 96 Fibers                   | 96-12                    | $\leq 7.9$                 | $0.8 \pm 0.2$               | 46                          |
| 144 Fibers                  | 144-12                   | $\leq 9.8$                 | $0.8 \pm 0.2$               | 74                          |
| Optical Property            |                          |                            |                             |                             |
| Maximum Attenuation (dB/km) | 0.4(1310nm)/0.35(1550nm) |                            | Typical Attenuation (dB/km) | 0.4(1310nm)/0.3(1550nm)     |

### Mechanical Properties

|                                     |                                | Standard          |
|-------------------------------------|--------------------------------|-------------------|
| Maximum Tensile Load - Loaded (N)   | 1350N(12~48C)/1600N(above 48C) | IEC 60794-1-2 E1  |
| Maximum Tensile Load - Unloaded (N) | 900 N                          |                   |
| Min. bend radius installed (mm)     | 10 x cable O.D.                | IEC 60794-1-2 E11 |
| Min. bend radius long term (mm)     | 20 x cable O.D.                |                   |
| Storage Temperature                 | -20oC to +70oC                 | IEC 60794-1-2 F1  |
| Operating Temperature               | -20oC to +70oC                 |                   |

### Order Information

| Fiber Count | Type   | Part Number  | Fiber Count | Type  | Part Number  |
|-------------|--------|--------------|-------------|-------|--------------|
| 12 Fibers   | 12-2   | DB9012-06LWT | 24 Fibers   | 24-2  | DB9024-12LWT |
| 24 Fibers   | 24-4   | DB9024-06LWT | 48 Fibers   | 48-4  | DB9048-12LWT |
| 24 Fibers   | 24-6   | DB9024-04LWT | 48 Fibers   | 48-6  | DB9048-08LWT |
| 48 Fibers   | 48-12  | DB9048-04LWT | 96 Fibers   | 96-12 | DB9096-08LWT |
| 144 Fibers  | 144-12 | DB9144-12LWT | ---         |       |              |

\*Annotation: 1.Jacket's material is FR-PE (white).  
2.Fiber grade is suitable for assigned.

## IFC (Inter Facility Connective) Optical Cables



### Features

- \* The concept to clean out the patch cord cables between facilities (patch panel boxes) and to save space and to simplify cabling.
- \* Congregate 6 or 12 colored fibers at one bundle tube and spread out at both side to terminate.
- \* High strength with peripheral dielectric strength member (Kevlar) to provide sufficient tensile strength.
- \* All dry cord can be easily terminated without chemically clean task.
- \* All dielectric structure free of EMI & Thunder and Lighting.

### Applications

- \* Telecommunications.
- \* Data Communications.
- \* Gigabit Ethernet.
- \* Optical Access Network.
- \* SM & MM fiber complied with ITU-T standard G652D, G655, G657A, G651...etc.
- \* Manufactured and tested by industrial standards which comply with TELECORDIA GR-326-CORE / GR-409-CORE, IEC 60332-1/ IEC 1034/ IEC 745-1s.

### Fiber Specification

| Singlemode                  |                 | Multimode     |               |                    |
|-----------------------------|-----------------|---------------|---------------|--------------------|
| Fiber Type (μm)             | 9/125           | 50/125        | 62.5/125      | OM3-10Gigabit-300M |
| Core Diameter (μm)          | 8.3             | 50±3          | 62.5±3        | 50±3               |
| Mode Field Diameter (μm)    | 9.2±0.4@1310nm  | ---           | ---           | ---                |
|                             | 10.4±0.5@1550nm |               |               |                    |
| Cladding Diameter (μm)      | 125±1           | 125±2         | 125±2         | 125±2              |
| Coating Diameter (μm)       | 245±15          | 245±15        | 245±15        | 245±15             |
| Coloring Diameters (μm)     | 250±15          | 250±15        | 250±15        | 250±15             |
| Core Clad Concentricity(μm) | ≤0.5            | ≤3.0          | ≤3.0          | ≤3.0               |
| Cladding Non-Circularity(%) | ≤1.0            | ≤2.0          | ≤2.0          | ≤2.0               |
| Cable Cutoff Wavelength     | ≤1260nm         | ---           | ---           | ---                |
| Numerical Aperture          | 0.13            | 0.200 ± 0.015 | 0.275 ± 0.015 | 0.200 ± 0.015      |
| Tensile proof test (Kpsi)   | 100             | 100           | 100           | 100                |

## IFC (Inter Facility Connective) Optical Cables

### Description

These cables are composed one or two bundle tube with 12 colored fibers (sequence refer to below table) surrounded by Kevlar then encased with PVC or LSZH jacket, both side can spread out to connect connectors. The mode type and grade of fiber are suitable to be assigned.

### Fiber Coloring Sequence

| 1    | 2      | 3     | 4   | 5      | 6     | 7     | 8     | 9    | 10     | 11   | 12    |
|------|--------|-------|-----|--------|-------|-------|-------|------|--------|------|-------|
| Blue | Yellow | Green | Red | Violet | White | Brown | Black | Aqua | Orange | Pink | Slate |

### Cable Specification

| Fiber Count                  | Bundle Tube Count | Bundle Tube Diameter , mm | Cable Sheath Thickness, mm | Main Cable Diameter , mm | Cable Nominal Weight, kg/km |
|------------------------------|-------------------|---------------------------|----------------------------|--------------------------|-----------------------------|
| 6 Fibers                     | 1                 | 1.5 ± 0.1                 | ≥ 0.5                      | 3.0 ± 0.2                | 8                           |
| 12 Fibers                    | 1                 | 1.5 ± 0.1                 | ≥ 0.5                      | 3.0 ± 0.2                | 8                           |
| 24 Fibers                    | 2                 | 1.5 ± 0.1                 | ≥ 0.5                      | 7.2±0.4 * 4.1±0.4        | 27                          |
| Fiber Type                   |                   | 9/125                     | 50/125                     | 62.5/125                 | OM3-10Gigabit-300M          |
| Attenuation typical (nm)     |                   | 1310/1550                 | 850/1300                   | 850/1300                 | 850/1300                    |
| Maximum Attenuation (dB/km)  |                   | 0.4/0.35                  | 3.5/1.5                    | 3.5/1.5                  | 3.5/1.5                     |
| Typical Attenuation (dB/km)  |                   | 0.4/0.3                   | 3.0/1.0                    | 3.0/1.0                  | 3.0/1.0                     |
| Minimum Bandwidth (MHz · km) |                   | N/A                       | 500/500                    | 160/500                  | 1500/500                    |

### Mechanical Properties

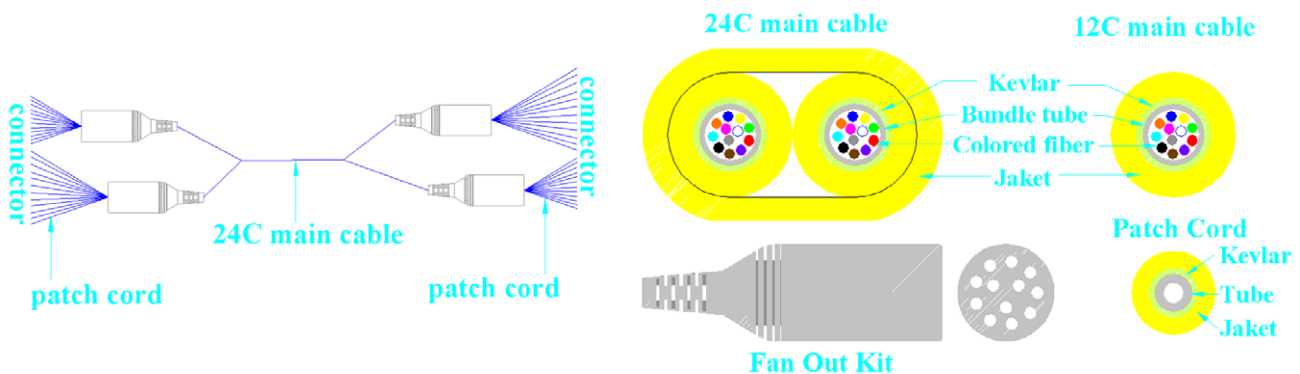
|                                     |                                         | Standard          |
|-------------------------------------|-----------------------------------------|-------------------|
| Maximum Tensile Load - Loaded (N)   | 250 N                                   | IEC 60794-1-2 E1  |
| Maximum Tensile Load - Unloaded (N) | 120 N                                   |                   |
| Min. bend radius installed (mm)     | 10 x cable O.D.                         | IEC 60794-1-2 E11 |
| Min. bend radius long term (mm)     | 15 x cable O.D.                         |                   |
| Storage Temperature                 | -40 to +85oC(PVC) / -20 to +70oC (LSZH) | IEC 60794-1-2 F1  |
| Operating Temperature               | -40 to +85oC(PVC) / -20 to +70oC (LSZH) |                   |

### Order Information

| Fiber Count | 9/125          | 50/125         | 62.5/125       | OM3-10G-300M   |
|-------------|----------------|----------------|----------------|----------------|
| 6 Fibers    | DB9006-01 ■ YW | DB5006-01 ■ OR | DB6006-01 ■ OR | DB4006-01 ■ AQ |
| 12 Fibers   | DB9012-01 ■ YW | DB5012-01 ■ OR | DB6012-01 ■ OR | DB4012-01 ■ AQ |
| 24 Fibers   | FB9024-02 ■ YW | FB5024-02 ■ OR | FB6024-02 ■ OR | FB4024-02 ■ AQ |

- \*Annotation: 1. “ ■ ” indicates jacket's material : C-- PVC, L—LSZH.  
 2. Single mode fiber's grade is suitable for assigned.  
 3. Jacket's color : SM – yellow , MM – orange , OM3 – aqua

## Fixed / Variable - Length IFC (Inter Facility Connective) Optical Cables



### Features

- \* The concept to clean out the patch cord cables between facilities (patch panel boxes) and to save space and to simplify cabling.
- \* Congregate 6 to 24 patch cord cables at one main cable and spread out at both side to clean out the cabling arrangement.
- \* Fix main cable and patch cord cable in fan out kit with high strength member (Kevlar) to provide sufficient tensile strength.
- \* The length of each patch cord cable is suitable to be fixed or variable.
- \* The connector's type of patch cord cable is suitable to assign.

### Applications

- \* Telecommunications.
- \* Data Communications.
- \* Gigabit Ethernet.
- \* Optical Access Network.
- \* SM & MM fiber complied with ITU-T standard G652D, G655, G657A, G651...etc.
- \* Manufactured and tested by industrial standards which comply with TELECORDIA GR-326-CORE / GR-409-CORE, IEC 60332-1/ IEC 1034/ IEC 745-1s.

### Fiber Specification

| Singlemode                  |                 | Multimode     |               |                    |
|-----------------------------|-----------------|---------------|---------------|--------------------|
| Fiber Type (μm)             | 9/125           | 50/125        | 62.5/125      | OM3-10Gigabit-300M |
| Core Diameter (μm)          | 8.3             | 50±3          | 62.5±3        | 50±3               |
| Mode Field Diameter (μm)    | 9.2±0.4@1310nm  | ---           | ---           | ---                |
|                             | 10.4±0.5@1550nm |               |               |                    |
| Cladding Diameter (μm)      | 125±1           | 125±2         | 125±2         | 125±2              |
| Coating Diameter (μm)       | 245±15          | 245±15        | 245±15        | 245±15             |
| Coloring Diameters (μm)     | 250±15          | 250±15        | 250±15        | 250±15             |
| Core Clad Concentricity(μm) | ≤0.5            | ≤3.0          | ≤3.0          | ≤3.0               |
| Cladding Non-Circularity(%) | ≤1.0            | ≤2.0          | ≤2.0          | ≤2.0               |
| Cable Cutoff Wavelength     | ≤1260nm         | ---           | ---           | ---                |
| Numerical Aperture          | 0.13            | 0.200 ± 0.015 | 0.275 ± 0.015 | 0.200 ± 0.015      |
| Tensile proof test (Kpsi)   | 100             | 100           | 100           | 100                |



## Fixed / Variable - Length IFC (Inter Facility Connective) Optical Cables

### Description

These cables are composed a bundle tube with 6 or 12 colored fibers (sequence refer to below table) surrounded by Kevlar then encased with PVC or LSZH jacket, both side compose one or two fan out kit to spread out to connect connectors. The length of patch cord cable is suitable to be fixed or variable.

### Fiber Coloring Sequence

| 1    | 2      | 3     | 4   | 5      | 6     | 7     | 8     | 9    | 10     | 11   | 12    |
|------|--------|-------|-----|--------|-------|-------|-------|------|--------|------|-------|
| Blue | Yellow | Green | Red | Violet | White | Brown | Black | Aqua | Orange | Pink | Slate |

### Cable Specification

| Fiber Count | Fan Out Kit dimension ,mm  | Main Cable Diameter , mm    | Bundle Tube Diameter , mm | Patch Cord Diameter , mm | Patch Cord Tube Inner Diameter , mm |
|-------------|----------------------------|-----------------------------|---------------------------|--------------------------|-------------------------------------|
| 6 Fibers    | $\leq \Phi 15.5 \times 55$ | $3.0 \pm 0.2$               | $1.5 \pm 0.1$             | $2.0 \pm 0.1$            | 0.48 ~ 0.55                         |
| 12 Fibers   | $\leq \Phi 15.5 \times 55$ | $3.0 \pm 0.2$               | $1.5 \pm 0.1$             | $2.0 \pm 0.1$            | 0.48 ~ 0.55                         |
| 24 Fibers   | $\leq \Phi 15.5 \times 55$ | $7.2 \pm 0.4 * 4.1 \pm 0.4$ | $1.5 \pm 0.1$             | $2.0 \pm 0.1$            | 0.48 ~ 0.55                         |

| Fiber Type                   | 9/125     | 50/125   | 62.5/125 | OM3-10Gigabit-300M |
|------------------------------|-----------|----------|----------|--------------------|
| Attenuation typical (nm)     | 1310/1550 | 850/1300 | 850/1300 | 850/1300           |
| Maximum Attenuation (dB/km)  | 0.4/0.35  | 3.5/1.5  | 3.5/1.5  | 3.5/1.5            |
| Typical Attenuation (dB/km)  | 0.4/0.3   | 3.0/1.0  | 3.0/1.0  | 3.0/1.0            |
| Minimum Bandwidth (MHz · km) | N/A       | 500/500  | 160/500  | 1500/500           |

| Fiber Type          | SM                            | MM      |       |
|---------------------|-------------------------------|---------|-------|
| Connector Type      | SC , LC                       | SC , LC | MPO   |
| Insertion Loss (dB) | < 0.3                         | < 0.3   | < 0.3 |
| Return Loss (dB)    | UPC $\geq 50$ , APC $\geq 60$ | ---     |       |

### Mechanical Properties

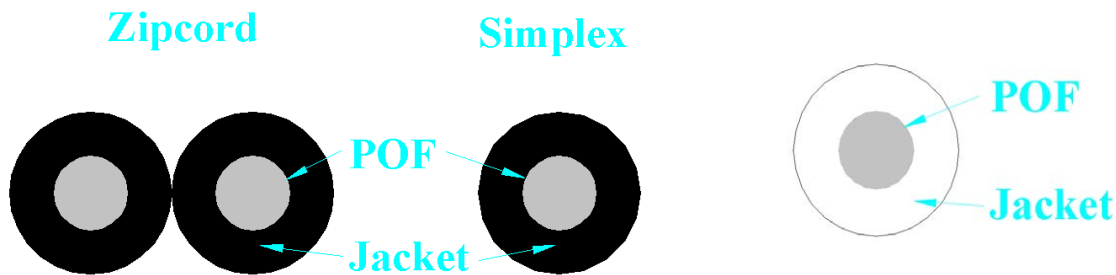
|                                     |                                          | Standard          |
|-------------------------------------|------------------------------------------|-------------------|
| Maximum Tensile Load - Loaded (N)   | 45N(at connector) / 200N(at fan out kit) | IEC 60794-1-2 E1  |
| Maximum Tensile Load - Unloaded (N) | 30N(at connector) / 100N(at fan out kit) |                   |
| Min. bend radius installed (mm)     | 10 x cable O.D.                          | IEC 60794-1-2 E11 |
| Min. bend radius long term (mm)     | 15 x cable O.D.                          |                   |
| Storage Temperature                 | -40 to +85oC(PVC) / -20 to +70oC (LSZH)  | IEC 60794-1-2 F1  |
| Operating Temperature               | -40 to +85oC(PVC) / -20 to +70oC (LSZH)  |                   |

### Order Information

|           | SM                                                                                                                                                                                                                                                                                                                                                              | MM                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6 Fibers  | BTF06   /  xxxx  YW | BTF06   /  xxxx  OR(AQ) |
| 12 Fibers | BTF12   /  xxxx  YW | BTF12   /  xxxx  OR(AQ) |
| 24 Fibers | BTF24   /  xxxx  YW | BTF24   /  xxxx  OR(AQ) |

- \*Annotation: 1. “ ” indicates fiber type: 1-- SM all wave, 2-- SM non zero dispersion shifted, 3-- OM3-300M , 5-- 50/125 , 6-- 62.5/125.  
2. “ ” / “ ” indicates connector type: SC-- SC/UPC, SA-- SC/APC, LC-- LC/UPC, LA-- LC/APC,MPO  
3. “xxxx” indicates total assembling cable length. Total assembling length and the division length of main cable and patch cord are assignable.  
4. “ ” indicates jacket's material: C-- PVC, L-- FR-LSZH.  
5. Jacket's color: SM-- Yellow, 50/125 & 62.5/125-- Orange, OM3-- Aqua.

## Φ 2.2 mm Plastic Optical Fiber Cables



### Features

- \* Superior durability and flexibility.
- \* Ease of handling, connection and safe.
- \* Low cost and high bandwidth.
- \* Free of electric magnetic interference (EMI) problem.

### Applications

- \* Data communications.
- \* Light Guide.
- \* Optical sensor (Optical switch or temperature, pressure and chemicals sensor).
- \* Image Transmission.
- \* Electric appliances.

### Fiber Specification

|                        |                                |
|------------------------|--------------------------------|
| Core Material          | Polymethyl Methacrylate (PMMA) |
| Cladding Material      | Fluorinated Polymer            |
| Core Diameter (μm)     | 980                            |
| Cladding Diameter (μm) | 1000                           |

### Optical Properties

|                          |            |
|--------------------------|------------|
| Index Profile            | Step Index |
| Numerical Aperture (NA)  | 0.50       |
| Acceptance Angle, degree | 60         |
| Attenuation, dB/m@650nm  | Under 0.20 |

### Cable Specification

| Type         | Cable Outside Diameter, mm | Jacket's Material    |
|--------------|----------------------------|----------------------|
| Simplex (1C) | 2.2 ± 0.07                 | PE / transparent PVC |
| Zipcord (2C) | 2.2 ± 0.07 x 4.5           | PE                   |

### Order Information

| Part Number       |
|-------------------|
| P322EBK / P322CTR |
| ZP322EBK          |

### Mechanical Properties

|                                                    |                 |
|----------------------------------------------------|-----------------|
| Maximum Transversal Pressure - Operation (N/cm)    | 6               |
| Maximum Transversal Pressure - Installation (N/cm) | 40              |
| Min. Allowable Bending Radius - Operation (mm)     | 25              |
| Min. Allowable Bending Radius - Installation (mm)  | 10              |
| Storage Temperature                                | -20°C to + 70°C |
| Operating Temperature                              | -20°C to + 70°C |

## Fiber Optical PatchCord and Pigtail

### Applications

- \* Telecommunications
- \* Data Communications
- \* Gigabit Ethernet
- \* Audio / Video Transmission
- \* Optical Access Network

### Features

- \* FC/SC/ST/LC/MTRJ Connector
- \* Low Insertion loss
- \* High Return loss of >45dB
- \* Operating temperature -40 to +75°C
- \* All assemblies are 100% tested for optical properties
- \* Standard length in 1m, 2m, 3m, 5m, 10m
- \* Singlemode (Yellow Jacketed ), Multimode ( Orange Jacketed )



### Specifications

| Fiber Type            | Singlemode     |        |  | Multimode      |         |
|-----------------------|----------------|--------|--|----------------|---------|
| Connector Type        | FC, SC, ST, LC |        |  | FC, SC, ST, LC | MTRJ    |
| Insertion Loss        | < 0.3dB        |        |  | < 0.3dB        | < 0.5dB |
| Return Loss           | PC             | ≥ 45dB |  |                |         |
|                       | UPC            | ≥ 50dB |  |                |         |
|                       | APC            | ≥ 60dB |  |                |         |
| Operating Temperature | -40 ~ +75°C    |        |  |                |         |

### Order Information

FP    -   /   -

#### Cable Type

- 1= 0.9mm Fiber
- 2= 2.0mm Simplex Cable
- 4= 2.9mm Simplex Cable
- 5= 2.0mm Zipcord Cable
- 7= 2.9mm Zipcord Cable

#### Fiber Type

- 9= 9/125 Singlemode Fiber
- 5= 50/125 Multimode Fiber
- 6= 62.5/125 Multimode Fiber
- 3= OM3 Fiber

#### Cable Material

- C=PVC
- L= LSZH

#### Connector Type

- FC=FC/PC
- FS= FC/SPC
- FU=FC/UPC
- FA=FC/APC
- SC=SC
- SA=SC/APC
- ST=ST
- LC=LC
- MU=MU
- RJ=MTRJ
- NN=None

#### Cable Length

- 0010= 1 meter
- 0020= 2 meter
- 0030= 3 meter
- 0050= 5 meter
- 0100= 10 meter

## Round-Duplex Fiber Optical Jumper Patchcord



### Features

- \* Unice's Round-Duplex Fiber Optical Jumper Patchcord are reliable devices featuring low insertion loss and return loss.
- \* The round shape with dual fibers can save space and simplify cabling.
- \* Fix main cable and LC connector with fan out kit to provide sufficient tensile strength.
- \* The fiber type and fiber grade and the length of cable are suitable to assign

### Applications

- \* Telecommunications.
- \* Data Communications.
- \* Gigabit Ethernet.
- \* Optical Access Network.
- \* SM & MM fiber complied with ITU-T standard G652D, G655, G657A, G651...etc.
- \* Manufactured and tested by industrial standards which comply with TELECORDIA GR-326-CORE / GR-409-CORE, IEC 60332-1/ IEC 1034/ IEC 745-1s

### Specification

| Fiber type             | Single mode                                                    |        |                       | Multi mode            |
|------------------------|----------------------------------------------------------------|--------|-----------------------|-----------------------|
| Connector type         | LC                                                             |        |                       | LC                    |
| Insertion loss         | < 0.3 dB                                                       |        |                       | < 0.3 dB              |
| Return loss            | PC                                                             | ≥ 45dB | Housing Color : Blue  | Housing Color : Beige |
|                        | UPC                                                            | ≥ 50dB | Housing Color : Blue  |                       |
|                        | APC                                                            | ≥ 60dB | Housing Color : Green |                       |
| Cable Outside Diameter | 3.0 mm                                                         |        |                       |                       |
| Operating Temperature  | - 40 to + 80oC ( PVC Jacket ) / - 20 to + 75oC ( LSZH Jacket ) |        |                       |                       |

### Order Information

| SM                                                                                                                                                                | MM                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FP8 <span style="color: yellow;">■</span> <span style="color: red;">■</span> <span style="color: magenta;">■</span> <span style="color: cyan;">■</span> -L/L-xxxx | FP8 <span style="color: yellow;">■</span> <span style="color: red;">■</span> <span style="color: magenta;">■</span> <span style="color: cyan;">■</span> -LC/LC-xxxx |

1. " ■ " indicates fiber type: 9--SM , A--SM G657A , 3--OM3-150M , 4--OM3-300M , 5--50/125 , 6--62.5/125.
2. " ■ " indicates jacket's material: C -- PVC, L -- LSZH.
3. " ■ " indicates single-mode connector type: C – PC & UPC , A – APC.
4. "xxxx" indicates total assembling cable length. For example : 0050 indicate 5 meter.
5. Cable jacket color: SM -- Yellow, 50/125 & 62.5/125 -- Orange, OM3 -- Aqua.

These specifications are subject to change without prior notification.



## Most Optical Cable



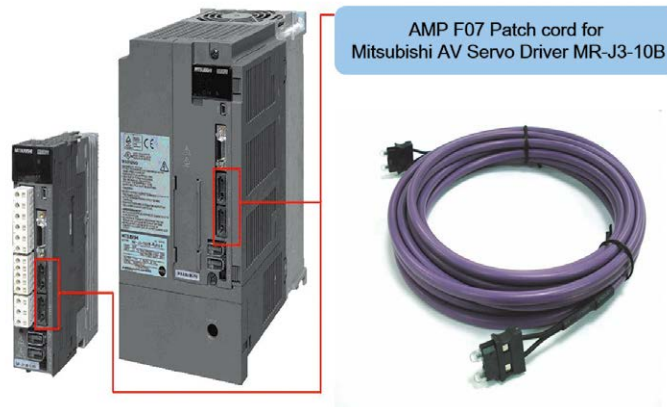
### Applications

- \* Data Communications
  - inside-building network
  - universal transceiver links
  - mobile computing
- \* Optical Sensor
  - optical fiber switches
  - temperature, pressure & chemicals
- \* Electric Appliances
- \* MOST car network system
- \* MOST25, MOST50, MOST150 transmission rates
- \* Universal transmission links inside the car

The connector for automobile transmission system by using the MOST POF cable assembly for car networking.

| Cable Specification         | Simplex                                |                     |
|-----------------------------|----------------------------------------|---------------------|
|                             | Materials                              | Outer Diameter      |
| Core                        | Polymethyl Methacrylate (PMMA)         | $0.98 \pm 0.045$ mm |
| Cladding                    | Fluorinated Polymer                    | $1.0 \pm 0.045$ mm  |
| Inner Buffer                | Black Polyamide                        | $1.5 \pm 0.06$ mm   |
| Outer Jacket                | Orange-Color Flame-Retardant Polyamide | $2.3 \pm 0.07$ mm   |
| Index Profile               | Step Index                             |                     |
| Numerical Aperture (N.A.)   | 0.46                                   |                     |
| Acceptance Angle, degree    | 55                                     |                     |
| Attenuation, dB/m @665nm    | Under 0.25                             |                     |
| Available Temperature Range | $-40 \sim +85$ °C                      |                     |
| Nominal Weight              | 4.0 kg/km                              |                     |
|                             | Operation                              | Installation        |
| Maximum Tensile Load        | 10 N                                   | 60 N                |
| Minimum Bending Radius      | 35 mm                                  | 23 mm               |

## Automation Communication – AMP F07 POF Patchcord



### Applications

- \* Mitsubishi servo control bus fiber links
- \* High speed patching and switching systems
- \* CNC automation control bus fiber links

### Cable Specification

| Mechanical Properties        | Duplex                  |                 |
|------------------------------|-------------------------|-----------------|
|                              | Material                | Diameter(mm)    |
| Core                         | Polymethyl Methacrylate | 0.98 ± 0.045 mm |
| Cladding                     | Fluorinated Polymer     | 1.0 ± 0.06 mm   |
| Inner Jacket                 | Black PE                | 2.2 ± 0.07 mm   |
| Outer Sheath                 | PVC                     | 6.3 ± 0.3 mm    |
|                              | Temperature Rating °    | 105°C           |
|                              | Sheath Color            | Violet or Gray  |
| Fiber Coun                   | 2                       |                 |
| Part Number                  | RDP062CVT               |                 |
| Index Profile                | Step Index              |                 |
| Numerical Aperture (N. A.)   | 0.50                    |                 |
| Acceptance Angle, degree     | 60                      |                 |
| Attenuation , dB/m @650nm    | Under 0.23              |                 |
| Allowable Bending Radius(mm) | Min. 100                |                 |
| Available Temperature Range  | -30~+70°C               |                 |
| Compliance Directive         | European RoHS           |                 |