

# Structure Cabling

Patch Cord

Patch Panel

Jacks & Plugs

Keystone Faceplate & Surface Box

» **Optic Series**

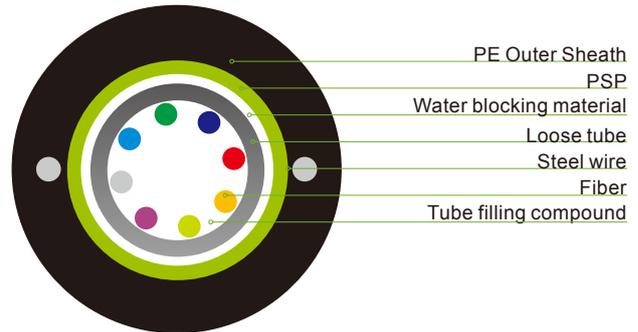
# Center Bundle light Armored Optical Fiber Cable (GYXTW)



## D173/D174

### Introduction

The fibers are placed in a loose tube made of PBT. The tube is filled with a water-resistant filling compound. The tube is wrapped with a layer of PSP longitudinally. Between the PSP and the loose tube water-blocking material is applied to keep the cable compact and watertight. Two parallel steel wires are placed at the two sides of the steel tape. The cable is completed with a PE sheath.



### Fiber color code

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Gray	White	Red	Black	—	—	—	—

### Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	8
2	No. of fibers per tube(max)	count	8
3	No. of elements	count	1
4	Tube diameter	mm	2.0
5	Outer sheath wall thickness	mm	2.3
6	Cable diameter	mm	8.2
7	Cable weight	kg/km	68
8	Short term tension	N	1500
9	Short term crush	N/100mm	1000

Note: Mechanical sizes are nominal values.

### G652D fiber information

- Mode field diameter (1310nm): $9.2\mu\text{m}\pm 0.4\mu\text{m}$ .
- Mode field diameter (1550nm): $10.4\mu\text{m}\pm 0.8\mu\text{m}$ .
- Cladding diameter: $125\mu\text{m}\pm 1.0\mu\text{m}$ .
- Coating diameter: $245\mu\text{m}\pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ): $\leq 1260\mu\text{m}$ .
- Attenuation at 1310nm: $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm: $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius): $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm: $\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion at 1550nm: $\leq 18\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion slope at zero dispersion wavelength: $\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$ .

### Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	-40°C~+60°C
	Installation	-10°C~+60°C
	Storage/transportation	-40°C~+60°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

### Order Information

Item	Specification	Description
D173	2-12 cores	Single Mode
D174	2-12 cores	Multimode

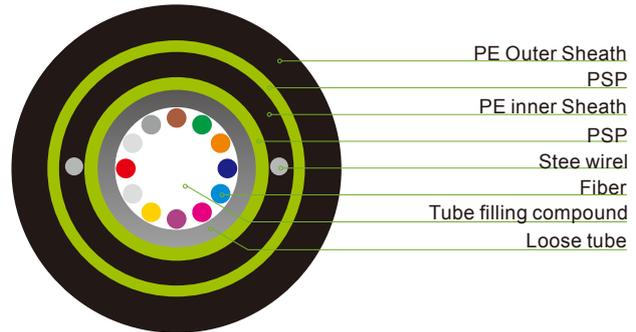
# Center Bundle heavy Armored Optical Fiber Cable (GYXTW53)



D173S/D174S

## Introduction

The fibers are placed in a loose tube made of PBT. The tube is filled with a water-resistant filling compound. The tube is wrapped with a layer of PSP longitudinally. Between the PSP and the loose tube water-blocking material is applied to keep the cable compact and watertight. Two parallel steel wires are placed at the two sides of the steel tape, over which a thin PE inner sheath is applied. After the PSP is longitudinally applied over the inner sheath, the cable is completed with a PE outer sheath.



## Fiber color code

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	—	—	—	—	—	—	—	—

## Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	4
2	No. of fibers per tube(max)	count	4
3	No. of elements	count	1
4	Tube diameter	mm	2
5	Outer sheath wall thickness	mm	1.8
6	Cable diameter	mm	12.4
7	Cable weight	kg/km	150
8	Short term tension	N	3000
9	Short term crush	N/100mm	3000

Note: Mechanical sizes are nominal values.

## G652D fiber information

- Mode field diameter (1310nm):  $9.2\mu\text{m} \pm 0.4\mu\text{m}$ .
- Mode field diameter (1550nm):  $10.4\mu\text{m} \pm 0.8\mu\text{m}$ .
- Cladding diameter:  $125\mu\text{m} \pm 1.0\mu\text{m}$ .
- Coating diameter:  $245\mu\text{m} \pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ):  $\leq 1260\mu\text{m}$ .
- Attenuation at 1310nm:  $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm:  $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius):  $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm:  $\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion at 1550nm:  $\leq 18\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion slope at zero dispersion wavelength:  $\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$ .

## Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	-40°C~+60°C
	Installation	-10°C~+60°C
	Storage/transportation	-40°C~+60°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

## Order Information

Item	Specification	Description
D173S	2-12 cores	Single Mode
D174S	2-12 cores	Multimode

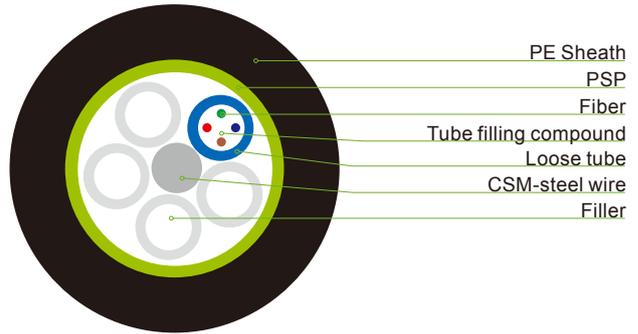
# The Level Twists Steel Tape Light Armored Optical Fiber Cable (GYTS)



D177/D179

## Introduction

The fibers are placed in a loose tube made of PBT. The tubes are filled with a water-resistant filling compound. A steel wire sometimes sheathed with PE for cable with high fiber count, locates in the center of core as a metallic strength member. Tubes (and fillers) are stranded around the strength member into a compact and circular cable core. An steel tape is applied around the cable core, which is filled with the filling compound to protect it from water ingress. Then, the cable is completed with a PE sheath.



## Fiber color code

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	---	---	---	---	---	---	---	---

Fiber color in each tube starts from No. 1 Blue.

## Color codes for loose tube & filler rod

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

Tube color in each layer starts from No. 1 Blue. If there are fillers, the color is nature.

## Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	4
2	No. of fibers per tube(max)	count	4
3	No. of elements	count	1
4	Tube diameter	mm	1.7
5	Outer sheath wall thickness	mm	1.8
6	Cable diameter	mm	9.3
7	Cable weight	kg/km	105
8	Short term tension	N	1500
9	Short term crush	N/100mm	1000

Note: Mechanical sizes are nominal values.

## G652D fiber information

- Mode field diameter (1310nm): $9.2\mu\text{m}\pm 0.4\mu\text{m}$ .
- Mode field diameter (1550nm): $10.4\mu\text{m}\pm 0.8\mu\text{m}$ .
- Cladding diameter: $125\mu\text{m}\pm 1.0\mu\text{m}$ .
- Coating diameter: $245\mu\text{m}\pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ): $\leq 1260\mu\text{m}$ .
- Attenuation at 1310nm: $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm: $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius): $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm: $\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion at 1550nm: $\leq 18\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion slope at zero dispersion wavelength: $\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$ .

## Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	-40°C~+60°C
	Installation	-10°C~+60°C
	Storage/transportation	-40°C~+60°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

## Order Information

Item	Specification	Description
D177	2-144 cores	Single Mode
D179	2-144 cores	Multimode

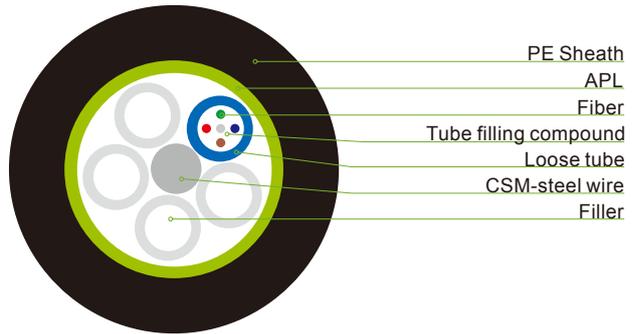
# The Level Twists Aluminium Tape Light Armored Optical Fiber Cable (GYTA)



## D176/D178

### Introduction

The fibers are placed in a loose tube made of PBT. The tubes are filled with a water-resistant filling compound. A steel wire sometimes sheathed with PE for cable with high fiber count, locates in the center of core as a metallic strength member. Tubes (and fillers) are stranded around the strength member into a compact and circular cable core. An Aluminum Polyethylene Laminate is applied around the cable core, which is filled with the filling compound to protect it from water ingress. Then, the cable is completed with a PE sheath.



### Fiber color code

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Gray	White	---	---	---	---	---	---

Fiber color in each tube starts from No. 1 Blue.

### Color codes for loose tube & filler rod

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

Tube color in each layer starts from No. 1 Blue. If there are fillers, the color is nature.

### Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	6
2	No. of fibers per tube(max)	count	6
3	No. of elements	count	1
4	Tube diameter	mm	1.7
5	Outer sheath wall thickness	mm	1.8
6	Cable diameter	mm	9.3
7	Cable weight	kg/km	90
8	Short term tension	N	1500
9	Short term crush	N/100mm	1000

Note: Mechanical sizes are nominal values.

### G652D fiber information

- Mode field diameter (1310nm):  $9.2\mu\text{m} \pm 0.4\mu\text{m}$ .
- Mode field diameter (1550nm):  $10.4\mu\text{m} \pm 0.8\mu\text{m}$ .
- Cladding diameter:  $125\mu\text{m} \pm 1.0\mu\text{m}$ .
- Coating diameter:  $245\mu\text{m} \pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ):  $\leq 1260\mu\text{m}$ .
- Attenuation at 1310nm:  $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm:  $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius):  $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm:  $\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion at 1550nm:  $\leq 18\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion slope at zero dispersion wavelength:  $\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$ .

### Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	-40°C~+60°C
	Installation	-10°C~+60°C
	Storage/transportation	-40°C~+60°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

### Order Information

Item	Specification	Description
D176	2-144 cores	Single Mode
D178	2-144 cores	Multimode

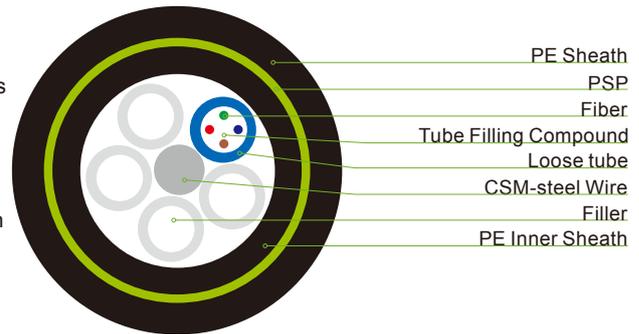
# Layer-stranded single Armored and Double Sheathed Optical Cable(GYTY53)



## D177S/D179S

### Introduction

The fibers are placed in a loose tube made of PBT. The tubes are filled with a water-resistant filling compound. A steel wire sometimes sheathed with PE for cable with high fiber count, locates in the center of core as a metallic strength member. Tubes (and fillers) are stranded around the strength member into a compact and circular cable core. The cable core is filled with the filling compound to protect it from water ingress, over which a thin PE inner sheath is applied. After the PSP is longitudinally applied over the inner sheath, the cable is completed with a PE outer sheath.



### Fiber color code

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	—	—	—	—	—	—	—	—

Fiber color in each tube starts from No. 1 Blue.

### Color codes for loose tube & filler rod

1	2	3	4	5	6	7	8	9	10	11	12
Blue	—	—	—	—	—	—	—	—	—	—	—

Tube color in each layer starts from No. 1 Blue. If there are fillers, the color is nature.

### Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	4
2	No. of fibers per tube(max)	count	4
3	No. of elements	count	1
4	Tube diameter	mm	1.7
5	Outer sheath wall thickness	mm	1.8
6	Cable diameter	mm	11.2
7	Cable weight	kg/km	140
8	Short term tension	N	3000
9	Short term crush	N/100mm	3000

Note: Mechanical sizes are nominal values.

### G652D fiber information

- Mode field diameter (1310nm): $9.2\mu\text{m}\pm 0.4\mu\text{m}$ .
- Mode field diameter (1550nm): $10.4\mu\text{m}\pm 0.8\mu\text{m}$ .
- Cladding diameter: $125\mu\text{m}\pm 1.0\mu\text{m}$ .
- Coating diameter: $245\mu\text{m}\pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ): $\leq 1260\mu\text{m}$ .
- Attenuation at 1310nm: $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm: $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius): $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm: $\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion at 1550nm: $\leq 18\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion slope at zero dispersion wavelength: $\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$ .

### Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	-40°C~+60°C
	Installation	-10°C~+60°C
	Storage/transportation	-40°C~+60°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

### Order Information

Item	Specification	Description
D177S	2-144 cores	Single Mode
D179S	2-144 cores	Multimode

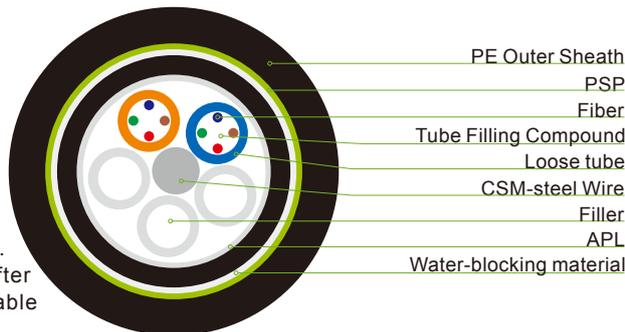
# Layer--stranded Reinforced Armored and Double Sheathed Optical Cable(GYTA53)



## D176S/D178S

### Introduction

The fibers are placed in a loose tube made of PBT. The tubes are filled with a water-resistant filling compound. A steel wire sometimes sheathed with PE for cable with high fiber count, locates in the center of core as a metallic strength member. Tubes (and fillers) are stranded around the strength member into a compact and circular cable core. An Aluminum Polyethylene Laminate is applied around the cable core, which is filled with the filling compound to protect it from water ingress. Then the cable core is covered with a thin PE inner sheath. After the PSP is longitudinally applied over the inner sheath, the cable is completed with a PE out sheath.



### Fiber color code

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Gray	White	---	---	---	---	---	---

Fiber color in each tube starts from No. 1 Blue.

### Color codes for loose tube & filler rod

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

Tube color in each layer starts from No. 1 Blue. If there are fillers, the color is nature.

### Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	8
2	No. of fibers per tube(max)	count	4
3	No. of elements	count	2
4	Tube diameter	mm	1.7
5	Outer sheath wall thickness	mm	1.8
6	Cable diameter	mm	12.4
7	Cable weight	kg/km	210
8	Short term tension	N	3000
9	Short term crush	N/100mm	3000

Note: Mechanical sizes are nominal values.

### G652D fiber information

- Mode field diameter (1310nm): $9.2\mu\text{m}\pm 0.4\mu\text{m}$ .
- Mode field diameter (1550nm): $10.4\mu\text{m}\pm 0.8\mu\text{m}$ .
- Cladding diameter: $125\mu\text{m}\pm 1.0\mu\text{m}$ .
- Coating diameter: $245\mu\text{m}\pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ): $\leq 1260\text{nm}$ .
- Attenuation at 1310nm: $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm: $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius): $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm: $\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion at 1550nm: $\leq 18\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion slope at zero dispersion wavelength: $\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$ .

### Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	-40°C~+60°C
	Installation	-10°C~+60°C
	Storage/transportation	-40°C~+60°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

### Order Information

Item	Specification	Description
D176S	2-144 cores	Single Mode
D178S	2-144 cores	Multimode

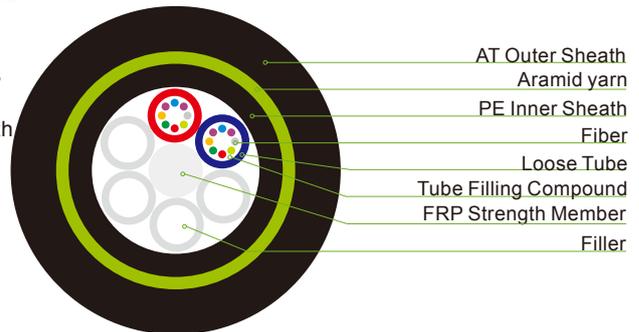
# All Dielectric Self-supporting Aerial Cable (ADSS)(D201/D202)



## D201/D202

### Introduction

The fibers are placed in a loose tube made of PBT. The tubes are filled with a water-resistant filling compound. elements (tubes and filler rods) laid up around no-metallic central strength member, filling compound filled in the apertures of the cable core, PE inner sheath, aramid yarn as the supporting member and PE(or ATPE) outer sheath.



### Fiber color code

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

Fiber color in each tube starts from No. 1 Blue.

### Color codes for loose tube & filler rod

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

Tube color in each layer starts from No. 1 Blue. If there are fillers, the color is nature.

### Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	16
2	No. of fibers per tube(max)	count	8
3	No. of elements	count	2
4	Tube diameter	mm	2.15
5	Outer sheath wall thickness	mm	1.8
6	Cable diameter	mm	12
7	Cable weight	kg/km	120
8	Short term tension	N	8000
9	Short term crush	N/100mm	2200

Note: Mechanical sizes are nominal values.

### G652D fiber information

- Mode field diameter (1310nm): $9.2\mu\text{m}\pm 0.4\mu\text{m}$ .
- Mode field diameter (1550nm): $10.4\mu\text{m}\pm 0.8\mu\text{m}$ .
- Cladding diameter: $125\mu\text{m}\pm 1.0\mu\text{m}$ .
- Coating diameter: $245\mu\text{m}\pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ): $\leq 1260\mu\text{m}$ .
- Attenuation at 1310nm: $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm: $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius): $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm: $\leq 3.5\text{ps}/(\text{nm km})$ .
- Dispersion at 1550nm: $\leq 18\text{ps}/(\text{nm km})$ .
- Dispersion slope at zero dispersion wavelength: $\leq 0.092\text{ps}/(\text{nm}^2 \text{km})$ .

### Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	-40°C~+60°C
	Installation	-10°C~+60°C
	Storage/transportation	-40°C~+60°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

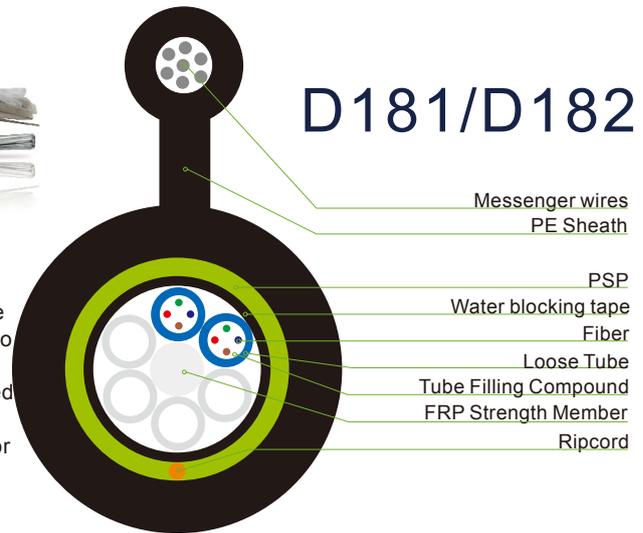
Item	Specification	Description
D201	2-144 cores	Single Mode

# Figure-8 stranded loose tube cable with steel tape (GYFTC8S)



## Introduction

The fibers are placed in a loose tube made of PBT. The tubes are filled with a water-resistant filling compound. A steel wire locates in the center of core as a metallic strength member. The tubes (and fillers) are stranded around the strength member into a compact and circular cable core. After PSP is applied around the cable core, this part of cable accompanied with the stranded wires as the supporting part are completed with a PE sheath to be figure 8 structure. This kind of cable is specifically applied for self-supporting aerial installation.



D181/D182

## Fiber color code

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	---	---	---	---	---	---	---	---

Fiber color in each tube starts from No. 1 Blue.

## Color codes for loose tube & filler rod

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

Tube color in each layer starts from No. 1 Blue. If there are fillers, the color is nature.

## Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	8
2	No. of fibers per tube(max)	count	4
3	No. of elements	count	2
4	Tube diameter	mm	1.8
5	Outer sheath wall thickness	mm	2
6	Cable diameter	mm	19.5*10.8
7	Cable weight	kg/km	220
8	Short term tension	N	8000
9	Short term crush	N/100mm	1000

Note: Mechanical sizes are nominal values.

## G652D fiber information

- Mode field diameter (1310nm): $9.2\mu\text{m}\pm 0.4\mu\text{m}$ .
- Mode field diameter (1550nm): $10.4\mu\text{m}\pm 0.8\mu\text{m}$ .
- Cladding diameter: $125\mu\text{m}\pm 1.0\mu\text{m}$ .
- Coating diameter: $245\mu\text{m}\pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ): $\leq 1260\mu\text{m}$ .
- Attenuation at 1310nm: $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm: $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius): $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm: $\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion at 1550nm: $\leq 18\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion slope at zero dispersion wavelength: $\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$ .

## Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	-40°C~+60°C
	Installation	-10°C~+60°C
	Storage/transportation	-40°C~+60°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

## Order Information

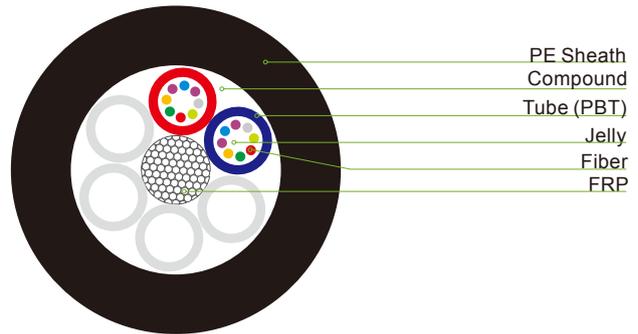
Item	Specification	Description
D181	2-96 cores	Single Mode
D182	2-96 cores	Multimode

# Stranded loose tube cable with non-metallic central strength member (GYFTY)

## D191/D192

### Introduction

The fibres are placed in a loose tube made of high modulus plastic. The tubes are filled with a water-resistant filling compound. A piece of Fibre Reinforced Plastic(FRP) locates in the center of core as a non-metallic strength member. The tubes and fillers are stranded around the strength member into a compact and circular cable core. The cable is completed with a polyethylene (PE) sheath.



### Fiber color code

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

Fiber color in each tube starts from No. 1 Blue.

### Color codes for loose tube & filler rod

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Gray	White	---	---	---	---	---	---

Tube color in each layer starts from No. 1 Blue. If there are fillers, the color is nature.

### Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	48 (G652D)
2	No. of fibers per tube(max)	count	8
3	No. of elements	count	6
4	Tube diameter	mm	2.2
5	Outer sheath wall thickness	mm	1.8
6	Cable diameter	mm	10.5
7	Cable weight	kg/km	98
8	Short term tension	N	1500
9	Short term crush	N/100mm	1000

Note: Mechanical sizes are nominal values.

### G652D fiber information

- Mode field diameter (1310nm): $9.2\mu\text{m}\pm 0.4\mu\text{m}$ .
- Mode field diameter (1550nm): $10.4\mu\text{m}\pm 0.8\mu\text{m}$ .
- Cladding diameter: $125\mu\text{m}\pm 1.0\mu\text{m}$ .
- Coating diameter: $245\mu\text{m}\pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ): $\leq 1260\text{nm}$ .
- Attenuation at 1310nm: $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm: $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius): $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm: $\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion at 1550nm: $\leq 18\text{ps}/(\text{nm}\cdot\text{km})$ .
- Dispersion slope at zero dispersion wavelength: $\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$ .

### Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	$-40^{\circ}\text{C}\sim +60^{\circ}\text{C}$
	Installation	$-10^{\circ}\text{C}\sim +60^{\circ}\text{C}$
	Storage/transportation	$-40^{\circ}\text{C}\sim +60^{\circ}\text{C}$
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

### Order Information

Item	Specification	Description
D191	2-144 cores	Single Mode
D192	2-144 cores	Multimode

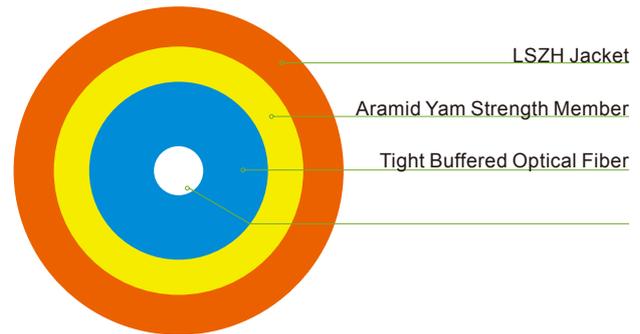
# Single Core Tight Wrapped Indoor Optical Cable(GJFJH 1 x n)



D215/D216

## Introduction

One 900µm Buffered Fibers are surrounded by aramid yarn strength members and a flame-retardant jacket.



## Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	1
2	Tight buffer material		LSZH
3	Tight buffer Color		Yellow
4	Strength member		Aramid yarns
5	Tight buffer diameter	mm	0.9±0.05
6	Jacket thickness	mm	0.5
7	Cable diameter	mm	3
8	Cable weight	kg/km	7
9	Short term tension	N	150
10	Short term crush	N/100mm	500

Note: Mechanical sizes are nominal values.

## G652D fiber information

- Mode field diameter (1310nm):9.2µm±0.4µm.
- Mode field diameter (1550nm):10.4µm±0.8µm.
- Cladding diameter:125µm±1.0µm.
- Coating diameter:245µm±7µm.
- Cut off wavelength of cabled fiber (λ<sub>cc</sub>):≤1260µm.
- Attenuation at 1310nm:≤0.35dB/km.
- Attenuation at 1550nm:≤0.21dB/km.
- Bending loss at 1550nm (100 turns, 30mm radius):≤0.05dB.
- Dispersion in the range 1288 to 1339nm:≤3.5ps/(nm·km).
- Dispersion at 1550nm:≤18ps/(nm·km).
- Dispersion slope at zero dispersion wavelength:≤0.092ps/(nm<sup>2</sup> km).

## Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	-20°C~+85°C
	Installation	-10°C~+70°C
	Storage/transportation	-40°C~+85°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

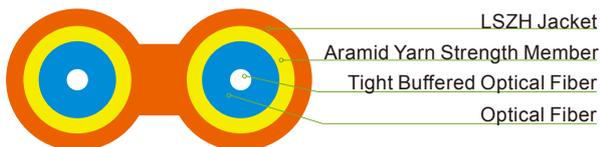
## Order Information

Item	Specification	Description
D215	Single cores	Single Mode
D216	Single cores	Multimode

# Flat Twin Duplex For Distribution (GJFJBV)



D217/D218



## Characteristic of Optical Cable

Mechanical characteristic and test method	
Item	Technology parameter
Cable type	GJFJBV-2A1a/b
Product specification	2.0×4.1mm
Tight buffer color	White, Yellow
Tight buffer material	PVC
Tight buffer diameter mm	0.90±0.05
Fiber type	50/125 62.5/125
Strength member	Aramid yarns
Jacket thickness mm	0.3±0.08
Jacket color	Orange
Jacket material	LSZH
Cable diameter mm	1.85(±0.1)×3.8(±0.2)
Cable weight Kg/km	8.0
Min. bending radius mm	30
Attenuation dB/km	≦ 1.5 at 1300nm ≦ 3.5 at 850nm
Short tension N	120
Short crush N/100mm	500
Operation temperature °C	-20~70

## Introduction

Two 900µm fibers placed side by side . And aramid yarn as the support number , with the LSZH jacket by itself .

## Order Information

Item	Specification	Description
D217	Tow cores	Single Mode
D218	Tow cores	Multimode

# Indoor Soft Optical Fiber Cable(GJFJH)



## D171/D172

### Introduction

Two 900µm Buffered Fibers are surrounded by aramid yarn strength members and a flame-retardant jacket.

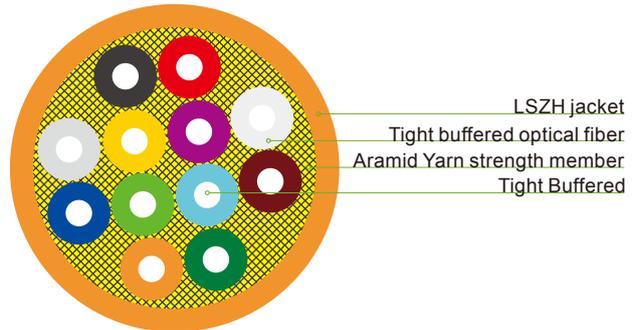
### Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	12
2	Tight buffer material		LSZH
3	Tight buffer Color		Blue, Orange, Green, Brown, Gray, White, Red, Black, Yellow, Purple, Pink, Aqua
4	Strength member		Aramid yarns
5	Tight buffer diameter	mm	0.9±0.05
6	Jacket thickness	mm	0.75
7	Cable diameter	mm	5.6
8	Cable weight	kg/km	28
9	Short term tension	N	660
10	Short term crush	N/100mm	1000

Note: Mechanical sizes are nominal values.

### G652D fiber information

- Mode field diameter (1310nm): $9.2\mu\text{m}\pm 0.4\mu\text{m}$ .
- Mode field diameter (1550nm): $10.4\mu\text{m}\pm 0.8\mu\text{m}$ .
- Cladding diameter: $125\mu\text{m}\pm 1.0\mu\text{m}$ .
- Coating diameter: $245\mu\text{m}\pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ): $\leq 1260\mu\text{m}$ .
- Attenuation at 1310nm: $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm: $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius): $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm: $\leq 3.5\text{ps}/(\text{nm km})$ .
- Dispersion at 1550nm: $\leq 18\text{ps}/(\text{nm km})$ .
- Dispersion slope at zero dispersion wavelength: $\leq 0.092\text{ps}/(\text{nm}^2\text{km})$ .



### Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 60794-1-2-E1A	
Crush	conform to IEC 60794-1-2-E3	
Impact	conform to IEC 60794-1-2-E4	
Repeated bending	conform to IEC 60794-1-2-E6	
Torsion	conform to IEC 60794-1-2-E7	
Flexing	conform to IEC 60794-1-2-E8	
Cable bend	conform to IEC 60794-1-2-E11	
Water penetration	conform to IEC 60794-1-2-F5B	
Temperature requirement	Operation	-20°C~+85°C
	Installation	-10°C~+70°C
	Storage/transportation	-40°C~+85°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

### Order Information

Item	Specification	Description
D171	2-12 cores	Single Mode
D172	2-12 cores	Multimode

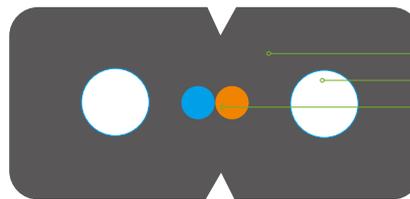
# FTTH Drop Cable(GJXFH-2)



SW905

## Introduction

This flat drop cable, which consists of 1, 2, or 4 color coded optical fibers, offers an ideal solution for the smaller fiber counts that are needed in the final sections of an optical network. Two parallel FRP strength members protect the optical fibers. The cable is completed with a LSOH jacket.



LSZH jacket  
FRP strength member  
Optical fiber

## Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	2
2	sheath material/color		LSZH/ Black
3	Fibers Color		Blue, Orange
4	Strength member		FRP strength member
5	Cable diameter	mm	3*2
6	Cable weight	kg/km	9
7	Short term tension	N	80
8	Short term crush	N/100mm	1000

Note: Mechanical sizes are nominal values.

## Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 60794-1-2-E1A	
Crush	conform to IEC 60794-1-2-E3	
Impact	conform to IEC 60794-1-2-E4	
Repeated bending	conform to IEC 60794-1-2-E6	
Torsion	conform to IEC 60794-1-2-E7	
Flexing	conform to IEC 60794-1-2-E8	
Cable bend	conform to IEC 60794-1-2-E11	
Water penetration	conform to IEC 60794-1-2-F5B	
Temperature requirement	Operation	-20°C~+60°C
	Installation	-20°C~+60°C
	Storage/transportation	-20°C~+60°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	30 times of outer diameter
	loaded	60 times of outer diameter

## G657 fiber information

- Mode field diameter (1310nm): $8.6\mu\text{m}\pm 9.5\mu\text{m}$ .
- Cladding diameter: $125\mu\text{m}\pm 0.7\mu\text{m}$ .
- Coating diameter: $245\mu\text{m}\pm 7\mu\text{m}$ .
- Cut off wavelength of cabled fiber ( $\lambda_{cc}$ ): $\leq 1260\mu\text{m}$ .
- Attenuation at 1310nm: $\leq 0.35\text{dB/km}$ .
- Attenuation at 1550nm: $\leq 0.21\text{dB/km}$ .
- Bending loss at 1550nm (100 turns, 30mm radius): $\leq 0.05\text{dB}$ .
- Dispersion in the range 1288 to 1339nm: $\leq 3.5\text{ps}/(\text{nm km})$ .
- Dispersion at 1550nm: $\leq 18\text{ps}/(\text{nm km})$ .
- Dispersion slope at zero dispersion wavelength: $\leq 0.092\text{ps}/(\text{nm}^2\text{ km})$ .

## Order Information

Item	Specification	Description
D171	2-12 cores	Single Mode
D172	2-12 cores	Multimode

# OPTIC FIBER PATCH CORDS

## Patch Cords

- Fiber patch cords provide connections from the work area to the wall outlet or from active equipment to the patch panel.
- Cords are available as duplex or simplex 62.5/125,50/125, MM or SM fibers. we offer ST,SC,FC or LC connectors.
- All patch cords are factory polished and 100% optically tested for superior performance.

### Introduction

- Insertion loss:  $\leq 0.3\text{dB}$
- Return loss:  $P_c \geq 40\text{dB}$  APC  $\geq 60\text{dB}$
- Repeatability:  $\leq 0.3\text{dB}$
- Compatibility:  $\leq 0.3\text{dB}$
- Insertion times:  $> 1000$
- Working temperature:  $-25^\circ\text{C} \sim 70^\circ\text{C}$ .

## Patch Cords

**A** / **C** + **B** / **D** - **E** - **F** - **G** - **H**

AB:LC,FC, ST,SC,MTRJ,E2000,MPO/MTP.  
 CD:PC,UPC,APC.  
 E:SM,OM1,OM2,OM3,OM4.  
 F:S(single),D(Duplex),N(N cores).  
 G:A2= $\phi$ D0.9mm,B2= $\phi$ D2.0mm,C2= $\phi$ D3.0mm.  
 H:1,2,3,4,..... m.

## Pigtail

**A** / **C** - **E** - **F** - **G** - **H**

AC:LC,FC, ST,SC,MTRJ,E2000,MPO/MTP.  
 C:PC,UPC,APC.  
 E:SM,OM1,OM2,OM3,OM4.  
 F:S(single),D(Duplex),N(N cores).  
 G:A2= $\phi$ D0.9mm,B2= $\phi$ D2.0mm,C2= $\phi$ D3.0mm.  
 H:1,2,3,4,..... m.



# OPTIC FIBER ADAPTER

## Adapter

FC/PC Split-body



FC/APC One-piece



FC/PC Big D



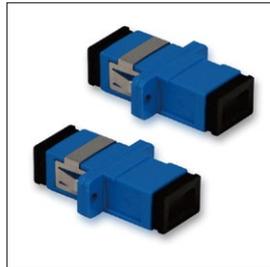
FC/PC Small D



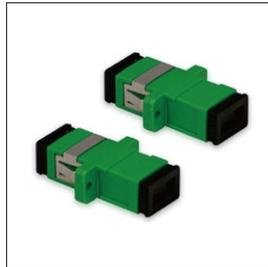
ST/PC



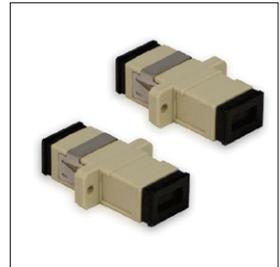
SC/PC SM



SC/APC Split-body



SC/PC MM



SC/PC Duplex SM



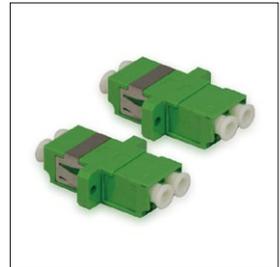
SC/APC Duplex SM



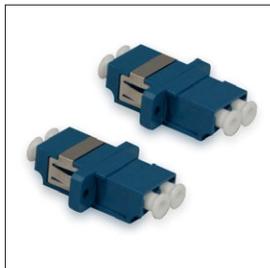
SC/PC Duplex MM



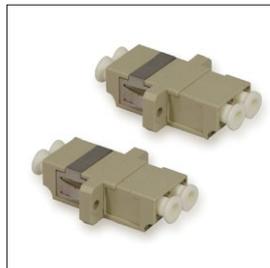
LC/APC Duplex SM



LC/PC Duplex SM



LC/PC Duplex MM



FC-SC/PC



FC-SC/PC with ferrule



### Parameter

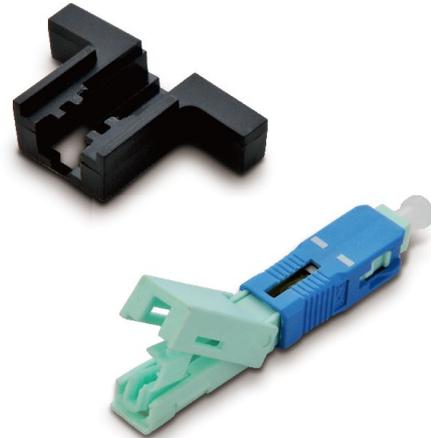
- Insertion loss:  $\leq 0.2\text{dB}$ ; Repeatability:  $\leq 0.1\text{dB}$ ; Insertion times:  $> 1000$ .  
Working temperature:  $-25^{\circ}\text{C} \sim 70^{\circ}\text{C}$ ; Store temperature:  $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ .

# OPTIC FIBER DISTRIBUTION BOX

## SC quick connector(909)

### Order Information

Item	Performance
Insertion loss	Average $\leq$ 0.2dB, MAX $\leq$ 0.4dB
Return loss	PC: $\geq$ 40dB,APC $\geq$ 55dB
One-time Assembly Rate	$\geq$ 97%
Assembly Repeatability	More than 5 times
Average Assembly Time	$\leq$ 3 minutes
Life-time	$\geq$ 30years
Tensile Strength	$\geq$ 30N (2x3 Bow-type drop cable)
Operation Temperature	-40~+75°C



## Mechanical Splice(908)

### Order Information

Item	Technical Parameters
Applicable for	$\Phi$ 0.25 mm & $\Phi$ 0.90 mm Fiber
Optical fiber diameter	125 $\mu$ m ( 652 & 657 )
Tight buffer diameter ( $\mu$ m)	250 $\mu$ m
Fiber mode	Single & multi mode
Operation time	About 10s(no fiber cut)
Average Insert loss	$\leq$ 0.15dB(1310nm & 1550nm)
Return loss	$\leq$ -40dB
Fastening strength of naked fiber	$>$ 5 N
Fastening strength of naked fiber holder	$>$ 8 N
Using temperature	-40~+75°C
Repeatability(10 times)	$\Delta$ IL $\leq$ 0.2dB $\Delta$ RL $\leq$ 5dB



## Shelf optical cable terminal box

### Optical termination box has the following features

- The splice of optical cable or fiber can be finished individually in the terminal box.
- It may inlet and outlet not only from optical cable to optical cable but also from optical cable to pigtail.
- The capacity of terminal box may vary from 8 cores.
- There is reliable optical cable fixing and ground protection device and sealing device.

### Order Information

PART Number	Description
F-C1	8 ports SC adapter shelf optical cable terminal box
F-C2	8 ports SC duplex adapter shelf optical cable terminal box
F-C3	8 ports ST adapter shelf optical cable terminal box



# OPTIC FIBER DISTRIBUTION BOX

## 19" cabinet optic fiber distribution box

### Product description:

- It can be mounted on 19" cabinet, optic splicing tray in it,
- Drawer design, made of armor plate of high quality.

### Order Information

PART Number	Description
F-U1	24 Port SC Adaptors Optic Fiber Distribution Box
F-U2	12 Port SC Duplex Adaptors Optic Fiber Distribution Box
F-U3	24 Port ST Adaptors Optic Fiber Distribution Box



## 19" cabinet optic fiber distribution box

### Product description:

- It can be mounted on 19" cabinet, optic splicing tray in it,
- Drawer design, made of armor plate of high quality.

### Order Information

PART Number	Description
F-M1	24 Port SC Adaptors Optic Fiber Distribution Box



## 19" cabinet optic fiber distribution box

### Product description:

- It can be mounted on 19" cabinet, optic splicing tray in it,
- Drawer design, made of armor plate of high quality.

### Order Information

PART Number	Description
F-M2	24 Port SC Duplex Adaptors Optic Fiber Distribution Box



# OPTIC FIBER DISTRIBUTION BOX

## 19" cabinet optic fiber distribution box

### Product description:

- It can be mounted on 19" cabinet, optic splicing tray in it,
- Drawer design, made of armor plate of high quality.

### Order Information

PART Number	Description
F-M3	24 Port ST Adaptors Optic Fiber Distribution Box



## 19" cabinet optic fiber distribution box

### Product description:

- It can be mounted on 19" cabinet, optic splicing tray in it,
- Drawer design, made of armor plate of high quality.

### Order Information

PART Number	Description
F-V1	24 Port SC Adaptors Optic Fiber Distribution Box
F-V2	24 Port SC Duplex Adaptors Optic Fiber Distribution Box
F-V3	24 Port ST Adaptors Optic Fiber Distribution Box



## 19" cabinet optic fiber distribution box

### Product description:

- It can be mounted on 19" cabinet, optic splicing tray in it,
- Drawer design, made of armor plate of high quality.

### Order Information

PART Number	Description
F-V4	MPO-LC Type Patch Panel



# OPTIC FIBER DISTRIBUTION BOX

## Outdoors Fusion Splice Box(906-1)

### Product description:

- The casing of high strength insulation material has excellent mechanical properties.
- Perfect sealing measures.
- This product can be re-opened after sealing, replacement of sealing materials can be reused after.

### Application

- Overhead installation.
- Pipe Installation.
- Direct buried installation.

### Parameter

- Dimension(MM): $\Phi 85 \times 330$
- Weight(Kg):1.5
- Cable diameter(MM): $\Phi 7 - \Phi 19$
- Cable entry ports:two ports in and two ports out
- Max Capacity of Fiber Splice:6 (single)
- Max Capacity of Splice Tray:2
- Max Capacity:12 (single)
- Structure of cable entry port:heat-shrinkable sealing structure
- Sealing structure:silicon gum material.



## Outdoors Fusion Splice Box(906-3)

### Product description:

- The casing of high strength insulation material has excellent mechanical properties.
- Perfect sealing measures.
- This product can be re-opened after sealing, replacement of sealing materials can be reused after.

### Application

- Overhead installation.
- Pipe Installation.

### Parameter

- Dimension (MM): $390 \times 180 \times 88$ .
- Weight (Kg):4.2.
- Cable diameter (MM): $\Phi 5 - \Phi 14$ .
- Cable entry ports:Four ports in and Four ports out.
- Max Capacity of Fiber Splice:12 (single).
- Max Capacity of Splice Tray:4.
- Max Capacity:48 (single).
- Structure of cable entry port:heat-shrinkable sealing structure.
- Sealing structure:silicon gum material.

