### "We create better life with Light."

| creation | GOC pursues satisfaction of customers with value of            |
|----------|--|
| respect. | and keeps challenging with spirit relying on human             |
| We manu  | facture indoor & outdoor optical fiber cable of IT industries. |
| future.  | We endeavor to develop technology to be competitive in the     |
|          |  |

We promise to be the best partner at the fiber optical business field.

### OOPPTTIICCAALL FFIIBBEERR CCAABBLLEESS CCOONN TTEENNT

### 5. Eurcation Tube

6.Tight and ered Fiber 07 Optical Cord Cable 08 4C Zip Cord

### Indoor Outdoor Cable

- 10 Ribbon Cord Cable
- 11 Ribbon Cord Cable (Double Jacket)
- 12 Distribution Optical Cable
- 13 Distribution Cable
- 14 Fig-8 Distribution Cable
- 15 Distribution Cable (Duct Type)
- 16 Armored Distribution Cable (Aerial Type)
- 17 Breakout Cable

### Loose Tube

- 1 Cable (SJSA)
- 19 Duct Loose Tube Cable (Non-metallic)
- 20 Flame Retardant Duct Loose Tube Cable
- 21 ADSS Cable (Single Jacket)
- 22 ADSS Cable (Double Jacket)
- 23 Anti-Rodent ADSS Cable
- 24 Fig-8 Loose Tube Cable (Non-metallic)
- 25 Aerial Loose Tube Cable
- 26 Distribution Loose tube Cable (Fig-8 Type)
- 27 Distribution Loose tube Cable (Duct Type)
- 28 Direct Buried Loose Tube Cable
- 29 Central Loose Tube Cable
- 30 Flat Central Loose Tube Cable
- 31 Armored Central Loose Tube Cable
- 32 PIMC Micro-duct Tube
- 33 PIMC (Pulling Installation Micro Duct Loose Cable)

### Micro Sheath

- 3Cabby Core Micro Sheath Cable
- 35 Micro Sheath Cable (Distribution Type)
- 36 Micro Sheath Cable (Breakout Type)
- <sup>37</sup>Special<sup>8</sup> Micro Sheath Cable
- 3 Cable Iclear RR Indoor Fiber Optic
- 39 Nuclear RR Loose Fiber Optic Cable
- 40 Steel Armored Optical Cable

- 41 Steel Armored Cable (Double Sheath)
- 42 Steel Armored Duplex Cord
- 43 Dry Core Optical Cable
- 44 Specialty Optical Patch Cord
- 45 Military Tactical Optical Cable
- 46 Emergency Repairing Optical Cable
- 47 Hybrid Cable
- 48 Hybrid Cable (3C Copper + 4C Optical Fiber)
- 49 Hybrid Cable 1 RRU
- 50 Hybrid Cable 3 RRU
- 51 Hybrid POF Fig-8 Type Distribution

### **Sahte**TH Optical (

- 52abie TH Optical Cable (Buffer Type)53 FTTX Drop Cable (Fiber Type)
- 54 FTTX Distribution Cable (Double Sheath)
- 55 FTTH Indoor Drop Cable (Rectangle Type)
- 56 FTTH Outdoor Drop Cable (Rectangle Type)
- 57 Fig-8 Type Optical Cable
- 58 Air Blown Fiber
- 59 ABMC (Air Blown Micro Cable)
- 63 FITA Fig-8 Mini Distribution
- 64 Cable Fiber Type Mini Drop
- 65 Cable
  - FTTx Pre-Connectorized Patch

### Optical PLC

### Solitter-Out Type PLC Splitter 1(2) X N

- 68 48, 49 Integrated Type PLC Splitter 1
- 69 X N
  - Box Type PLC Splitter 1(2) X N

### Accessor

- **y**<sub>0</sub> Field Installable
- 71 Connector Fiber Optic
- 72 Patch Cord Access
- 73 Terminal Box
- 74 Aerial TYPE Joint closure(Ventilation
- 75 type) Aerial Type Fiber Optic
- 76 Terminal Box
- 77 Pole Type Fiber Optic Distribution
- 78 Box Optical Distribution Cabinet
- 79 (ODC) Fiber Optic Cable Clamp
- 80 S-Type Fastener C-Type Wire Retractor Optical Connector Plier
- 82 Optical Connector Plier

**4** <sup>+</sup> GOC Co., Ltd.

### FURCATION TUBE



### FEATURES

- Accurate inner & outer diameters
- Easy insertion of optical fiber or buffer
- Use of standard colors(Easy color
- identification)
- Operating Temperanture Range:0~60°C

### DESCRIPTION

- Furcation tube is used for protection of optical fiber or tight buffered fiber.
- Coating considering the easy insertion of fiber core & flexibility for convenience of handling.
- The Tube is manufactured using Aramid Yarn for Fan Out Tubing, offering two types with Simplex Fan Out Tubing & Duplex Fan Out Tubing, to enhance the Tensile Load and protect the optical fiber.
- Consisting of two simplex Sub-units for Duplex Fan Out Tubing enabling the insertion of 0.9mm tight buffers respectively.



### **APPLICATIONS**

- Connection to Single mode or Multimode optical fiber
- Connection between equipments
- Separation of optical fiber & tight buffer joints
- Medical devices

| Ite                       | m                     |                  | :          | Simple   | x Fan  | Out Tube                                       | Duplex Fan Out Tubinf                   |
|---------------------------|-----------------------|------------------|------------|----------|--------|--|---|
| Outer/Inne<br>of Tubir    | r Diameter<br>ng(mm)  |                  | 0.5        | /0.9     |        | 1.2/1.6  |   |
| Outer D<br>of Fan Out     | iameter<br>Tubing(mm) | 0.9              | 2.0        | 2.4      | 2.8    | 2.0  |   |
| Weight                    | (kg/km)               | 0.8              | 3.6        | 5.3      | 6.6    | 8.0  |   |
| Max.                      | Installation          | -                | 20         | 40       | 40     | 10   |   |
| Tensile<br>Load(kg-f)     | Operation             | -                | 10         | 20       | 20     | 20   |   |
| Min.                      | Installation          | 18               | 40         | 48       | 60     | 60   |   |
| Bending<br>Radius(mm<br>) | Operation             | 9                | 9 20 24 30 |          | 30     |  |   |
| Application               |                       | Protect<br>fiber | tion of 2  | 250 μm o | ptical | protection of 600&900<br>µm tight buffer fiber | Protection of 250 $\mu$ m optical fiber |
| Color                     |                       |                  |            |          | Yellow | Yellow or Orange Color                         |   |

### CHARACTERISTICS

Indoor Cord & Cable +

## 600/900<sup>µm</sup> DIAMETER TIGHT



### **FEATURES**

Single-mode or Multimode optical fiber cable used

Able to use 24 colors - 12 colors

 Small & compact size with excernine Marking flexibility

- ► Ease of use, Protecting optical fiber
- ► Operating Temperature Range : 0~60°C

### DESCRIPTION

- GOT Co.Ltd's Tight Buffered Fiber Cable product has been widely used in overall optical fiber communication industry for optical module cabling work between transceiver and pigtails of Laser/LED.
- The product has been diversely utilized for those applications of outdoor cable termination devices or subscriber's networking purpose, as well as the primary fundamental materials in manufacturing of indoor cables.



Tight Buffer

#### **APPLICATIONS**

- ► For Indoor cabling
- Used in pigtail
- ► Used in Passive/active devices

### CHARACTERISTICS

| Outer Diameter(µm) | Weight(kg/km) |
|--------------------|---------------|
| 600                | 0.4           |
| 900                | 0.9           |

### OPTICAL ATTENUATION

| Туре           | Type/Wavelength(nm)  |                        |                              | 1300               | 1310             | 1383    | 1550  | 1625  |
|----------------|----------------------|------------------------|------------------------------|--------------------|------------------|---------|-------|-------|
| Atenuatio      | Single<br>e<br>(9/12 | -Mod<br>25 <i>µ</i> m) | -                            | -                  | ≤0.40            | ≤1310nm | ≤0.30 | ≤0.35 |
| n<br>(dB/km)   | (dB/km)              | 50.0/125               | ≤3.00                        | ≤1.00              | -                | -       | -     | -     |
| #Above cable c | construction & fea   | ature may be few       | ised <del>€3</del> 150t prio | or notice to mpler | ment thē quality | -       | -     | -     |

### OPTICAL CORD CABLE



### **FEATURES**

- Single-mode or Multimode optical fiber used
- Compact & highly flexible
- ► Easy peeling for enabling (Guaranteed long life cycle)
- ► Marten with Aramid impact resistance
- ► Operating themperature range : -20~70°C

### DESCRIPTION

- Simplex and Duplex Cables are of stable construction coated around the outside of Tight Buffer Fiber one more time with resin in order to maintain the outstanding mechanical, environmental & transmission characteristics for indoor installation.
- The product is manufactured with the Aramid Yarn nserted to enhance the Tensile Load and protect the optical fiber.
- Particularly, the coating can be conveniently removed without using any special equipments or tools in the event of indoor installation.





**GO**O

Indoor Cable

. Cord

Ø

#### APPLICATIONS

- Indoor or outdoor duct cabling
- Indoor cable network (FTTH)
- Horizontal cabling inside building
- ► LAN cabling
- Connection of pigtail & optical fiber cable connector

| CHARACTER | ISTICS                 |                           |                   |                               |                             | D: Outor                  |
|-----------|------------------------|---------------------------|-------------------|-------------------------------|-----------------------------|---------------------------|
| Item      | No.o<br>f<br>Core<br>s | Outer<br>Diameter<br>(mm) | Weight<br>(kg/km) | Max.Tensil<br>e<br>Load(kg-f) | Min.Bendin(<br>Installation | g Radius(mm)<br>Operation |
|           |                        | 1.6                       | 2.9               | 10                            |                             |                           |
|           |                        | 1.8                       | 3.3               | 15                            |                             |                           |
| Simplex   | 1                      | 2.0                       | 3.7               | 15                            |                             |                           |
|           |                        | 2.4                       | 4.7               | 25                            |                             |                           |
|           |                        | 3.0                       | 6.7               | 30                            |                             |                           |
|           |                        | 1.6X3.2                   | 5.8               | 20                            | Dx20                        | Dx10                      |
|           |                        | 1.8X3.6                   | 6.6               | 30                            |                             |                           |
| Duplex    | 2                      | 2.0X4.0                   | 7.4               | 30                            |                             |                           |
|           |                        | 2.4X4.8                   | 9.4               | 50                            |                             |                           |
|           |                        | 3.0X6.0                   | 13.4              | 60                            |                             |                           |

### OPTICAL ATTENUATION

| Type/Wavelength(nm) |                         | 850        | 1300  | 1310  | 1383  | 1550    | 1625  |       |
|---------------------|-------------------------|------------|-------|-------|-------|---------|-------|-------|
|                     | single-Mo               | de (9/125) |       |       | ≤0.40 | ≤1310nm | ≤0.30 | ≤0.35 |
| Attenuatio          | Tenuatio<br>N Multimode | 50.0/125   | ≤3.00 | ≤1.00 |       |         |       |       |
| (dB/km)             | Multimode               | 62.5/125   | ≤3.50 | ≤1.50 |       |         |       |       |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.

Indoor Cord & Cable +

7

### • • • OPTICAL FIBER CABLES

### 4C ZIP CORD



### FEATURES

- Single-mode or Multimode optical fiber used
   Ease of handling with flexibility and light weight
- Ease of connection or core separation
- ► Operating Temperature Range : -20~70°C

#### DESCRIPTION

- 4C Zip Cable is an optical fiber cable designed with 4 cores using Single mode and multimode optical fiber for the application of connection between the equipments.
- Mutual signal communication between the telecommunication equipments available, inserting Aramid Yarn for enhancement of Tensile Load and protection of optical fiber, provided with outstanding mechanical & environmental characteristics.



Tight Buffered Fiber Aramid yarn Outer Jacket

### **APPLICATIONS**

- Connection of indoor systems
- Patch code of optical fiber cable distribution box
- Super high speed distribution network(FTTx)
- Housing Distribution Network

| CHARACTERIS | TICS                           |               |               |                        |           |  |
|-------------|--------------------------------|---------------|---------------|------------------------|-----------|--|
|             |                                | _             |               |                        | D: Outer  |  |
| No of Cores | Outer                          | Weight(kg/km) | Max.TensileLo | Min.Bending Radius(mm) |           |  |
|             | Diameter<br>(Height×Width<br>) |               | ad (kg·f)     | Installation           | Operation |  |
|             | 2.0×8.4                        | 14.8          | 60            |                        |           |  |
| 4           | 2.4×10                         | 18.8          | 100           | Dx20                   | Dx10      |  |
|             | 2.9×12                         | 26.8          | 120           |                        |           |  |
|             |                                |               |               |                        |           |  |

| CAL |        | C. In all   |  |
|-----|--------|-------------|--|
|     | - NI I |             |  |
|     |        | <b>7</b> 11 |  |

| Тур             | e/Wavelengtl | h(nm)    | 850   | 1300  | 1310  | 1383    | 1550  | 1625  |
|-----------------|--------------|----------|-------|-------|-------|---------|-------|-------|
|                 | single-Mo    |          |       |       | ≤0.40 | ≤1310nm | ≤0.30 | ≤0.35 |
| Attenuatio<br>n | Multimode    | 50.0/125 | ≤3.00 | ≤1.00 |       |         |       |       |
| (dB/km)         | dB/km)       | 62.5/125 | ≤3.50 | ≤1.50 |       |         |       |       |

### FLAT CABLE



#### FEATURES & APPLICATIONS

- Compatible with all standard fiber optic connectors designed for small form-factor simplex and duplex connecters such as MT-RJ and LC connecters
- High performance tight-buffered coating on each optical fiber for environmental and mechanical protection
- Custom jacket colors are available to match connectors

### DESCRIPTION

- Resilient and flexible for jumpers, patch cords, and pigtails
- Suitable for general-purpose indoor use, such as routing connections in patching systems
- Short "patch cord" ideal for links between electronic equipment and main fiber optic cables



Outer Sheath

#### **OPTICAL SPECIFICATIONS**

- ▶ Single mode @1310nm ≤ 0.40 dB/km @1383nm ≤ 0.36 dB/km @1550nm ≤ 0.30 dB/km @1625nm ≤ 0.35 dB/km
   PMD ≤ 0.2dB(ps/km<sup>1/2</sup>). Cut-off
  - PMD ≤ 0.2dB(ps/km<sup> $\frac{1}{2}$ </sup>), Cut-off wavelength ≤1260nm
  - Multi mode @ 850nm ≤ 3.5 dB/km @1300nm ≤ 1.5 db/km
     50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No.of Core | Outer<br>Diameter | Weight<br>(Net | Max.Tensil | Min.Bending<br>Radius(mm) |              | Temperatur |
|------------|-------------------|----------------|------------|---------------------------|--------------|------------|
|            | (mm)              | kg/km)         | Load(N)    | Installation              | Operation    | Range(°C)  |
| 2F         | 6.6±0.4X3.8±0.3   | 28             | 800        | Cable Dia*15              | Cable Dia*10 | -20~+70    |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.

GOC

Indoor Cord & Cable +

### DISTRIBUTION CABLE<sup>(Duct</sup> Type)



### DESCRIPTION

- Highly flexible & light weight
- Ease of peeling enabling fast connection
- ► Coating material : Flame retardant PVC, PU, LSZH etc.
- ► Operating Temperature Range : -40~70°C



LSZH

#### FEATURES &

- ► Patch cords
- LAN distribution
- Outdoor cable

### **OPTICAL SPECIFICATIONS**

- ▶ Single mode @1310nm ≤ 0.40 dB/km @1383nm ≤ 0.36 dB/km @1550nm ≤ 0.30 dB/km @1625nm ≤ 0.35 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq$ 1260nm
- ► Multi mode @ 850nm ≤ 3.5 dB/km @1300nm ≤ 1.5 db/km 50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### **CHARACTERISTICS**

| No.of Core | Outer   | Weight<br>(Net.<br>kg/km) | Max.Tensil | Min.Bendin<br>Radius(mm | Temperatur   |           |
|------------|---------|---------------------------|------------|-------------------------|--------------|-----------|
|            | (mm)    |                           | Load(N)    | Installation            | Operation    | Range(°C) |
| 2F         | 5.8±0.2 | 40                        | 800        | Cable*15                | Cable Dia*10 | -40~+60   |

e construction & feature may be revised without prior notice to implement the quality improvement.

Indoor Cord & Cable +

GOC

### ARMORED DISTRIBUTION CABLE<sup>(Aerial Type)</sup>



### FEATURES & APPLICATIONS

- Include a layer of fiberglass yarn that provides an effective deterrent to damage caused by small non- burrowing rodents(not recommended for direct burial applications)
- ► FRP is ideal for use in surface installations
- Cables are suitable for use with single, as well as multi channel connectors

### DESCRIPTION

 Used in areas that require a riser rating and are susceptible to damage from small non-burrowing rodents



### OPTICAL SPECIFICATIONS

- ▶ Single mode @1310nm ≤ 0.38 dB/km @1383nm ≤ 0.38 dB/km @1550nm ≤ 0.25 dB/km @1625nm ≤ 0.28 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$
  - Multi mode @ 850nm ≤ 3.0 dB/km
     @1300nm ≤ 1.0 db/km
     50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No.of Core                  | Outer<br>Diameter                     | Weight                     | Max.Tensil                       | Min.Bending<br>Radius(mm | Temperatur   |           |  |
|-----------------------------|---------------------------------------|----------------------------|----------------------------------|--------------------------|--------------|-----------|--|
|                             | (mm)                                  | kg/km)                     | Load(N)                          | Installation             | Operation    | Range(°C) |  |
| 6F                          | 5.8±0.2                               | 125                        | 800                              |                          |              | -40~+70   |  |
| 12F                         | 12.6±0.5                              | 180                        | 1,200                            | Cable*15                 | Cable Dia*10 |           |  |
| 24F<br>#Above cable constru | 20.1±0.5<br>action & feature may be r | 415<br>evised without prio | 1,800<br>r notice to implement t | he quality               |              |           |  |

improvement.

### DUCT LOOSE TUBE CABLE <sup>(SJSA)</sup>



### FEATURES & APPLICATIONS

- Best design for multimode and single-mode fiber hybrid/composite cables
- Design allows to be routed to multiple locations such as wiring racks and closets
- Designed for indoor/outdoor installations, including cable trays
- 12-288 fiber configurations are available with
   6-12 fibers per tube

### DESCRIPTION

- Ideal for installations requiring arrugged and reliable, cable design where maximum mechanical and servironmental protection is
- Typical industrial uses are factory automa
   Typical industrial uses are factory automation, power and other utilities, oil and gas refining, an generation and other utilities, oil and gas refining, and surface mining



### OPTICAL SPECIFICATIONS

- ▶ Single mode @1310nm ≤ 0.36 dB/km @1383nm ≤ 0.35 dB/km @1550nm ≤ 0.22 dB/km @1625nm ≤ 0.25 dB/km
  - $PMD \le 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \le 1260nm$
- Multi mode @ 850nm ≤ 3.0 dB/km
   @1300nm ≤ 1.0 db/km
   50/125μm(OM2, OM3, OM4), 62.5/125μm(OM1)

### CHARACTERISTICS

| No.of Core | Outer    | Weight | Max.Tensil              | Min.Bending<br>Radius(mm | Temperatur   |           |
|------------|----------|--------|-------------------------|--------------------------|--------------|-----------|
|            | (mm)     | kg/km) | Load(N)                 | Installation             | Operation    | Range(°C) |
| 4~24F      | 12.2±0.7 | 150    | 1,500<br>2,000<br>2,500 | Cable Dia*20             | Cable Dia*15 | -40~+70   |
| 36~72F     | 12.5±0.7 | 160    |                         |                          |              |           |
| 96F        | 14.0±0.7 | 190    |                         |                          |              |           |
| 144F       | 16.3±0.7 | 250    |                         |                          |              |           |
| 288F       | 20.3±0.7 | 350    |                         |                          |              |           |

### DUCT LOOSE TUBE CABLE (Non-metallic)



### FEATURES & APPLICATIONS

- Best design for multimode and single-mode fiber hybrid/composite cables
- Design allows multi-fiber sub cables to be routed to multiple location such as wiring racks and closets
- Designed for indoor/outdoor installations, including cable trays
- 12-288 fiber configurations are available with
   6-12 fibers per tube

### DESCRIPTION

- Ideal for installations requiring a rugged and reliable cable design where maximum mechanical and environmental protection is necessary
- Typical industrial uses are factory automation, power generation and other utilities, oil and gas refining, and surface mining



Outer jacker **GOC** 

Loose Cable

Tube

### OPTICAL SPECIFICATIONS

- ▶ Single mode @1310nm ≤ 0.36 dB/km
   @1383nm ≤ 0.35
   dB/km @1550nm ≤
   0.22 dB/km @1625nm
   ≤ 0.25 dB/km
  - PMD ≤ 0.2dB(ps/km<sup>1/2</sup>), Cut-off wavelength ≤ 1260nm
  - Multi mode @ 850nm ≤ 3.5 dB/km
     @1300nm ≤ 1.0 db/km
     50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No.of Core | Outer    | Weight       | Max.Tensil | Min.Bending<br>Radius(mm | Temperatur<br>e<br>Range(°C) |         |
|------------|----------|--------------|------------|--------------------------|------------------------------|---------|
|            | (mm)     | kg/km) Load( |            | Installation             |                              |         |
| 4~24F      | 11.8±0.7 | 95           | 1 500      | Cable Dia*20             | Cable Dia*15                 | -20~+70 |
| 36~72F     | 12.0±0.7 | 110          | 1,500      |                          |                              |         |
| 96F        | 13.7±0.7 | 140          | 2,000      |                          |                              |         |
| 144F       | 16.3±0.7 | 205          | 2,500      |                          |                              |         |
| 288F       | 20 0+0 7 | 300          |            |                          |                              |         |

### FLAME RETARDANT DUCT LOOSE TUBE CABLE



### FEATURES & APPLICATIONS

- High performance components and construction UL Listed in accordance with NEC sections 770.179(b) for use in vertical runs in building riser shafts or from to floor
- Cable materials are indoor/outdoor : UV, water and fungus resistant
- ► Wide operating temperature range : -40~85°C

### DESCRIPTION

- Indoor/outdoortight-biffered design allows cables to be installed in intra-building backbone and inter-building campus location without costly transitions between campus locations without costly transitions between
- Design allows multi fiber sub cables
   Design allows multi fiber sub cables to be routed to multiple locations such as wiring racks and closets



### OPTICAL SPECIFICATIONS

- ▶ Single mode @1310nm ≤ 0.36 dB/km @1383nm ≤ 0.35 dB/km @1550nm ≤ 0.22 dB/km @1625nm ≤ 0.25 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$
- Multi mode @ 850nm ≤ 3.0 dB/km @1300nm ≤ 1.0 db/km
   50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No.of Core | Outer<br>Diameter | Weight | Max.Tensil | Min.Bending<br>Radius(mm) | ]<br>)       | Temperatur<br>e |  |
|------------|-------------------|--------|------------|---------------------------|--------------|-----------------|--|
|            | (mm)              | kg/km) | Load(N)    | Installation              | Operation    | Range(°C)       |  |
| 4F         | 10.7±0.5          | 120    | 1,500      | Cable Dia*20              | Cable Dia*15 | -40~+70         |  |
| 8F         |                   |        |            |                           |              |                 |  |
| 12F        |                   |        |            |                           |              |                 |  |
| 16F        |                   |        |            |                           |              |                 |  |
| 24F        |                   |        |            |                           |              |                 |  |

# ADSS CABLE (Single



### DESCRIPTION

- Ideal for installations where direct burial or rodent protection is required
- Design allows sub cables to be routed to multiple locations such as wiring racks and closets

GOC

Cable

Loose Tube



### FEATURES &

- Inner cable is a fully functional G-Series Sub grouping riser-rated cable
- High-performance components and construction 6-fiber or 12-fiber subgroups available
- The steel-armor is easily removed with an internal ripcord, leaving a fully functional intact riser-

rated inner cable with original cable markings for identification

### OPTICAL

- ▶ Single mode @1310nm ≤ 0.36 dB/km @1383nm ≤ 0.35 dB/km @1550nm ≤ 0.22 dB/km @1625nm ≤ 0.25 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$
- Multi mode @ 850nm ≤ 3.0 dB/km
   @1300nm ≤ 1.0 db/km
   50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No.of Core | Outer<br>Diameter<br>(mm) | Weight<br>(Net.<br>kg/km) | Max.Tensil<br>e<br>Load(N) | Min.Bending<br>Radius(mm)<br>Installation Operation |              | Temperatur<br>e<br>Range(°C) |
|------------|---------------------------|---------------------------|----------------------------|---|--------------|------------------------------|
|            |                           |                           |                            |   |              |                              |
| 12~72F     | 11.0±0.7                  | 95                        | 1,800                      | Cable Dia*20  | Cable Dia*15 | -40~+70                      |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.

#### Loose Tube <sup>+</sup> 21 Cable

# ADSS CABLE (Double



### FEATURES & APPLICATIONS

- Inner cable is a fully functional G-Series Sub grouping riser-rated cable
- High-performance components and construction 6-fiber or 12-fiber subgroups available
- The steel-armor is easily removed with an internal ripcord, leaving a fully functional intact riser-

rated inner cable with original cable markings for identification

### DESCRIPTION

- Ideal for installations where direct burial or rodent protection is required
- Design allows sub cables to be routed to multiple locations such as witing racks and closets



### OPTICAL SPECIFICATIONS

- ▶ Single mode @1310nm ≤ 0.36 dB/km @1383nm ≤ 0.35 dB/km @1550nm ≤ 0.22 dB/km @1625nm ≤ 0.25 dB/km
  - $PMD \le 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \le 1260nm$
- Multi mode @ 850nm ≤ 3.0 dB/km
   @1300nm ≤ 1.0 db/km
   50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No.of Core           | Outer<br>Diameter<br>(mm) | Weight<br>(Net.<br>kg/km) | Max.Tensil<br>e<br>Load(N) | Min.Bending<br>Radius(mm<br>Installation | )<br>Operation | Temperatur<br>e<br>Range(°C) |
|----------------------|---------------------------|---------------------------|----------------------------|--|----------------|------------------------------|
| 12~72F               | 14.2±1.0                  | 150                       | 4,000                      | Cable Dia*20                             | Cable Dia*15   | -30~+70                      |
| #Above cable constru | intion & footure may be r | oviced without pric       | r notico to implement i    | ho quality                               |                |                              |

# Fig-8 LOOSE TUBE CABLE (Non Metallic)



### FEATURES &

- Aerial type
- Outdoor cable
- FTTH (Fiber To The Home)

### DESCRIPTION

- ► Light weight, compact & ease of handling
- Economic construction for aerial cabling application
- ► Outstanding mechanical & environmental
- characteristics
- ► Operating Temperature Range : -20~70°C



### OPTICAL SPECIFICATIONS

▶ Single mode @1310nm ≤ 0.36 dB/km
 @1383nm ≤ 0.35
 dB/km @1550nm ≤
 0.22 dB/km @1625nm
 ≤ 0.25 dB/km

PMD ≤ 0.2dB(ps/km<sup> $\frac{1}{2}$ </sup>), Cut-off wavelength ≤ 1260nm

 Multi mode @ 850nm ≤ 3.0 dB/km @1300nm ≤ 1.0 db/km
 50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

| No.of Core | Outer  | Weight | Max.Tensil<br>e<br>Load(N) | Min.Bending<br>Radius(mm | Temperatur<br>e           |           |
|------------|--|--------|----------------------------|--------------------------|---------------------------|-----------|
|            | (mm)   | kg/km) |                            | Installation             | Operation                 | Range(°C) |
| 4F         | 8.6±0.5*<br>13.3±0.5<br>9.0±0.5*<br>13.7±0.5 | 93     |                            |                          |                           |           |
| 8F         |  |        |                            |                          | 0.11.5:445                |           |
| 12F        |  |        | 4 00001                    |                          |                           |           |
| 24F        |  |        | 1,200N                     | Cable Dia*20             | Cable Dia <sup>*</sup> 15 | -40~+70   |
| 36F        |  | 105    |                            |                          |                           |           |
| 48F        |  |        |                            |                          |                           |           |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.

### CHARACTERISTICS

### AERIAL LOOSE TUBE CABLE



### FEATURES & APPLICATIONS

- Outdoor aerial installations along utility poles for cable television, telecom or other outside plant campus backbone applications without the need fof cable lashing
- 1/4-inch galvanized messenger standard
- Polyethylene outer cable jacket for excellent UV and weather resistance

### CHARACTERISTICS

#### Min.Bending Weight Max.Tensil Outer Temperatur No.of Core Radius(mm) Diameter (Net. е Installation Operation Load(N) (mm) kg/km) Range(°C) 4~72F 10.5±0.7\*17.6±0.7 160 96F 12.7±0.7\*19.8±0.7 205 5,000 Cable Dia\*20 Cable Dia\*15 -40~+70

144F 15.3±0.7\*22.4±0.7 270 #Above cable construction & feature may be revised without prior notice to implement the quality improvement.

### DESCRIPTION

- ► Figure-eight construction for use with standard messeng clamping and support hardware.
- Deal for new installations. The figure-eight messenger cable reduces installation time and cost by approximatel 50% compared to separate installation of a messenger wire and the lashing of the cable to the messenger.
- ► Wide operating temperature range of -40°C to+85°C



#### OPTICAL SPECIFICATIONS

 ▶ Single mode @1310nm ≤ 0.36 dB/km @1383nm ≤ 0.35 dB/km @1550nm ≤ 0.22 dB/km @1625nm ≤ 0.25 dB/km

 $PMD \le 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \le 1260nm$ 

Multi mode @ 850nm ≤ 3.0 dB/km
 @1300nm ≤ 1.0 db/km
 50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)



Loose Cable

Tube

### DISTRIBUTION LOOSE TUBE CABLE (Fig-8 Type)



### FEATURES

- ► Applicable for self-supporting aerial installation
- Easy distribution
- Excellent mechanical & optical characteristics
- High tensile strength & characteristic

### TECHNICAL

►1fiber / 1tube structure. Aramid yarn reinforce. High tensile strength.



### APPLICATIONS

- ► Aerial laying
- Luxury condominium & Common housing(FTTH)
- ▶ Office buildings, Government offices

### CHARACTERISTICS

| Item                                    | No.of<br>Cores                          | Outer<br>Diameter<br>(mm) | Weight<br>(kg/km)    | Min.Bending<br>Radius(mm<br>) | Max.Tensile<br>Load(kg.f) | Crush force<br>(N/100mm) | Temperature<br>cycling |
|---|---|---------------------------|----------------------|-------------------------------|---------------------------|--------------------------|------------------------|
|   | 8F                                      | 9.9mmx17.0m<br>m          | 155                  |                               | 3.000                     | 4 500                    | -20°C~+70°C            |
| Distribution                            | 10F                                     | 9.9mmx17.7m<br>m          | 170                  | 60                            |                           |                          |                        |
|   | 12F                                     | 10.7mmx18.5<br>mm         | 180                  |                               | -,                        | .,                       |                        |
| Standard color : E<br>Gold, Silver Opti | Blue, Orange, Gree<br>cal Fiber : G652D | en,186000,06129,4w<br>mm  | /hite, Red, Black, F | Pink, Turquise,               |                           |                          |                        |
|   | 24                                      | 12.9mmx20.7<br>mm         | 215                  |                               |                           |                          |                        |

### OPTICAL ATTENUATION

| Type/Wavelength(nm)            | 850 | 1300 | 1310   | 1383   | 1550   | 1625   |
|--------------------------------|-----|------|--------|--------|--------|--------|
| Attenuation SMF(G.652E (dB/km) | ))  |      | ≤.0350 | ≤0.350 | ≤0.215 | ≤0.350 |

### DISTRIBUTION LOOSE TUBE CABLE <sup>(Duct Type)</sup>



### FEATURES

- Applicable for duct or aerial installation
- Easy distribution
- Excellent mechanical & optical
- characteristics

**CHARACTERISTICS** 

High tensile strength & characteristic

### CROSS SECTION

 Ifiber / Itube structure. Aramid yarn reinforce. High tensile strength.



GOC

Loose Tube

### APPLICATIONS

- Aerial laying
- Luxury condominium & common
- housing(FTTH)
- Office buildings, Government offices

| Item               | No.of<br>Cores          | Outer<br>Diameter<br>(mm) | Weight<br>(kg/km) | Min.Bending<br>Radius(mm<br>) | Max.Tensile<br>Load(kg.f) | Crush force<br>(N/100mm) | Temperature<br>cycling |
|--------------------|-------------------------|---------------------------|-------------------|-------------------------------|---------------------------|--------------------------|------------------------|
|                    | 8F                      | 10.0mm                    | 10.0mm 85         | 60                            | 3,000                     | 4,500 -20~+              |                        |
|                    | 10F                     | 10.7mm                    | 100               |                               |                           |                          | -20~+70                |
| Distribution       | 12F                     | 11.5mm                    | 115               |                               |                           |                          |                        |
|                    | 18F                     | 12.4mm                    | 120               |                               |                           |                          |                        |
| Standard color · F | Rue Or <b>an</b> e Gree | n Birawamana w            | /hite R150Black   | Pink Turquise                 |                           |                          |                        |

Gold, Silver Optical Fiber : G652D

### OPTICAL

| Type/Wavelength(nm)    | 850 | 1300 | 1310   | 1383   | 1550   | 1625   |
|------------------------|-----|------|--------|--------|--------|--------|
| Attenuation<br>(dB/km) |     |      | ≤.0350 | ≤0.350 | ≤0.215 | ≤0.350 |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.

Loose Tube <sup>+</sup> 27 Cable

### **DIRECT BURIAL LOOSE TUBE** CABL



### FEATURES & APPLICATIONS

- ▶ High-performance components and construction 6-fiber or 12-fiber per tube available
- ▶ The steel-armor is easily removed with an internal ripcord, leaving a fully functional intact riser-

rated inner cable with original cable markings for identification

 Helically stranded core for greater flexibility and mechanical protection of the optical fibers

### **CHARACTERISTICS**

### DESCRIPTION

- Ideal for installations where direct burial or rodent protection is required
- Design allows sub cables to be routed to multiple locations such as wiring racks and closets
- Ideal for installations requiring an extremely rugged and reliable cable design where maximum mechanical and environmental protection is necessa



### **OPTICAL SPECIFICATIONS**

► Single mode @1310nm  $\leq$  0.36 dB/km @1383nm ≤ 0.35 Outer jacket dB/km @1550nm ≤ 0.22 dB/km @1625nm ≤ 0.25 dB/km

PMD ≤ 0.2dB(ps/km<sup> $\frac{1}{2}$ </sup>), Cut-off wavelength ≤ 1260nm

iacket Rip cord

tape

W/S tape Corrugation steel

▶ Multi mode @ 850nm ≤ 3.0 dB/km @1300nm ≤ 1.0 db/km 50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

| No.of Core                   | Outer<br>Diameter                     | Weight<br>(Net             | Max.Tensil             | Min.Bending<br>Radius(mm) | Temperatur   |           |
|------------------------------|---------------------------------------|----------------------------|------------------------|---------------------------|--------------|-----------|
|                              | (mm)                                  | kg/km)                     | n) Load(N) Installatio |                           | Operation    | Range(°C) |
| 12~72F                       | 14.4±1.0                              | 220                        | 2,500                  |                           | Cable Dia*15 | -40~+70   |
| 96F                          | 16.6±1.0                              | 285                        | 2 000                  | Cable Dia*20              |              |           |
| 144F<br>#Above cable constru | 19.3±1.0<br>iction & feature may be r | 350<br>evised without prio | r notice to implement  | the quality               |              |           |

improvement.

### CENTRAL LOOSE TUBE CABLE



### FEATURES &

- Easy handling, small, light
- Duct type, Aerial type

### DESCRIPTION

► Suitable outdoor application (Aerial Installation)

GOC

Loose Tube Cable

► ABC(Air Blown Cable)



### OPTICAL

- ▶ Single mode @1310nm ≤ 0.38 dB/km @1383nm ≤ 0.38 dB/km @1550nm ≤ 0.25 dB/km @1625nm ≤ 0.28 dB/km
  - PMD ≤ 0.2dB(ps/km<sup>1/2</sup>), Cut-off wavelength ≤ 1260nm
- Multi mode @ 850nm ≤ 3.0 dB/km
   @1300nm ≤ 1.0 db/km
   50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### **CHARACTERISTICS**

| No.of Core  | Outer<br>Diameter | Weight<br>(Net. | Max.Tensil<br>e | Min.Bending<br>Radius(mm | g<br>)       | Temperatur<br>e |
|-------------|-------------------|-----------------|-----------------|--------------------------|--------------|-----------------|
|             | (mm)              | kg/km)          | Load(N)         | Installation             | Operation    | Range(°C)       |
| Duct 2~12   | 4.5±0.2           | 16.0            | 800             | Cable Dia*15             | Cable Dia*10 | -30~+70         |
| Aerial 2~12 | 5.0±9.4           | 55.0            | 1,500           | Cable Dia*15             | Cable Dia*10 | -30~+70         |

### FLAT CENTRAL LOOSE TUBE CABLE



### DESCRIPTION

- ► Application for conduit & aerial installation
- Small size and low friction
- Excellent mechanical & optical
  - characteristics
- Light weight and cost efficient



### FEATURES & APPLICATIONS

- ► Conduit, Duct, Aerial Laying
- ► Luxury Condominium & Common
- Housing(FTTH)
- ► Office Building, Government Offices
- ► CATV, Internet cafe

### OPTICAL SPECIFICATIONS

- Single mode @1310nm ≤ 0.38 dB/km @1383nm ≤ 0.38 dB/km @1550nm ≤ 0.25 dB/km @1625nm ≤ 0.28 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$
  - Multi mode @ 850nm ≤ 3.0 dB/km
     @1300nm ≤ 1.0 db/km
     50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

|  | r Weight Max.Tensil<br>Diameter (Net. e<br>(mm) kg/km) Load(N) |              | Operation                | Range(°C) |
|--|--|--------------|--------------------------|-----------|
| 2~12F 8.3±0.3*4.3±0.5 40 2,000   | 2,000  | Cable Dia*15 | Cable Dia*10             | 40 170    |
| 16~24F 10.6±0.5*5.1±0.5 55 4,000<br>#Above cable construction & feature may be revised without prior notice to implement the quality | 4,000<br>ior notice to implement the                           | he quality   | Cable Dia <sup>*10</sup> | -40~+70   |

### ARMORED CENTRAL LOOSE TUBE CABLE



### DESCRIPTION

- Highly flexible & light weight
- Ease of peeling enabling fast connection
- ► Coating material : flame retardant PVC, PU, LSZH etc.

GOC

Cable

Loose Tube

► Operating Temperature Range : -40~70°C



### FEATURES &

- LAN distribution
- Outdoor cable

### OPTICAL SPECIFICATIONS

- Single mode @1310nm ≤ 0.38 dB/km @1383nm ≤ 0.38 dB/km @1550nm ≤ 0.25 dB/km @1625nm ≤ 0.28 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$
  - Multi mode @ 850nm ≤ 3.0 dB/km
     @1300nm ≤ 1.0 db/km
     50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### **CHARACTERISTICS**

| No.of Core | Outer   | Weight | Max.Tensil | Min.Bending<br>Radius(mm | ]<br>)       | Temperatur<br>e |  |
|------------|---------|--------|------------|--------------------------|--------------|-----------------|--|
|            | (mm)    | kg/km) | Load(N)    | Installation             | Operation    | Range(°C)       |  |
| 2F         |         | 76     | 1,500      |                          | Cable Dia*10 |                 |  |
| 4F         |         |        |            | Cable Dia*15             |              | -40~+70         |  |
| 6F         | 8.8±0.3 |        |            |                          |              |                 |  |
| 8F         |         |        |            |                          |              |                 |  |
| 12F        |         |        |            |                          |              |                 |  |

### PIMC (Pulling Installation Micro Duct Loose Cable)



#### DESCRIPTION

- ► Use Aramid Yarn to pull the cable through the Tube
- Suitable for Air Brown Micro Duct Tube

#### FEATURES&APPLICATIONS

- ▶ Single-mode Fiber Cable
- ► Installation method : Pulling installation (or Air Blown MAX.)
- ▶ Tensile Load : 2,500N ~ 3,000N



#### Filler(2 filler)

9/150/200,m, G.652D, 12F/tube

1.4±0.07mm loose tube (24 tube) CSM(2.0FRP + PE sheath)

-Water swellable tape Water swellable yarn (2+6) 4000D + 12000D

Aramid yarn(36,000denier)

#### **OPTICAL SPECIFICATIONS**

- ► Length : 2km/drum
- ▶ PIMC Install length : MAX 1.0km
- ▶ Single mode @ 1310nm ≤0.36 dB/km 1383nm ≤0.35 @ dB/km @ 1550nm ≤0.22 dB/km @

1625nm ≤0.25 dB/km PMD ≤0.2dB(ps/km1/2), ength≤1260nm

| Cut-off | wavel | 5 |
|---------|-------|---|
|         |       |   |

| Cores     | Loose tube<br>diameter(m<br>m) | Number of<br>Fiber per<br>tube              | Outer<br>Diameter(m<br>m) | Outer<br>sheath<br>thickness(m<br>m) | Weight<br>(kg/km) | Max.Tensil<br>e load |
|-----------|--------------------------------|---|---------------------------|--------------------------------------|-------------------|----------------------|
| 24F ~ 72F | 1.4±0.1                        | 12F /tube                                   | 6.3±0.20                  | 0.9±0.1                              | 38                | 2,500N               |
| 96F       | 1.4±0.1                        | 12F /tube                                   | 7.3±0.2                   | 0.9±0.1                              | 52                | 2,500N               |
| 144F      | 1.4±0.1                        | 12F /tube                                   | 9.0±0.2                   | 0.9±0.1                              | 72                | 2,500N               |
| 256F      | 1.4±0.1                        | 12F /tube * 21<br>tube 4F /tube * 1<br>tube | 10.9±0.2                  | 0.9±0.1                              | 92                | 3,000N               |
| 288F      | 1.4±0.1                        | 12F /tube                                   | 11.5±0.2                  | 0.9±0.1                              | 105               | 3,000N               |

### **CHARACTERISTICS**

+ 33 Loose Tube Cable

Cable Loose

Tube

### MICRO SHEATH CABLE<sup>(Distribution T)</sup>



### DESCRIPTION

- Distribution type(Max. 144core)
- Ease of handling with flexibility
- ► Ease of identification using 12 Colors
- ► Operating temperature Range : -20~70°C

GOC

Cable

Micro Sheath



### FEATURES &

- Intra building backbone
- OFD : optical Frame distribution
- ► FDDI, LAN distribution

**CHARACTERISTICS** 

Indoor and outdoor cable

#### OPTICAL SPECIFICATIONS

- ▶ Single mode @1310nm ≤ 0.40 dB/km @1383nm ≤ 0.36 dB/km @1550nm ≤ 0.30 dB/km @1625nm ≤ 0.35 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$
  - Multi mode @ 850nm ≤ 3.5 dB/km
     @1300nm ≤ 1.5 db/km
     50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

| No.of Core | Outer    | Weight                     | Max.Tensil            | Min.Bending<br>Radius(mm | ]<br>)       | Temperatur |
|------------|----------|----------------------------|-----------------------|--------------------------|--------------|------------|
|            | (mm)     | kg/km)                     | Load(N)               | Installation             | Operation    | Range(°C)  |
| 12F        | 2.95±0.1 | 9                          | 500                   |                          |              | 5 -20~+70  |
| 24F        | 6.9±0.2  | 44                         | 600                   |                          | Cable Dia*15 |            |
| 48F        | 7.2±0.3  | 49                         | 800                   | Cable Dia*20             |              |            |
| 72F        | 7.7±0.3  | 58                         |                       |                          |              |            |
| 96F        | 8.4±0.3  | 67                         | 1,200                 |                          |              |            |
| 144F       | 11.5±0.5 | 91<br>evised without price | r notice to implement | the quality              |              |            |

improvement.

#### Micro Sheath <sup>+</sup> 35 Cable

### FIG-8 MICRO SHEATH CABLE



### FEATURES &

- Aerial type
- Outdoor cable
- ► FTTH (Fiber To The Home)

### DESCRIPTION

- ► Light weight, compact & ease of handling
- ► Economic construction for aerial cabling application
- Outstanding mechanical & environmental characteristics
- ► Operating Temperature Range : -40~70°C



### OPTICAL SPECIFICATIONS

▶ Single mode @1310nm ≤ 0.40 dB/km
 @1383nm ≤ 0.36
 dB/km @1550nm ≤
 0.30 dB/km @1625nm
 ≤ 0.35 dB/km

 $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$ 

Multi mode @ 850nm ≤ 3.5 dB/km
 @1300nm ≤ 1.5 db/km
 50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No of Coro | Outer            | Weight          | Max.Tensil   | Min.Bending  | g Radius(mm) | Temperatur     |
|------------|------------------|-----------------|--------------|--------------|--------------|----------------|
|            | Diameter<br>(mm) | (Net.<br>kg/km) | e<br>Load(N) | Installation | Operation    | e<br>Range(°C) |
| 4F         | 5.0±0.3*8.0±0.3  | 45              |              |              |              |                |
| 6F         |                  |                 | 1,000        | Cable Dia*15 | Cable Dia*10 | -40~+70        |
| 12F        |                  |                 |              |              |              |                |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.

)

GOC

Cable

Micro Sheath

### Nuclear RR Indoor Fiber Optic Cable











### OPTICAL SPECIFICATIONS

- Multi mode @ 1300nm ≤ 1.5dB/km
   @ 850nm ≤ 3.5dB/km
- ► Core Diameter 62.5 µm
- Radiation Induced Attenuation(RIA)
  - ≤ 6dB/km(~100Gy) @ 1300nm
  - ≤ 10dB/km(~55KGy) @ 1300nm

### DESCRIPTION

- Nuclear Power Plant Serviceable Communication Device
- ▶ 60 Years of Life-time
- ► High Mechanical and Environmental Characteristics
- High Durability against High Temperature(110 °C) by applying Special Material
- ► Low Smoke Zero Halogen

### **FEATURES**

- ► Vertical Tray Flame Test : IEEE1202(2006)
- ► Service Lifetime : 60 years
- ▶ 60 years total dose : 1.71KGy
- Accident dose : 55 KGy
- ► Operating Temperature : -10°C ~ +85°C

### References

- ▶ IEEE1682-2001
- ► IEEE323-2003
- ▶ IEEE383-2003
- ► IEEE1202-2006
- ► IEC60794-1-2
- ► IEC60793-1
- ► IEC60811-1-1

### CHARACTERISTICS

| ITEM               | No.  | Overall<br>Diameter(m | erall Weight MAX.<br>ter/m (Net TensileStrength( |            | ngth(N)   | Min.<br>Bending              | Temperatur |  |
|--------------------|------|-----------------------|--|------------|-----------|------------------------------|------------|--|
|                    | Core | m)                    | kg/km)   | Short Term | Long Term | radius(mm<br>)               | Range(°C)  |  |
| GNRRL-BFO01        | 1F   | 3.0±0.1               | 10.5   | 600N       | 400N      | Installatio                  | -10 ~ + 85 |  |
| GNRRL-BFO02(<br>A) | 2F   | 3.0*6.0±0.1           | 21.09  | 9,00N      | 600N      | n<br>CableDia*               |            |  |
| GNRRL-BFO02(<br>B) | 2F   | 8.5±0.3               | 78.0   | 800N       | 600N      | 20                           |            |  |
| GNRRL-BFO24        | 24F  | 21.6±1.0              | 525.0  | 2,500N     | 1,800N    | Operation<br>CableDia*<br>10 |            |  |

### Nuclear RR Loose Fiber Optic Cable





### OPTICAL SPECIFICATIONS

- ▶ Single mode @ 1310nm ≤ 0.38 dB/km
   @ 1550nm ≤ 0.25 dB/km
- ► Chromatic Dispersion 3.2 ↓ps/nm.km@1310nmnm

#### 22.0↓ps/km@1550nm

- ► Cut-off wavelength ≤ 1260nm
- ► Radiation Induced Attenuation(RIA) ≤ 6dB/km(~100Gy) @ 1300nm
  - ≤ 10dB/km(~55KGy) @ 1300nm

### DESCRIPTION

- ► Nuclear Power Plant Serviceable Cable
- Apply Radiation Resistant Optical Fiber & Sheath Material
- ▶ 60 Years of Life-time
- ► High Mechanical & Environmental Characteristics
- High Durability against High Temperature(110 °C) by applying Special Material
- ► Low Smoke Zero Halogen

#### **FEATURES**

- ► Vertical Tray Flame Test : IEEE1202(2006)
- ► Service Lifetime : 60 years
- ► 60 years total dose : 15KGy
- ► Accident dose : 50KGy
- ► Operating Temperature : -20°C ~ +85°C

#### References

- ▶ IEEE1682-2001
- ▶ IEEE323-2003
- ▶ IEEE383-2003
- ► IEEE1202-2006
- ► IEC60794-1-2
- ▶ IEC60793-1
- ► IEC60811-1-1

### CHARACTERISTICS

| ITEM        | No.<br>of<br>Core | Overall<br>Diameter(m<br>m) | Weight<br>(Net.<br>kg/km) | MAX.<br>TensileStrength(N) | Min.<br>Bending<br>radius(mm)   | Temperatur<br>e<br>Range(°C) |
|-------------|-------------------|-----------------------------|---------------------------|----------------------------|---------------------------------|------------------------------|
| GNRRS-LFO04 | 4F                | 10.4±0.51                   | 116                       |                            |                                 |                              |
| GNRRS-LFO08 | 8F                | 10.4±0.5                    | 116                       | Short                      | Installation<br>CableDia*<br>20 |                              |
| GNRRS-LFO24 | 24F               | 10.7±0.51                   | 120                       | 2,700N                     |                                 | -20 ~ + 85                   |
| GNRRS-LFO48 | 48F               | 10.7±0.5                    | 116                       | Long                       | Operation                       |                              |
| GNRRS-LFO96 | 96F               | 12.0±0.5                    | 143                       | 1,500N                     | CableDia*<br>10                 |                              |

+ 39

### STEEL ARMORED CABLE<sup>(Double Sheath)</sup>



### FEATURES &

- Patch cords
- LAN distribution
- Outdoor cable

### DESCRIPTION

- ► Highly flexible & light weight
- Ease of peeling enabling fast connection
- ► Coating material : flame retardant PVC, PU, LSZH etc.
- ► Operating temperature Range : -40~70°C



#### OPTICAL SPECIFICATIONS

 Single mode @1310nm ≤ 0.40 dB/km @1383nm ≤ 0.36 dB/km @1550nm ≤ 0.30 dB/km @1625nm ≤ 0.35 dB/km

 $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$ 

Multi mode @ 850nm ≤ 3.5 dB/km
 @1300nm ≤ 1.5 db/km
 50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

#### CHARACTERISTICS

| No of Core | Outer            | Weight          | Max.Tensil   | Min.Bending  | g Radius(mm) | Temperatur     |
|------------|------------------|-----------------|--------------|--------------|--------------|----------------|
|            | Diameter<br>(mm) | (Net.<br>kg/km) | e<br>Load(N) | Installation | Operation    | e<br>Range(°C) |
| 2F         | 9.8±0.4          | 104             | 1,200        | Cable Dia*20 | Cable Dia*10 | -40~+70        |

### DRY CORE OPTICAL CABLE



### **FEATURES**

- ► Applicable for conduit & aerial installation
- Use with both optical fiber & tight buffer available
- Easy connection of optical fiber connector
- Excellent mechanical & optical characteristics
- ► Coating materials : Flame retardant LSZH & etc.
- ▶ Operating Temperature Range : -40~70°C

### DESCRIPTION

Dry Core Cable is an optical fiber cable offering the competitive cost by reducing the volume & weight for easier cable laying & installation, as the cable is

**GO**0

Special Cable

manufactured not using the jelly compound filler on the contrary with the loose tube type optical fiber cable.

Tensile Load & compression characteristics are enhanced by inserting two steel wores or FRP, offering protection for optical fiber & tight buffer from puysical impact from outside with the gap provided inside the cable thereby resulting in excellent optical & mechanical characteristics.



### **APPLICATIONS**

- Conduit, Duct, Aerial Laying
- Luxury Condominium & Common
- Housing(FTTH)
- ▶ Office Buildings, Government Offices
- ► CATV, Internet cafe

| ( | CHARACT     | ERISTICS               |            |              |  |    |                                       |    |                           | F : Fiber<br>TBF : Tight I | Buffered  |
|---|-------------|------------------------|------------|--------------|--|----|---------------------------------------|----|---------------------------|----------------------------|-----------|
|   | Item        |                        | Class      | Out          | Out Weight(kg M<br>Diamete / km)<br>r (mm) |    | Ma                                    | X. | Min.Bending<br>Radius(mm) | ]                          |           |
|   |             | No.<br>of<br>Core<br>s | Туре       | r (          |  |    | , , , , , , , , , , , , , , , , , , , |    | ad(kg·f)                  | Installation               | Operation |
|   | Rectangle   | 2~12                   | F          | 3(H)×        | 6(W)                                       | 2  | 8                                     |    | 150                       |                            |           |
|   | Rectangle   | 2                      | TBF        | 4(H)×        | 8(W)                                       | 4  | 8                                     |    | 150                       |                            |           |
|   | Circle      | 2~12                   | F          | 7.           | 0  | 5  | 3                                     |    | 150                       | Dx20                       | Dv10      |
|   | Circle      | 2~4                    | TBF        | 6.           | 3  | 4  | 7                                     |    | 150                       | 0~20                       | D×10      |
| ( | Fig-8       | 2~4                    | F          | 7.7(H)×      | 2.7(W)                                     | 2  | 5                                     |    | 150                       |                            |           |
|   | Туре        | 2~12                   | TBF        | 11.0<br>×7.5 | )(H)<br>5(W)                               | 5  | 0                                     |    |                           |                            |           |
|   | туре        | /wavelengu             | ı(nin)     | 000          | 13   | 00 | 131                                   | ľU | 1383                      | 1550                       | 1625      |
|   | Attendentie | Single-M               | ode(9/125) |              |  |    | ≤0.4                                  | 0  | ≤1310nr                   | m ≤0.30                    | ≤0.350    |
|   | n           | Multimode              | 50.0/125   | ≤3.0         | ≤1   | .0 |                                       |    |                           |                            |           |
|   | (dB/km)     | Multimode              | 62.5/125   | ≤3.5         | ≤1   | .5 |                                       |    |                           |                            |           |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.

Cable

### SPECIALITY OPTICAL PATCH C



### **FEATURES**

- Connection of specialty optical fiber connector of 1~4 core cables
- Connector construction of protective cover connecting section
- ► Ease of handling with compact & light weight
- ► Tubing with Aluminum or Stainless Steel provided with diverse connector connection availability
- Use of cable moving bobbin for easy moving for emergency application
- ► Coating Materials : Flame retardant LSZH
- ► Operating Temperature Range : -40~70°C

### DESCRIPTION

- Specialty Optical Fiber Jumper Cable is designed to be suitable for the applications under vulnerable environments & special purpose applications considering the mechanical & environmental conditions.
- ► The optical fiber cable provides the special connector arrangement on both ends of cable for the ease of cable laying concenience & connections at emergency situations.



### APPLICATIONS

- ► For emergency area, national disaster area & military applications
- ▶ For optical fiber cable assembly
- Communication terminals or connection between equipments

| CHARACTE                      | RISTICS  | Ŭ                       |        |   |   |                 |                 | D :<br>TB            | Outer         | Diameter              |
|-------------------------------|--|-------------------------|--------|---|---|-----------------|-----------------|----------------------|---------------|-----------------------|
| ltem                          |  | Class                   |        | Out Weight(kg   |   | Max             | (.              | Min.Bei<br>Radius    | nding<br>(mm) |                       |
| No. Type<br>of<br>Core<br>s   |  | e                       | r (mm) | / KM)   | Load(kg·f)  |                 | Installat       | tion                 | Operation     |                       |
| Pootonglo                     |  |                         |        | 3(H)×6(W)   | 25  |                 | 150             |                      |               |                       |
| Reclangle                     | 4  | TBF                     | :      | 4(H)×8(W)   | 48  |                 | 150             | D×20                 | 1             | D×10                  |
| Circle                        |  |                         |        |   | 40  |                 | 150             |                      |               |                       |
| Item                          | Wate<br>Te   | er proofing<br>st(10m)  | C      | Contact Test<br>(500)                                     | Connectin<br>Attenuatio   | ng<br>on        | Tempe<br>Charao | erature<br>cteristic | Sal           | t Spray Test          |
| Result                        |  | pass                    |        | pass  | Max.1.0   |                 | Max             | k.1.5                |               | Good                  |
| Test                          | <ul> <li>Water Proofing Test<br/>distance</li> <li>Temperature Test Co</li> <li>Salt Test : Test inside</li> </ul> |                         |        | : 5 min. test on<br>ondition : 5 routi<br>e the Temperatu | 5 min. test on the receptacle & plug sprayed with water from 1.3m ndition : 5 routines under +7°C for 30min. / -40°C for 30min.(Total 5hours) |                 |                 |                      |               | 1.3m<br>Fotal 5hours) |
| #Above cable cor improvement. | istruction & fe  | 9eifstty25%,e<br>4ml/h) | pieed8 | wither persinative  | 35 <sup>in</sup> Oplespratythere  | <b>quadi</b> ty |                 |                      |               |                       |

### MILITARY TACTICAL OPTICAL CABLE



#### FEATURES

- ► Ease of handling when laying the cable (Excellent mechanical characteristics)
- ► Ease of handling with flexibility & light weight
- Similar construction with break out cable
- ► Coating materials : Flame retardant PU & etc.
- ► Operating Temperature Range : -40~70°C

### DESCRIPTION

- Military tactical cable is of construction inserting two or four optical fiber cords offering application to connector attached optical fiber cable as well with ease connection and handing of optical fiber cords at the cable ends.
- Insertion of 900 µm tight buffer and aramid yarn protects the optical fiber strengthening the mechanical & environmental characteristics.



#### **APPLICATIONS**

- Military tactical application
- Emergency recovery cable
- Mining, commercial & other risky areas

| No of Core | Outer            | Weight          | Max.Tensil   | Crush(NI) | Min.Bending Radius(mm) |           |  |
|------------|------------------|-----------------|--------------|-----------|------------------------|-----------|--|
|            | Diameter<br>(mm) | (Net.<br>kg/km) | e<br>Load(N) | Crush(N)  | Installation           | Operation |  |
| 2          | 6.5              | 38              | 200          | DY20      | DX30                   | D×10      |  |
| 4          | 7.0              | 45              | 200          | D720      | D720                   | 0×10      |  |

### OPTICAL ATTENUATION

**CHARACTERISTICS** 

| Туре            | e/Wavelengtl | h(nm)      | 850   | 1300  | 1310  | 1383    | 1550  | 1625   |
|-----------------|--------------|------------|-------|-------|-------|---------|-------|--------|
|                 | Single-M     | ode(9/125) |       |       | ≤0.40 | ≤1310nm | ≤0.30 | ≤0.350 |
| Attenuatio<br>n | Multipoodo   | 50.0/125   | ≤3.00 | ≤1.00 |       |         |       |        |
| (dB/km)         | wullmode     | 62.5/125   | ≤3.50 | ≤1.50 |       |         |       |        |

### **EMERGENCY REPAIRING OPTICAL** CABLE



### **FEATURES**

- Excellent tensile strength & flexibility
- Use of bobbin for ease of cable laying & rewinding
- Connection with variety of connectors available
- ► Coating materials : Flame retardant PU & etc.
- Operating Temperature Range : -40~70°C

#### DESCRIPTION

- Emergency Recovery Optical Fiber Cable is designed to conveniently install at the cable laying locations where the urgent connections are required prior to the normal recovery, by simply coiling on a bobbin after connecting the common connectors at the both ends of optical fiber cables.
- ► The optical fiber cable is of rectangular dry core construction, provided with strong withstandingperformance against the external environmental changes and superior mechanical characteristic.
- ► The cable is guaranteed with in outstanding tensile strength, flexibility, torsion characteristics & long term reliability meeting the application purpose of using under emergency situations.





#### **APPLICATIONS**

- For Emergency Recovery, LAN
- Urgent temporary communication system
- For elevator application
- Emergency horizontal & vertical cable
- laying
- For tactical military operations

|   | CHARACT         | ERISTICS               |            |    |            |      |     |        |    |             | F: Fiber<br>D: Outer Dia<br>TBF: Tight E | ameter<br>Buffered |
|---|-----------------|------------------------|------------|----|------------|------|-----|--------|----|-------------|--|--------------------|
|   | Item            |                        | Class      | (  | Dut<br>Dia | mete | Wei | ght(kg | Ma | X.<br>neile | Min.Bending<br>Radius(mm)                | ]<br>)             |
|   |                 | No.<br>of<br>Core<br>s | Туре       |    | r (i       | nm)  |     | KIII)  | Lo | ad(kg·f)    | Installation                             | Operation          |
|   | Doctoralo       | 2~12                   | F          |    | 3(H)×      | 6(W) | :   | 28     |    |             |  |                    |
|   | Reclangle       | 2                      | TBF        |    | 4(H)×8     | B(W) |     | 48     |    | 450         | 5.00                                     | <b>D</b> (0        |
|   |                 | 2~12                   | F          |    | 7.0        | )    | :   | 53     |    | 150         | D×20                                     | D×10               |
| ( | Circle          | 2~4                    | TBF        |    | 6.3        | 3    |     | 47     |    |             |  |                    |
|   | Type            | Mavelength             | n(nm)      | gi | 50         | 13   | 00  | 131    | 0  | 1383        | 1550                                     | 1625               |
|   | туре            | wavelengu              | (()))      | 0. | 00         | 10   | 00  | 101    | 0  | 1000        | 1000                                     | 1023               |
|   |                 | Single-Mo              | ode(9/125) |    |            |      |     | ≤0.4   | 0  | ≤1310nr     | n ≤0.30                                  | ≤0.35              |
|   | Attenuatio<br>n | Multimode              | 50.0/125   | ≤3 | 3.0        | ≤1   | .0  |        |    |             |  |                    |
|   | (dB/km)         | wattinoue              | 62.5/125   | ≤3 | 3.5        | ≤1   | .5  |        |    |             |  |                    |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement



### HYBRID CABLE



### FEATURES & APPLICATIONS

- Connectivity environment : Hybrid Fiber
- Optic/Electrical

### DESCRIPTION

- Access control systems
- Airports
- Auto and storage lots
- Bridges
- CCTV video surveillance
- ► Commercial aerospace



tape Outer

#### OPTICAL SPECIFICATIONS

- ▶ Single mode @1310nm ≤ 0.40 dB/km @1383nm ≤ 0.36 dB/km @1550nm ≤ 0.30 dB/km @1625nm ≤ 0.35 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$
  - Multi mode @ 850nm ≤ 3.5 dB/km
     @1300nm ≤ 1.5 db/km
     50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No of Core | Outer            | Weight          | Max.Tensil   | Min.Bending  | g Radius(mm) | Temperatur     |
|------------|------------------|-----------------|--------------|--------------|--------------|----------------|
|            | Diameter<br>(mm) | (Net.<br>kg/km) | e<br>Load(N) | Installation | Operation    | e<br>Range(°C) |
| 4F         | 13±0.3           | 180             | 1,400        | Cable Dia*20 | Cable Dia*15 | -40~+70        |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.

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# HYBRID CABLE (3C cooper+4C optical fiber)



### FEATURES & APPLICATIONS

- ► Connectivity Environment : HYBRID FIBER
- ▶ OPTIC/ELECTRICAL

- Access Control Systems
- Airports
- ► Auto and Storage Lots
- Bridges
- ► CCTV Video Surveillance
- Commercial Aerospace



- ► Single mode @1310nm ≤ 0.40 dB/km @1383nm ≤ 0.36 dB/km @1550nm ≤ 0.30 dB/km @1625nm ≤ 0.35 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq$ 1260nm
  - ▶ Multi mode @ 850nm ≤ 3.5 dB/km @1300nm ≤ 1.5 db/km 50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### **CHARACTERISTICS**

| No of Core              | Outer            | Weight          | Max.Tensil   | Min.Bending   | g Radius(mm) | Temperatur     |
|-------------------------|------------------|-----------------|--------------|---------------|--------------|----------------|
|                         | Diameter<br>(mm) | (Net.<br>kg/km) | e<br>Load(N) | Installation  | Operation    | e<br>Range(°C) |
| 3C copper<br>+ 4F Fiber | 17.0±0.5         | 340             | 3.000        | Cable Dia*150 | Cable Dia*10 | -20~+70        |

|              | Copper wire | IEC60364<br>Stranded wire | - 3ea, 0.67/7, 2.5 mẩ<br>- Conductor resistance : 7.41Ω/km, 450/750V |
|--------------|-------------|---------------------------|--|
| Electri<br>c | Cheeth      | material                  | - Halogen Free Reraedant Polyolefin                                  |
| Powe<br>r    | Sheath      | Diameter                  | - 3.5 ± 0.2mm  |

### FTTX OPTICAL CABLE<sup>(Buffer Type)</sup>



### **FEATURES**

- Easy connection of optical fiber connectors
  Outstanding workability for vertical &
- horizontal installations
- Use of complex type cable available (Single mode, Multimode)
- ► Ease of handling with light weight & thin diameter
- ► Coating materials : Flame retardant PU
- ► Operating Temperature Range : -20~70°C

### DESCRIPTION

- Designed to allow the mixed use of single mode & multimode optical fiber cables together within the same cabling.
- Allow using maximum 6 cores of optical fiber or tight buffer cables, inserted with aramid yarn for excellent mechanical&environmental characteristics.



### **APPLICATIONS**

- Indoor/Outdoor
- ► Condominium
- ► LAN
- Integrated residential network (Internet, Home Automation System, Communication Training & etc.)

|   | CHARACTER              | ISTICS     |                   |               |                       | D: Out<br>TBF: T       | er<br>er Diameter<br>īght Buffered |  |
|---|------------------------|------------|-------------------|---------------|-----------------------|------------------------|------------------------------------|--|
|   | Cla                    | ass        | Out               |               | Max.                  | Min.Bending Radius(mm) |                                    |  |
|   | No.<br>of<br>Core<br>s | Туре       | Diamete<br>r (mm) | Weight(kg/km) | Tensile<br>Load(kg·f) | Installation           | Operation                          |  |
|   | 1                      | TBF(Φ0.9)  | 3.0               | 8             |                       |                        |                                    |  |
|   | 2~4                    | TBF(Φ0.53) | 3.6               | 14            |                       |                        |                                    |  |
|   | 4                      | SM2<br>MM2 | 3.8               | 11            | 66                    | DX20                   | DX10                               |  |
| ( | 6 SM4<br>MM2           |            | 5.0               | 25            |                       |                        |                                    |  |

| Туре            | e/Wavelengt | h(nm)      | 850   | 1300  | 1310  | 1383    | 1550  | 1625   |
|-----------------|-------------|------------|-------|-------|-------|---------|-------|--------|
| • · · · · ·     | Single-M    | ode(9/125) |       |       | ≤0.40 | ≤1310nm | ≤0.30 | ≤0.350 |
| Attenuatio<br>n | Multimodo   | 50.0/125   | ≤3.00 | ≤1.00 |       |         |       |        |
| (dB/km)         | wuttimode   | 62.5/125   | ≤3.50 | ≤1.50 |       |         |       |        |

## FTTX DROP CABLE<sup>(Fiber</sup>



### FEATURES & APPLICATIONS

 Suitable for indoor or outdoor applications
 Jacket is UV, fungus and moisture resistant

### DESCRIPTION

 Indoor/outdoor tight-buffered cable design for use
 installations requring a flame-retardant, low-smoke and zero-halogen cable



### OPTICAL SPECIFICATIONS

- ▶ Single mode @1310nm ≤ 0.38 dB/km
   @1383nm ≤ 0.36
   dB/km @1550nm ≤
   0.25 dB/km @1625nm
   ≤ 0.30 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$
  - Multi mode @ 850nm ≤ 3.5 dB/km
     @1300nm ≤ 1.5 db/km
     50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No of Core | Outer            | Weight          | Max.Tensil   | Min.Bendin                | g Radius(mm) | Temperatur     |
|------------|------------------|-----------------|--------------|---------------------------|--------------|----------------|
|            | Diameter<br>(mm) | (Net.<br>kg/km) | e<br>Load(N) | Installation              | Operation    | e<br>Range(°C) |
| 1F         | 3.0±0.1          | 8.5             |              |                           |              |                |
| 2F         | 3.0±0.1          | 7.8             | 000          | Oshi Distan               | Oshla Distan | 0070           |
| 4F         | 3.0±0.1          | 8.0             | 800          | Cable Dia <sup>*</sup> 15 | Cable Dia*10 | -20~+70        |
| 6F         | 3.2±0.1          | 8.6             |              |                           |              |                |

► 1F : buffer type, 2/4/6F : coloring fiber type . Jacket material : Frame retardant polyurethan

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.

FTTX Cable

### FTTX DISTRIBUTION CABLE<sup>(Double Sheath)</sup>



### DESCRIPTION

- ► Highly flexible & light weight
- Ease of peeling enabling fast connection
- ► Coating material : flame retardant PU, LSZH etc.
- ► Operating temperature range : -40~70°C



### FEATURES &

- ► Patch cords
- LAN distribution
- Outdoor cable

### OPTICAL

- ▶ Single mode @1310nm ≤ 0.40 dB/km @1383nm ≤ 0.36 dB/km @1550nm ≤ 0.30 dB/km @1625nm ≤ 0.35 dB/km
  - PMD ≤ 0.2dB(ps/km<sup> $\frac{1}{2}$ </sup>), Cut-off wavelength ≤ 1260nm
- Multi mode @ 850nm ≤ 3.5 dB/km
   @1300nm ≤ 1.5 db/km
   50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No of Core | Outer            | Weight          | Max.Tensil   | Min.Bending  | g Radius(mm) | Temperatur     |
|------------|------------------|-----------------|--------------|--------------|--------------|----------------|
|            | Diameter<br>(mm) | (Net.<br>kg/km) | e<br>Load(N) | Installation | Operation    | e<br>Range(°C) |
| 1F         | 4.6±0.2          | 22              | 800          | Cable Dia*10 | Cable Dia*5  | -20~+70        |
| 2F         | 5.0±0.2          | 23              | 1,000        | Cable Dia*15 | Cable Dia*10 | -20~+70        |

### FTTX INDOOR DROP CABLE<sup>(Rectangle Type)</sup>



#### FEATURES

- Use for indoor connecting
- ► Small size
- Light weight and cost efficient
- Structure used for pushing install

### DESCRIPTION

 Tensile load & compression characteristics are enhanced by inserting two FRPs or ARPs, offering protection for optical fiber from physical impact outside with the gap provided inside the cable there by resulting in excellent optical & mechanical characteristics



#### APPLICATIONS

- ► Conduit, Duct laying
- ► From OTP to OTP
- ► CATV, FTTH
- ► Office building, government office

#### **CHARACTERISTICS**

| Item   | No. of<br>Cores            | Out Diameter<br>(mm)        | Weight(kg/<br>km)          | Min.Bending<br>Radius(mm<br>) | 20.0kg.f<br>(200N)         | Crush force<br>(N/100mm) | Temperature<br>cycling |
|--|----------------------------|-----------------------------|----------------------------|-------------------------------|----------------------------|--------------------------|------------------------|
| Indoor<br>Sta <b>Dotapocabb</b> ir : E<br>G.6557A2 | 1F<br>Blue Optical Fiber : | [W x H]<br>2.0mm x<br>3.1mm | 8.5kg/k<br>m<br>(NET.<br>) | 15m<br>m,<br>10<br>turn       | 20.0k<br>g.f<br>(200N<br>) | 600                      | -20°C~+70°C            |

### OPTICAL ATTENUATION

| Type/V                 | Wavelength(nm)                 | 850                | 1300               | 1310             | 1383   | 1550   | 1625   |
|------------------------|--------------------------------|--------------------|--------------------|------------------|--------|--------|--------|
| Attenuation<br>(dB/km) | SMF(G.657A2)                   |                    |                    | ≤0.350           | ≤0.350 | ≤0.215 | ≤0.350 |
| #Above cable con:      | struction & feature may be rev | vised without pric | or notice to imple | ment the quality |        |        |        |

 OPTICAL FIBER CABLES

### FTTX OUTDOOR DROP CABLE<sup>(Rectangle Type)</sup>



#### **FEATURES**

- ► Applicable for conduit & aerial installation
- ► Use with both optical fiber & tight buffer available
- Small size and low friction
- Excellent mechanical & optical characteristics
- Light weight and cost efficient

### DESCRIPTION

- Tensile load & compression characteristics are enhanced by inserting a steel wire and FRPs, offering protection for optical fibers from physical impact from outside with the gap provided inside the cable thereby resulting in excellent optical & mechanical characteristics.
- Possible to push wire without using any lead wire because of low friction in cable jaket.



### APPLICATIONS

- Conduit, duct, aerial laying
- ► Luxuy Condominium & Common Housing(FTTH)
- Office buildings, Government offices
- ► CATV, Internet cafe

### CHARACTERISTICS

| Item                              | No. of<br>Cores             | Out Diameter<br>(mm)                  | Weight(kg/<br>km)                        | Min.Bending<br>Radius(mm<br>) | 20.0kg.f<br>(200N)                           | Crush force<br>(N/100mm) | Temperature cycling |
|-----------------------------------|-----------------------------|---------------------------------------|--|-------------------------------|--|--------------------------|---------------------|
| Drop<br>Standard-rolor : E<br>A/B | 1F,2F<br>Blue, Orange, Gree | [W x H]<br>en, Bzownmaray, W<br>5.3mm | 25kg/k<br>/hire, Red, Black, I<br>(NET ) | 15mm<br>Pink, Aqua Optical    | 130kg.<br>Fibe <sub>f</sub> : G657<br>(1.300 | 600                      | -20°C~+70°C         |
| Ũ                                 |                             |                                       | (1121.)                                  | tann                          | (1,000<br>N)                                 |                          |                     |

### OPTICAL ATTENUATION

| Type/Wavelength(nm)    |              | 850 | 1300 | 1310   | 1383   | 1550   | 1625   |
|------------------------|--------------|-----|------|--------|--------|--------|--------|
| Attenuation<br>(dB/km) | SMF(G.657A2) |     |      | ≤0.350 | ≤0.350 | ≤0.215 | ≤0.350 |

### Fig-8 TYPE OPTICAL CABLE



### FEATURES

- Light weight, compact & ease of handling
- Economical construction for aerial cabling application
- Outstanding mechanical & environmental characteristics

**CHARACTERISTICS** 

- ► Coating materials : Flame retardant LSZH & etc.
- ▶ Operating Temperature Range: -40~70°C

### DESCRIPTION

- Outdoor type Cable purposely manufactured for ease of
- cabling between the electric poles or leading into buildin from pole, manufactured with the self standing, "8" shape construction.
- Designed to have the appropriate tensile load considerin the cable laying stress and stable Bending characteristic
- Offering excellent mechanical & environmental characteristics that may occur after the cable laying wor considering the stress & impact from outside and



#### **APPLICATIONS**

► LAN

- Subscriber network
- ► CATV, PC Cafe

|                 |                              |                 |                       | D            | : Outer    |  |
|-----------------|------------------------------|-----------------|-----------------------|--------------|------------|--|
| No.             | Outer                        | Weight(kg/km)   | Max.                  | Min.Bendiri  | Radius(mm) |  |
| of<br>Core<br>s | Diameter (Height x<br>Width) | Weight(Kg/Kill) | Tensile<br>Load(kg∙f) | Installation | Operation  |  |
| 2               | 4.7 X 8                      | 27              | 80                    |              | DX10       |  |
| 4               | 4.7 X 8                      | 28              | 80                    | DX20         |            |  |
| 6               | 5.5 X 9                      | 29              | 80                    |              |            |  |

### OPTICAL ATTENUATION

| Type/Wavelength(nm) |           | 850        | 1300  | 1310  | 1383  | 1550    | 1625  |        |
|---------------------|-----------|------------|-------|-------|-------|---------|-------|--------|
|                     | Single-M  | ode(9/125) |       |       | ≤0.40 | ≤1310nm | ≤0.30 | ≤0.350 |
| Attenuatio          | Multimodo | 50.0/125   | ≤3.00 | ≤1.00 |       |         |       |        |
| (dB/km)             | Multimode | 62.5/125   | ≤3.50 | ≤1.50 |       |         |       |        |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.



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FTTX Cable

# BMC (AIR BLOWN MICRO



### FEATURES & APPLICATIONS

- High performance components and construction UL Listed in accordance with NEC sections 770.179(b) for use in vertical runs in building riser shafts or from floor th floor
- Cable materials are indoor/outdoor : UV, water and fungus resistant
- ► Wide operating temperature Range : -40~+85°C

### DESCRIPTION

- Indoor/outdoor tight-buffered design allows cables to be installed in intra-building backbone and inter-building compus locations without costly transitions between cabl types
- The construction of the cable allows multi fiber sub cable to be routed to multiple locations such as wiring racks and sets



Optical fiber Jelly compound PBT loose tube Water swellable yarn CSM Water swellable tape Rip

cord Outer jacket (HDPE, core-lock type)

### OPTICAL SPECIFICATIONS

- ▶ Single mode @1310nm ≤ 0.36 dB/km @1383nm ≤ 0.35 dB/km @1550nm ≤ 0.22 dB/km @1625nm ≤ 0.25 dB/km
  - $PMD \leq 0.2dB(ps/km^{\frac{1}{2}}), Cut-off wavelength \leq 1260nm$
  - Multi mode @ 850nm ≤ 3.0 dB/km @1300nm ≤ 1.0 db/km 50/125µm(OM2, OM3, OM4), 62.5/125µm(OM1)

### CHARACTERISTICS

| No of Coro | Outer            | Weight          | Max.Tensil   | Min.Bending  | Temperatur   |                |
|------------|------------------|-----------------|--------------|--------------|--------------|----------------|
| NO.01 COLE | Diameter<br>(mm) | (Net.<br>kg/km) | e<br>Load(N) | Installation | Operation    | e<br>Range(°C) |
| 12F        |                  | 36              | 1,000        | Cable Dia*15 | Cable Dia*10 | -40~+70        |
| 24F        |                  | 37              |              |              |              |                |
| 36F        | 6.7±0.2          | 38              |              |              |              |                |
| 48F        |                  | 39              |              |              |              |                |
| 72F        |                  | 47              |              |              |              |                |

#Above cable construction & feature may be revised without prior notice to implement the quality improvement.

FTTX <sup>+</sup> **59** Cable

### FTTH Transparent Strong Buffer & Rail





### DESCRIPTION

- ► Indoor Purpose
- Transparent Buffer
- Strength Member : Aramid yarn



### FEATURES&APPLICATIONS

- ► Single-mode fiber cable
- Installation method : fixed by inserting to the rail
- ► MAX. Tensile Load : 50N



- ▶ Single mode @ 1310nm ≤ 0.36 dB/km
   @ 1383nm ≤ 0.35
  - dB/km @ 1550nm ≤ 0.22 dB/km @ 1625nm ≤ 0.25 dB/km
- ► PMD ≤ 0.2dB(ps/km1/2)
- ► Cut-off Wavelength ≤ 1260nm

### CHARACTERISTICS

| Cores | Buffer<br>diameter(m<br>m) | Number of<br>Fiber per<br>tube | Weight<br>(kg/km) | Max.Tensile load |  |
|-------|----------------------------|--------------------------------|-------------------|------------------|--|
| 1F    | 0.9±0.1                    | 1F /tube                       | 0.7               | 4kg              |  |
| 1F    | 1.5±0.1                    | 1F /tube                       | 1.9               | 4kg              |  |

### FTTH FIG-8 DISTRIBUTION CABLE



### DESCRIPTION

- ▶ Single mode, 1 or 2 fibers
- Semi Strip Buffer
- ► Reinforced Aramid Yarn
- ► LSZH(FR-PE) Jacket



### FEATURES&APPLICATIONS

- ► Aerial type drop cable
- Outdoor cable
- Easy Installation
- FTTH(Fiber To The Home)

### **OPTICAL SPECIFICATIONS**

▶ Single mode @ 1310nm ≤ 0.36 dB/km
 @ 1383nm ≤ 0.36
 dB/km @ 1550nm ≤
 0.22 dB/km @ 1625nm
 ≤ 0.30 dB/km

 $PMD \le 0.2dB(ps/km1/2)$ Cut-off wavelength  $\le 1260nm$ 

| No.  | Outer Diameter(mm) | Weight | Max.<br>Tensile | Min. Bendin<br>Radius(mm) | Temperatur    |             |
|------|--------------------|--------|-----------------|---------------------------|---------------|-------------|
| Core |                    | )      | Load(N)         | Installation              | Operation     | Range(°C)   |
| 1F   | 3.0±0.1*5.8±0.2    | 20     | 1 200           |                           | D X 20 D X 45 | 10°0 70°0   |
| 4F   | 3.2±0.1*5.9±0.2    | 21     | 1,300           | D X 20                    | D X 15        | 10 C ~ 70 C |

### CHARACTERISTICS

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FTTX Cable



### Fiber Type Mini Drop Cable



### **DESCRIPTION**

Single mode, 1 or 4 fibers
Reinforced FRP
Low Friction, LSZH Jacket



### FEATURES&APPLICATIONS

►Indoor Purpose Drop cable

- ▶Small Size
- ►Light Weight
- ►Duct Laying

► Capable of Pushing into Tube(Low

- Friction)
- ►FTTH(Fiber To The Home)

### OPTICAL SPECIFICATIONS

Single mode @ 1310nm ≤ 0.36 dB/km
 @ 1383nm ≤ 0.36
 dB/km @ 1550nm ≤
 0.22 dB/km @ 1625nm
 ≤ 0.25 dB/km
 PMD ≤ 0.2dB(ps/km1/2)
 Cut-off wavelength ≤ 1260nm

### CHARACTERISTICS

| No.        | Outor             | Weight          | MAX.<br>Tensilo | Min. Bendin  | Min. Bending Radius(mm) |                |  |
|------------|-------------------|-----------------|-----------------|--------------|-------------------------|----------------|--|
| of<br>Core | Diameter(mm)      | (Net.Kg/km<br>) | Load(N<br>)     | Installation | Operation               | e<br>Range(°C) |  |
| 1F         | 1.65±0.1*2.45±0.1 | 16              | 150             | 20           | 15                      | 20°C - 70°C    |  |
| 4F         | 1.75±0.1*2.45±0.1 | 6.5             | 150             | 30           | 15                      | -20 C ~ 70 C   |  |



### FTTx Pre-Connectorized Patch Cord





#### DESCRIPTION

The Pre-Connectorized Drop & Cord cables could be used for the purpose of the transition from Fiber Distribution Terminal to the individual living units or Multi Dwelling Units (MDU), and provide quick and easy deployment with the increased reliability. It also allowsfast turn up service and network reach, and lowers maintenance costs

### **SPECIFICATIONS**

| Description     | UNIT | Specifications      | Remarks |
|-----------------|------|---------------------|---------|
| Insertion Loss  | dB   | ≤ 0.3               |         |
| Deturn Loop     | dD   | ≥ 50                | UPC     |
| Return Loss     | uВ   | ≥ 60                | APC     |
| Cord Length     | m    | Ordering Customized |         |
| Jacketing Color | -    | Black               |         |

| Parts         | Structure                              | Material         | colors              | Remarks |
|---------------|--|------------------|---------------------|---------|
| Ferrule Cap   | Ferrule Protect<br>CapHousing,<br>Boot | LDPE             | UPC: BlueAPC: Green |         |
| Forrulo       | UPC                                    | Zirconia Ceramic | White               |         |
| Fenule        | APC                                    | Zirconia Ceramic | WhiteAngle:8°±0.3   |         |
| Plug Frame    | SC Type                                | PBT              | White               |         |
| Stopper Frame | SC Type                                | PBT              | White               |         |
|               | -                                      | Steel            | -                   |         |

 OPTICAL FIBER CABLES

### Fan-Out Type PLC SPLITTER 1(2×) N

PLC (planar lightwave circuit) splitter is fabricated by using silica optical waveguide technology. It features wide operating wavelength range,

good channel-to-channel uniformity, high reliability and small size, and is widely used in PON networks to realize optical signal power management. We provide a whole series of 1 x N splitters that are tailored for specific applications. All products meet Telcordia 1209 and 1221 reliability requirements and are certified by TLC for network development requirement.

GOC can provide customized designs to meet specialized applications, and also offer modulars assemblies that integrated other components to form a full function module.

### **APPLICATIONS**

- ► FTTX Solutions
- ► Passive Optical
- Network(PON)





### FURCATION





| imension(nm<br>) | 1x2 | 1x4 | 1x8 | 1x16 | 1x32 | 1x64 |
|------------------|-----|-----|-----|------|------|------|
| L                | 40  | 40  | 50  | 50   | 55   | 55   |
| W                | 4   | 4   | 7   | 7    | 7    | 13   |
| Н                | 4   | 4   | 4   | 4    | 4    | 4    |

### Parameter for 1xN PLC Splitter(Without

| PARAMETER                | 1x2                           | 1x4  | 1x8          | 1x16  | 1x32  |  |
|--------------------------|-------------------------------|------|--------------|-------|-------|--|
| Insertion Loss(dB)       | ≤3.7                          | ≤7.2 | ≤10.5        | ≤13.5 | ≤16.5 |  |
| Uniformity(dB)           | ≤0.6                          | ≤0.6 | ≤0.8         | ≤1.2  | ≤1.7  |  |
| PDL(dB)                  | ≤0.2                          | ≤0.3 | ≤0.3         | ≤0.3  | ≤0.3  |  |
| Return Loss(dB)          | ≥ 55                          |      |              |       |       |  |
| Directivity(dB)          | ≥ 55                          |      |              |       |       |  |
| Operating Wavelength(nm) | 1260 ~ 1360nm & 1450 ~ 1650nm |      |              |       |       |  |
| Oprating Temperature(°C) | -40°C ~ 85°C                  |      |              |       |       |  |
| Humidty Range            |                               |      | 5% to 85% RH |       |       |  |

### Fan-Out Type PLC SPLITTER 1(2×) N



| PLC | XXX          | XXX                       | х         | XX        | XX              | х                   |
|-----|--------------|---------------------------|-----------|-----------|-----------------|---------------------|
|     | Input&Output | Input Tube Type           | L1 length | L2 length | Input Connector | Output<br>Connector |
|     | Count        | 9=90mm<br>Tight<br>buffer | 12=1.2m   | 12=1.2m   | 0=Nome          | 0=None              |
|     | 104=1X4      | Fiber                     | 15=1.5m   | 15=1.5m   | FC/PC           | FC/PC               |
|     |              | 2=Ø2.0mm Fiber            | 150=15m   | 150=15m   | AFC=FC/APC      | AFC=FC/APC          |
|     | 208=2X8      | 3=Ø3.0mm Fiber            |           |           | SC/PC           | SC/PC               |
|     |              |                           |           |           | ASC=SC/APC      | ASC=SC/APC          |
|     |              |                           |           |           | Others          | Others              |

### Parameter for 2xN PLC Splitter(Without)

| PARAMETER          | 2x2  | 2x4  | 2x8   | 2x16  | 2x32  | 2x64 |
|--------------------|------|------|-------|-------|-------|------|
| Insertion Loss(dB) | ≤3.9 | ≤7.5 | ≤10.8 | ≤14.1 | ≤17.4 | ≤21  |
| Uniformity(dB)     | ≤0.8 | ≤1.2 | ≤1.5  | ≤2.0  | ≤2.5  | ≤2.5 |
| PDL(dB)            | ≤0.2 | ≤0.3 | ≤0.4  | ≤0.4  | ≤0.4  | ≤0.4 |

Optical PLC Splitter + 67

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### **INTERGRATED TYPE PLC**

#### N **CDI ITTFD** 1

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GOC can provide customized designs to meet specialized applications, and also offer modulars assemblies that integrated other components to form a full function module.



### SPLITTER STAINLESS

HM- 1x8PLC Splitter S/N: 108-169546



- ► FTTX Solutions
- Passive Optical Network(PON)

### Parameter for 1xN PLC Splitter(Without

| (Onnector)                  |                               |      |            |       |       |
|-----------------------------|-------------------------------|------|------------|-------|-------|
| PARAMETER                   | 1x2                           | 1x4  | 1x8        | 1x16  | 1x32  |
| Insertion Loss(dB)          | ≤3.7                          | ≤7.2 | ≤10.5      | ≤13.5 | ≤16.5 |
| Uniformity(dB)              | ≤0.6                          | ≤0.6 | ≤0.8       | ≤1.2  | ≤1.7  |
| PDL(dB)                     | ≤0.2                          | ≤0.3 | ≤0.3       | ≤0.3  | ≤0.3  |
| Return Loss(dB)             | ≥ 55                          |      |            |       |       |
| Directivity(dB)             | ≥ 55                          |      |            |       |       |
| Operating<br>Wavelength(nm) | 1260 ~ 1360nm & 1450 ~ 1650nm |      |            |       |       |
| Oprating Temperature(°C)    | -40°C ~ 85°C                  |      |            |       |       |
| Humidty Range               |                               | 50   | % to 85% R | RΗ    |       |



#### DIMENSION FOR PLC

| Dimension(nm<br>) | 1x2 | 1x4 | 1x8 | 1x16 | 1x32 |
|-------------------|-----|-----|-----|------|------|
| L                 | 60  | 60  | 60  | 60   | 80   |
| W                 | 7   | 7   | 7   | 12   | 20   |
| н                 | 4   | 4   | 4   | 4    | 6    |

#### SCHEMATIC DIAGRAM



#### Input fiber length Output fiber length CH 1 PLC Device 1 900um loose tube 900um loose tube CH N

| PLC | XXX                   | XXX             | Х         | XX        | XX              | Х          |
|-----|-----------------------|-----------------|-----------|-----------|-----------------|------------|
|     | Input&Output          | Input Tube Type | L1 length | L2 length | Input Connector | Output     |
|     |                       | buffer          | -         | -         |                 | Connecto   |
|     | 0-                    | 00mm Ticht      |           | 10.10     | 0 N             |            |
|     | Count 9=              | 90mm light      | 12=1.2m   | 12=1.2m   | 0=Nome          | 0=None     |
|     | 104=1X4 Fib           | Fiber Fiber     |           | 15=1.5m   | FC/PC           | FC/PC      |
|     | 2=                    | Ø2.0mm<br>Fiber |           | 150=15m   | AFC=FC/APC      | AFC=FC/APC |
|     | 208=2X8 <sup>3=</sup> | Ø3.0mm          |           |           | SC/PC           | SC/PC      |
|     |                       |                 |           |           | ASC=SC/APC      | ASC=SC/APC |
|     |                       |                 |           |           | Others          | Others     |

### BOX TYPE PLC SPLITTER

PLC (planar lightwave circuit) splitter is fabricated by using silica optical waveguide technology. It features wide operating wavelength range, good channel-to-channel uniformity, high reliability and small size, and is widely used in PON networks to realize optical signal power management. We provide a whole series of 1 x N and 2 x N splitters that are tailored for specific applications. All products meet Telcordia 1209 and 1221 reliability requirements and are certified by TLC for network development requirement.

GOC can provide customized designs to meet specialized applications, and also offer modulars assemblies that integrated other components to form a full function module.



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### **APPLICATIONS**

- FTTX Solutions
- Passive Optical Network(PON)

| Unit(mm)Fai      | n-out cable | L(mm     | ) W( | mm) H( | mm) A(r | nm) B(m | m) |
|------------------|-------------|----------|------|--------|---------|---------|----|
| 1(2) x 2-8       | 0.9mm o     | or 2.0mm | 10   | 0      | 1       | 70      |    |
| 80               |             |          |      |        | 0       | 73      |    |
| 1(2) x 16-32     | 0.9mm       | 120      | 80   | )      | 1       | 80      |    |
| 1(2) x 16        | 2.0mm       | 120      | 80   | )      | 8       | 74      |    |
| $1(2) \times 32$ | 2 0mm       | 140      | 11   | 5      | 1       | 80      |    |
| 1(2) x 02        | 2.01111     |          |      | 0      | 8       | 74      |    |
| 1(2) X 64        | 0.9mm o     | or 2.0mm | 14   | 0      | 1       | 100     |    |
| 115              |             |          |      |        | •       | 100     |    |



|    | 8   | 106          |     |
|----|-----|--------------|-----|
|    | 1   | 100          |     |
|    | 8 / | 0106         |     |
|    | /   |              |     |
|    | /   |              | >   |
| 1  | ×   |              | X   |
| 11 | 11  |              | 117 |
| /  | //  | 1 2          | 11/ |
|    | 11  | XX           | //  |
|    | 1   | X            | Y   |
|    |     | $\checkmark$ | 9   |

| PLC-BOX | xxx          | xxx                       | x         | xx        | xx              | x                   |
|---------|--------------|---------------------------|-----------|-----------|-----------------|---------------------|
|         | Input&Output | Input Tube Type           | L1 length | L2 length | Input Connector | Output<br>Connector |
|         | Count        | 9=90mm<br>Tight<br>buffer | 12=1.2m   | 12=1.2m   | 0=Nome          | 0=None              |
|         | 104=1X4      | Fiber                     | 15=1.5m   | 15=1.5m   | FC/PC           | FC/PC               |
|         |              | 2=Ø2.0mm Fiber            | 150=15m   | 150=15m   | AFC=FC/APC      | AFC=FC/APC          |
|         | 208=2X8      | 3=Ø3.0mm Fiber            |           |           | SC/PC           | SC/PC               |
|         |              |                           |           |           | ASC=SC/APC      | ASC=SC/APC          |
|         |              |                           |           |           | Others          | Others              |

Splitter

### FIELD INSTALLABLE CONNECTOR



### INTRODUCTION

The Field Installable Connector is cost-effective, and is designed for reusage, ease of installation, optical attenuation from 1dB to 20dB, and Fiber Bragg Grating (FBG) for fiber monitoring system. FIC requires no field polishing or epoxy, so no heat cure devices or special tooling are needed to terminate the fiber. It takes about one to two minutes per fiber to install a connector out in the field.

| PARAMETER               | SM : SC/PC, LC/PC  | MM : SC/PC, LC/PC                  |  |  |
|-------------------------|--|------------------------------------|--|--|
| Fiver Type              | Single Mode : 9/125 $\mu$ m  | Multi Mode : 50/125µm, 62.5//125µm |  |  |
| Insertion Loss          | Max. ≤0.5 dB<br>Avg. ≤0.3 dB   | Max. ≤0.5 dB<br>Avg. ≤0.3 dB       |  |  |
| Reflectance             | ≥ 40-50 dB(PC/UPC), ≥ 50-60 dB(APC)  |                                    |  |  |
| Operational Temperature | - 40 ~ 75°C  |                                    |  |  |
| Storage Temperature     | - 40 ~ 80°C  |                                    |  |  |
| Tensile Load            | 3N Load ≤ 0.2 dB Change(0.9mm cable)<br>30N Load ≤ 0.2 dB Change(2.0/3.0mm<br>cable) |                                    |  |  |

### Specifications for GSC

### FIBER OPTICAL PATCH CORD



### FEATURES

- ► Low insertion loss
- ► High return loss
- Various connector type available
- ▶ 100% in-house tested

### APPLICATIONS

- ► Fiber optic telecommunications
- Optical network equipments
- ► FTTH
- ► CATV, IPTV
- ► High speed transmission system

| - | нΝ |  |
|---|----|--|
|   |    |  |
| _ |    |  |

| Fiber Mode                | Single Mode        | Multi Mode         |  |  |
|---------------------------|--------------------|--------------------|--|--|
| Туре                      | FC, SC, ST, LC, MU | FC, SC, ST, LC, MU |  |  |
| Ext. Diameter (mm)        | 0.9, 2.0, 3.0      | 0.9, 2.0, 3.0      |  |  |
| Ferrule Type              | PC APC             | PC                 |  |  |
| Insertion Loss (dB)       | ≤ 0.3 ≤ 0.3        | ≤ 0.3              |  |  |
| Return Loss (dB)          | ≥ 55 ≥ 60          | -                  |  |  |
| Operation Temperature(°C) | - 40               | ~75                |  |  |
| Storage Temperature(°C)   | - 55 ~ 85          |                    |  |  |

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### OPTICAL FIBER CABLES

### ACCESS TERMINAL BOX



### INTRODUCTION

GOC has designed Access Terminal Box(ATB) to protect and funcation as a terminal for fiber optic drop cable and/or patch cords in the FTTH Networks. ATB is compact and cost-effective, and being used for the Indoor closure.

This ATB accepts the field-installable connector, fusion splice, and 1×4 splitter and 1×4 coupler for termination.

### FEATURES

- Compact design for installation on the wall as well as inside the terminal panel.
- Two screw mounting holes are compatible with the size of the wall switch and telephone box.
- This box protects drop cable and other related optical fiber connection from accidental damage.
- Two inner holders retain up to two fusion splice sleeves or splitters/couplers.
- Inner storage area allows the minimum bend radius to prevent micro bends and attenuation.
- Two adapter slots allows up to two SC Type duplex adapters.
- Removable cover is designed for easy access.

### TECHNICAL

| PARAMETER       | VALUE  |
|-----------------|--|
| Dimension(mm)   | 117×88×29  |
| Weight(g)       | 75   |
| Cable Count     | 1  |
| Adapte          | 2 Duplex SC Adapter max.                                     |
| Connection Type | Fusion splice, mechanical splice or field assembly connector |

### Aerial Joint Closure (Ventilation type)



### DESCRIPTION

- ▶ 1 X 8ch : 2ea, 1 x 16ch : 1ea optical splitter / 16 SC adapters can be mounted
- ▶ 16 drop cables(2.0mm\*3.0mm) can be connected
- Passed humidity test : 2days, 55°C / 90~96R.H
- ▶ IEC68-2-10 / 20 / 52
- ► IP 65 protection level

### SPECIFICATIO

| Box Material              | PP+Fiberglass | Size(mm)   | 670*160*70 |
|---------------------------|---------------|------------|------------|
| Fiber<br>Tray<br>Capacity | 16            | Weight(kg) | 2.0-2.5    |

### PACKING

| Туре       | Name                                  |
|------------|---------------------------------------|
| GPJ09-9403 | Ventilation type aerial joint Closure |

Accessory

### Aerial Type Fiber Optic Terminal Box



### DESCRIPTION

 $\blacktriangleright$  1 x 16 optical splitters and 16 SC adapters can be mounted

- ▶ 16 drop cables can be connected
- ▶ Protection Class IP55

### SPECIFICATIO

| Box material              | PP+Fiberglass | Size(mm)   | 600*153*73 |
|---------------------------|---------------|------------|------------|
| Fiber<br>tray<br>capacity | 24            | Weight(kg) | 1.8-2.5    |

### PACKING

| Туре       | Name                              |
|------------|-----------------------------------|
| GPJ09-9402 | Optical Fiber Cable Connector Box |

### Pole Type Fiber Optic Distribution Box



### DESCRIPTION

- ► Installation / fixing method: wall-mounting or pole-mounting
- ► The maximum fiber capacity: 16 fibers
- Features : Fiber Optic Distribution Box could be used for the protection of the branch cables from the feeder cable in building in FTTH of PON technology

### SPECIFICATIO

| Box Material              | high strength<br>engineering-<br>plastics ABS | Appearanc<br>e<br>size(mm) | 292 X 248 X 100 |
|---------------------------|---|----------------------------|-----------------|
| Fiber<br>tray<br>capacity | 16fibers2×1:8 PLC splitters<br>and 1×1:16 PLC | Weight(kg)                 | 2.5             |

### PACKING

| Туре      | Name                                   |
|-----------|--|
| GF6-15N6S | Pole type Fiber Optic Distribution Box |

Accessory

### Optical Distribution Cabinet<sup>(ODC)</sup>



### DESCRIPTION

- Installation / Fixing method: Bottom-mounting.
- Maximum Fiber Capacity ; 144 & 288 fibers
- Features

ODC is an intermediaclosure(housing) dividing a feeder cableinto the distribution cables. It is installed on the ground, and branched out by using splitter inside Feeder cable could obtain up to 144 cores or 288 cores. It satisfies waterproof characteristics.

### SPECIFICATIONS

| Fiber    | 12F splicing & distribution |
|----------|-----------------------------|
| tray     | tray 24F splicing &         |
| capacity | distribution tray           |

### PACKING

| Туре     | Name                                  |  |
|----------|---------------------------------------|--|
| GODC-144 | GOC Optical Distribution Cabinet 144F |  |
| GODC-288 | GOC Optical Distribution Cabinet 288F |  |

### FIBER OPTIC CABLE CLAMP

### FEATURES

► Use to support messenger drop cable between the pole and house

- ► Accept 3.0mm diameter fiber optic drop cable
- ► Suitable for usage with most one and two pair drop cables
- Stainless steel tail wire, plastic(PVC) body
- ► RoHS compliant
- Mechanical (tensile) strength exceeds 50kg
- Patented

TECHNICAL





# Size 220mm(L)x20mm(H)x40mm(W) Bending Radius Allowance >25mm

| Iensile Load            | 50kgt      |
|-------------------------|------------|
| Material for Tail wire  | STS-304    |
| Material for Body       | PVC        |
| Operational Temperature | -30 ~ 40°C |

Accessory

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Accessory + 77

### OPTICAL FIBER CABLES

### S-TYPE FASTENER





### DESCRIPTION

Binding or Pole self-supporting FTTH drop cable, then pull the cable with the supporting device. (Material:304stainless steel wire, fire-retardant ABS plastic parts)

### SPECIFICATIO

|   | Box Material | 304stainless steel wire,<br>fire-retardant ABS<br>plastic parts | Appearanc<br>e<br>size(mm) | 135*23*12 |
|---|--------------|---|----------------------------|-----------|
|   | COLOR        | BLACK   | Weight(kg)                 | 0.03      |
| F | PACKING      |   |                            |           |

| Туре                 | Name            |
|----------------------|-----------------|
| FTTH S-TYPE FASTENER | S-TYPE fastener |

### C-TYPE WIRE RETRACTOR



### DESCRIPTION

Use the screw to install the C-Type wire retractor on the outer wall of buildings, and connect the S type fastener to connect and fix the Self-supporting Optical Fiber Cable

| S | PECIFICATIO                  |                         |                            |          |  |
|---|------------------------------|-------------------------|----------------------------|----------|--|
|   | Material                     | 3.0mm cold-rolled sheet | Appearanc<br>e<br>size(mm) | 54*54*35 |  |
|   | Surfac<br>e<br>finishin<br>g | cold galvanizing        | Weight(kg)                 | 0.054    |  |
| F | PACKING                      |                         |                            |          |  |
|   | Туре                         |                         | Name                       |          |  |
|   | Wire Retractor               |                         | C-typeWire Retractor       |          |  |

n GOC

Accessory

# OPTICAL FIBER CABLES OPTICAL CONNECTOR PLIER Optical Content of Content

### (Optical Connector Extraction Tool)

FEATURES



- Design for ease of use with one hand
- Safe and easy installation and removal of each type optical connectors
- Excellent performance in areas of populated connections
- Accident Prevention from worket's carelessness
- ► High Reliability and Stability



### PRODUCT LIST

| Item No. | Connector Type |
|----------|----------------|
| CP-1     | SC Type only   |
| CP-2     | SC/LC Type     |

### DOMESTIC



### **GOC (Headquarters & Main Factory)**

Overseas 19, Cheomdan venture-ro 60beon-gil, Buk-gu, kyle goc2001.com Gwangju, 61009 South Korea Tel : +82-62-973-6114 Fax : +82-62-973-6116 E-mail : csji@goc2001.com



### GOC (Pangyo Sales Office)

U-Space2 B#1008-1, 670, Daewangpangyo-ro, Bundanggu, Seongnam-si, Gyeonggi-do, 13494 South Korea Tel : +82-31-781-6115 Fax : +82-31-781-6116 Domestic sales : jolee@goc2001.com Overseas sales : kyle@goc2001.com



### **OVERSEAS**



### **INTI-GOC (Joint Venture Factory)**

JL. Moch. Toha No.225 Pasawahan, Kec. Dayeuhkolot, Bandung, 40258 Indonesia Tel: +62-22-520-6510 <sup>v</sup>Fax<sup>as</sup>+62-22-520-4010 e<sup>@</sup>goc2001.com E-mail:<u>jeon@goc2001.com</u>







Wisma Kodel Lt 8, Jl. H. R. Rasuna Said, KAV. B-4 Setia Budi, Kota Jakarta Selatan, Daerah Khusus Ibukota, Jakarta, 12920 Indonesia Tel: +62-21-522-2266 E-mail : sipark@goc2001.com

### **TELGO (Joint Venture Factory)**

Rua das Poças - 4455-186 LAVRA | Matosinhos, Portugal E-mail : kyle@goc2001.com



### **GOC-UZ** (Joint Venture Factory)

Industrial Zone "A", Jizzakh region, Jizzakh City,

Republic of Uzbekistan

E-mail: vangij@goc2001.com jdj@goc2001.com

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