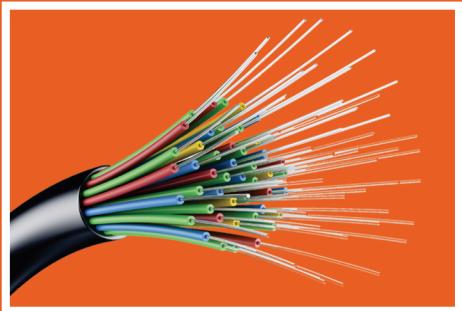


# OPTICAL FIBRE CABLE



- Duct Cable
- Armored Cable
- Cable with Glass Rovings
- Micro Cable
- ADSS Cable
- Aerial Cable
- Hybrid Cables
- CCTV Cables
- FTTH Cables
- Indoor Cables



**GUPTA POWER®**

PRESENTS

**RHINO** 

SMART CONDUCTORS | CABLES  
WIRES | OFC | LED LIGHTING | EPC  
WIRE RODS | SOLAR

Over 5 decades, Gupta Power has been continuously working to support the customers to provide cost effective energy efficient solutions.

A special dedicated R&D team is working to develop various new products to enhance the power transmission and distribution networks to address the global power demand.

Gupta Power has state-of-the-art manufacturing facilities to make its new products. It also has highly qualified and experienced professionals that provides end to end solutions for T&D sector to minimize the CAPEX and OPEX.



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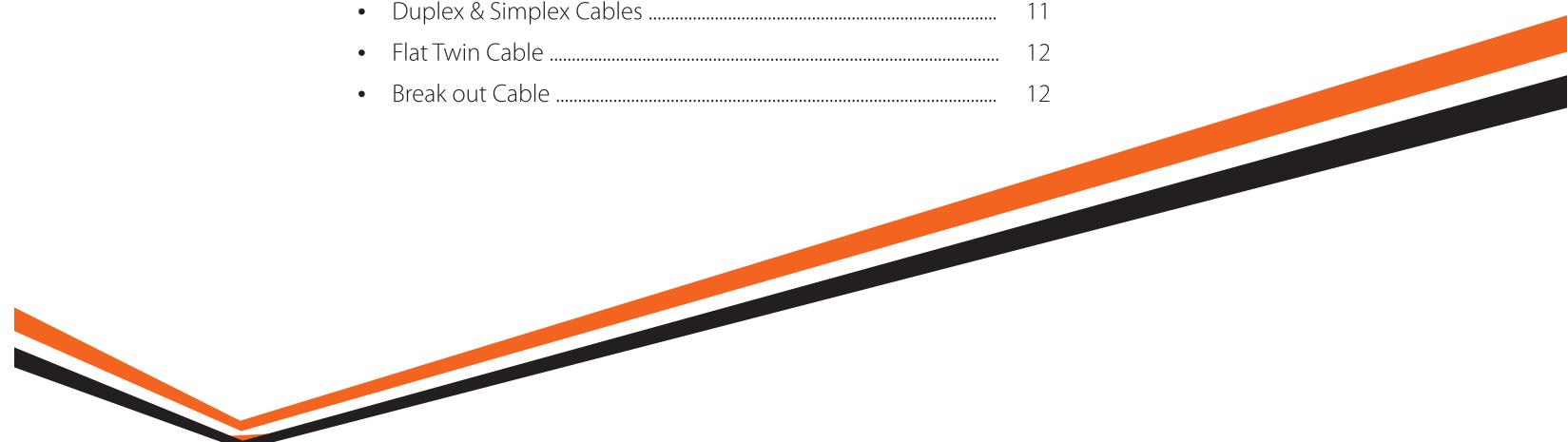
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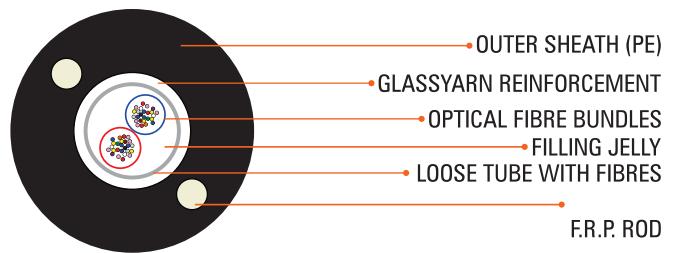
## Duct Cable:

### 1. Uni Tube Cable

**Over view:-** Duct Cable is designed to be pulled into ducts in service ducts of an optical cable communication network. Its non-metallic characteristic enables it to be installed in an environment where there is electrical interference, for example alongside power lines. The cable design is available in uni tube (up to 12 fibers), the design is lightweight and flexible and able to withstand normal installation forces of strain, crush, bend and twist. Glass yarn can be added for extra axial pulling strength and glass yarn or polyamide can be used as protection against rodents.

#### Application:

- Backbone network routes,
- Telecommunication and data trunk
- Secondary distribution
- Placement in ducts or on cable trays

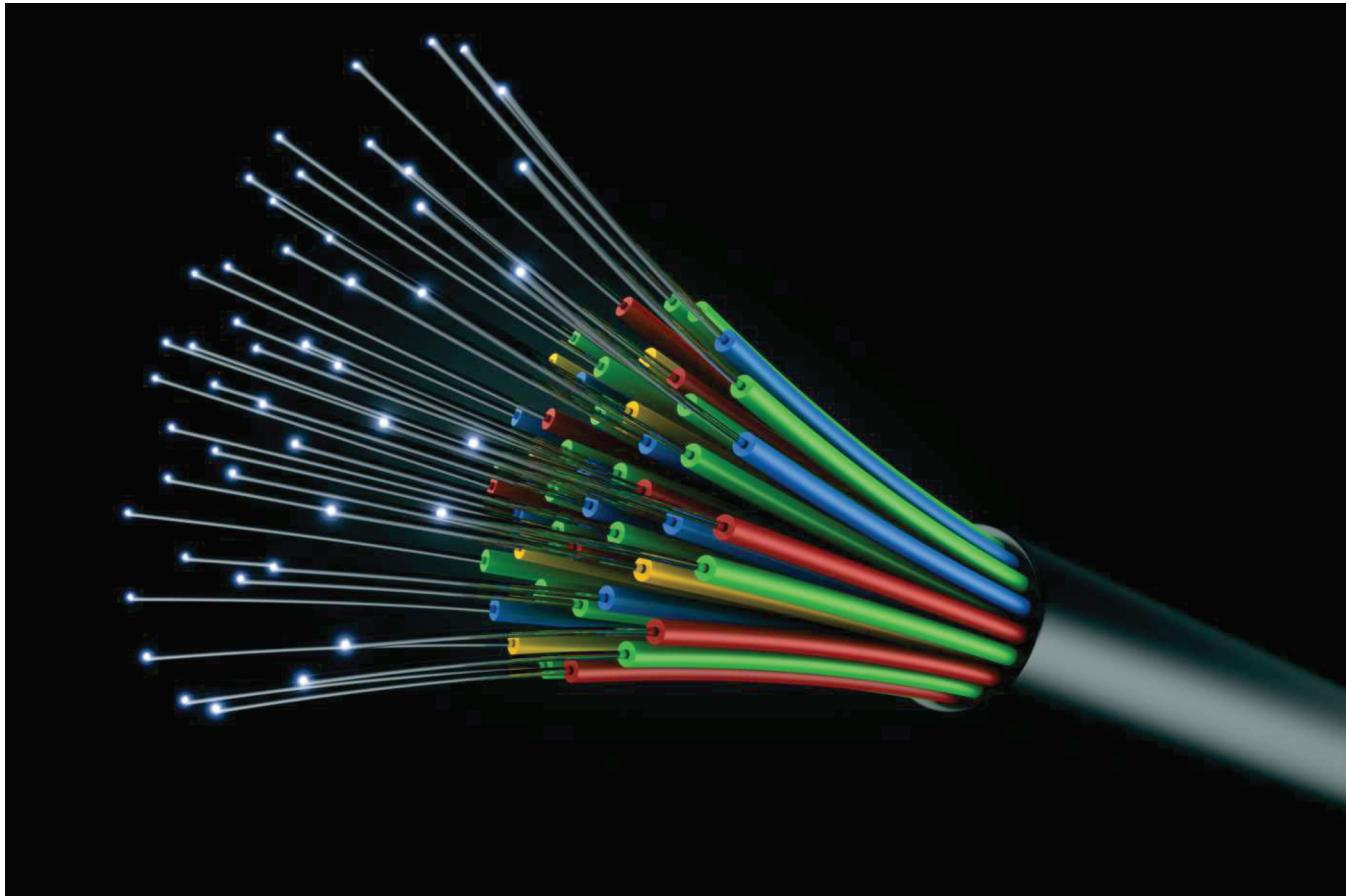
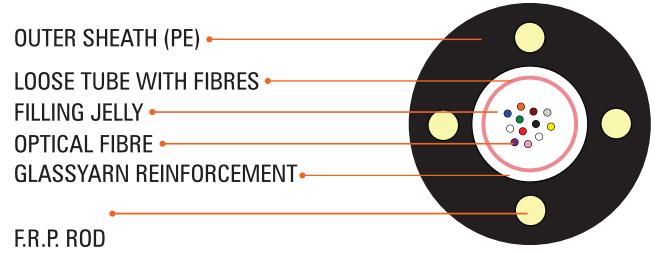


#### Options Available

HDPE/LSZH/FRLS as outer Jacketing Available

Fibre options: SM (G652B/D, G655 & G657)

Customized designs are available on request



## 2. Multi Tube Cable

### Cable Construction:-

The cable has multiple loose tubes containing optical fibers and jelly. Loose tubes are S-Z stranded around non metallic central strength member (FRP). Suitable for blowing in ducts/PVC pipes

**Over View:-** Duct Cable is designed to be pulled into ducts in service ducts of an optical cable communication network. Its non-metallic characteristic enables it to be installed in an environment where there is electrical interference, for example alongside power lines. The cable design is available in unitube (up to 12 fibres), multtube (up to 144 fibres). The design is lightweight and flexible and able to withstand normal installation forces of strain, crush, bend and twist. Aramid or glass yarn can be added for extra axial pulling strength and glass yarn or polyamide can be used as protection against rodents

### Environmental conditions

Temperature ranges for installation and assembly	-5°C + +40°C
Operation temperatures	-20°C + +60°C
Transport and store temperatures	-40°C + +70°C
Minimum bending radius	Min. 20 D

### Options Available

LSZH/HDPE as outer Jacketing Available

Customized designs are available on request.

Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2, OM3 & OM4)

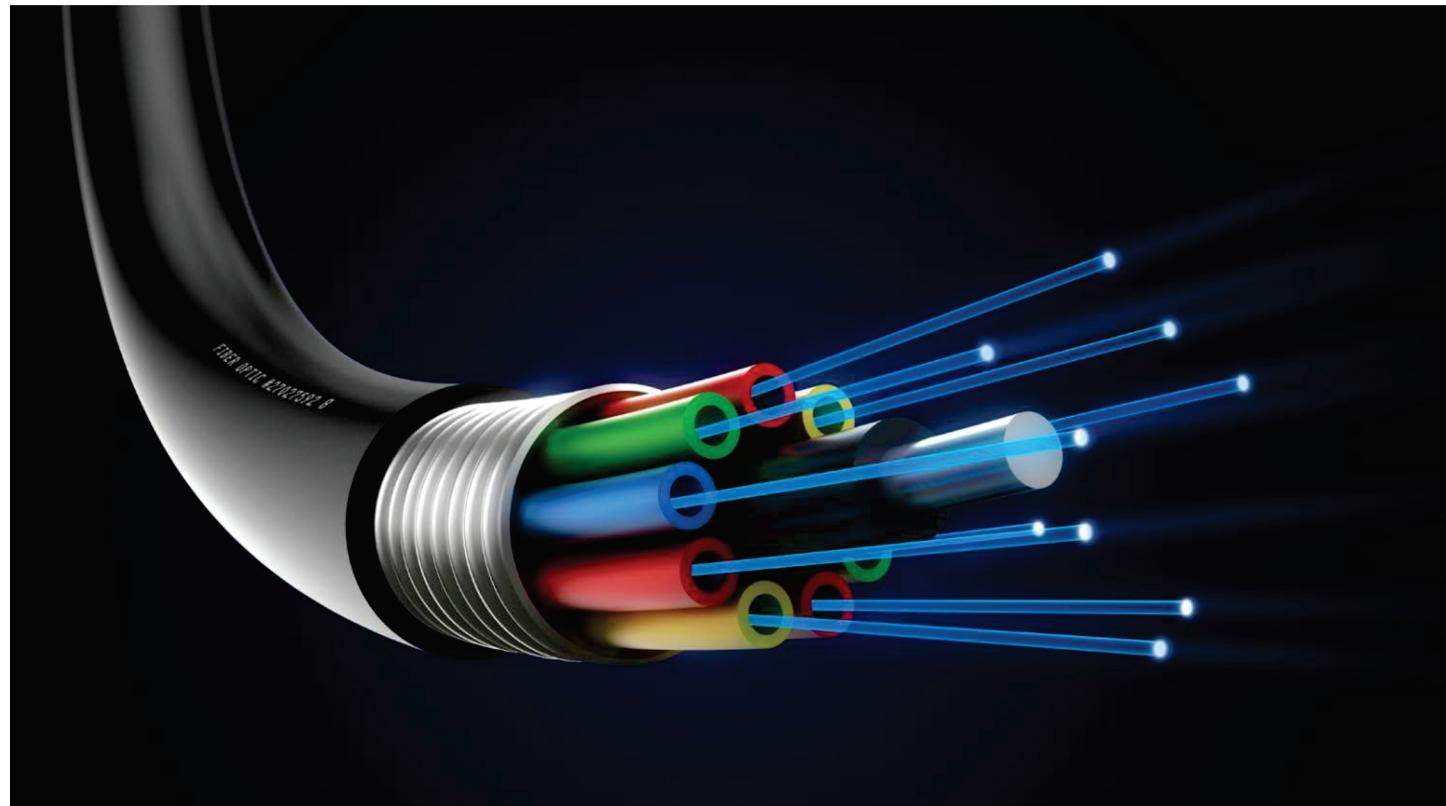
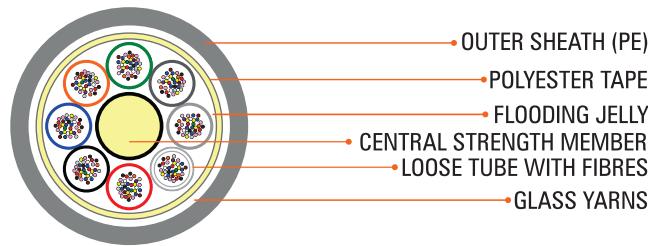
Dry core construction is optional.

Composite of various types of fibers (SM & MM).

Metallic central strength member option available.

Higher Count Fiber and Ribbon Fiber designs are available on request.

### (D- Cable outer diameter)



## Armored Cable:

### 1. Uni Tube Armored Cable

#### Cable Construction :-

Loose tube containing fibers and jelly is centrally located and additional glass reinforcements are applied to provide high tensile strength and cushion loose tube. Armor of corrugated steel tape provides high crush resistance & tensile strength. Steel wire strength members are embedded in HDPE sheath to provide extra tensile strength. The corrugated steel tape is co-polymer coated at both sides. ECCS Tape armoring provide excellent rodent /rough Terrain protection.

**Over View :-** Direct Burial Cable is designed to be placed directly under the ground either by trenching or ploughing. The metallic cable is armored with corrugated steel tape that provides good protection against rodents and allows the cable to retain outstanding flexibility for easy installation. The cable design is available in unitube (up to 12 fibers) and Multitude single sheathed/double sheathed construction (up to 144 fibers).

#### Options Available

LSZH/FRLS/HDPE as outer Jacketing available.

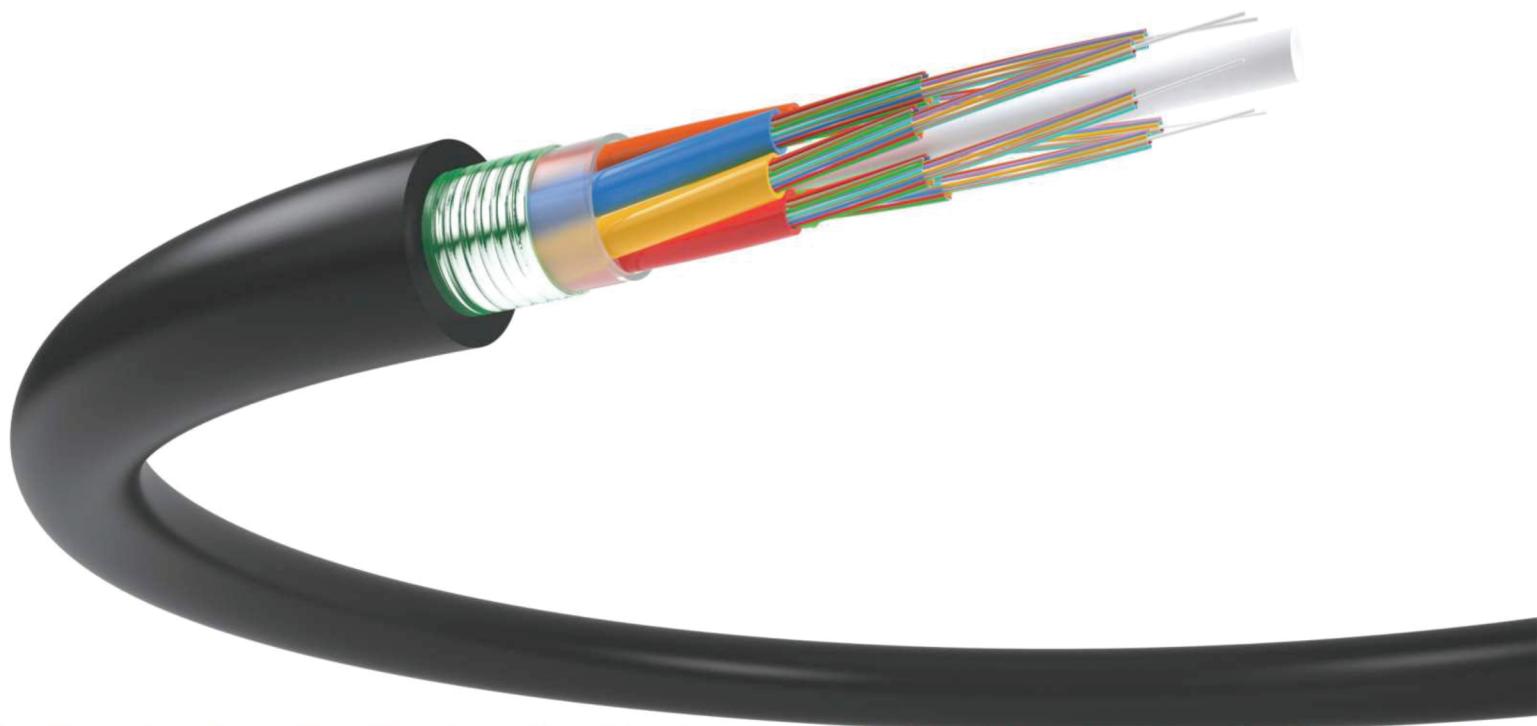
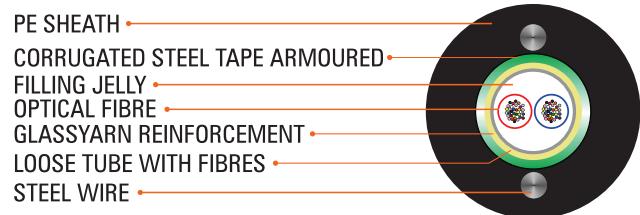
Customized designs are available on request.

Fiber options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)

Dry core construction (non jelly) is optional.

Composite of various types of fibers (SM & MM).

Metallic central strength member option available.



## 2. Single Sheath Armored Cable

**Over view :-** Direct Burial Cable is designed to be placed directly under the ground either by trenching or ploughing. The metallic cable is armoured with corrugated steel tape that provides good protection against rodents and allow the cable to retain outstanding flexibility for easy installation. The cable design is available in unitube (up to 12 fibres) and multi tube single sheathed/double sheathed construction (up to 144 fibers ).

### Environmental conditions

Temperature ranges for installation and assembly

-5°C + +40°C

Operation temperatures

-20°C + +60°C

Transport and store temperatures

-40°C + +70°C

Minimum bending radius

Min. 10 D

### (D- Cable outer diameter)

### Options Available

LSZH/HDPE as outer Jacketing Available

Customized designs are available on request.

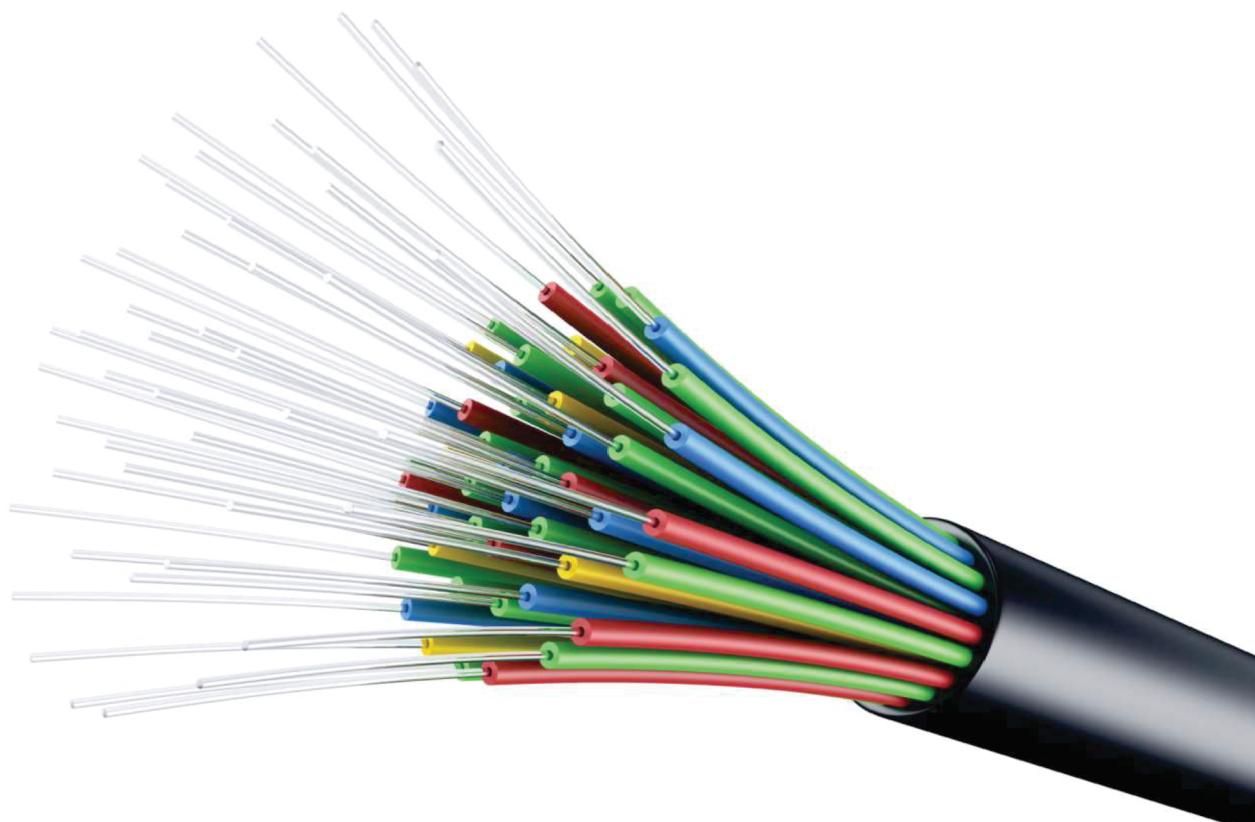
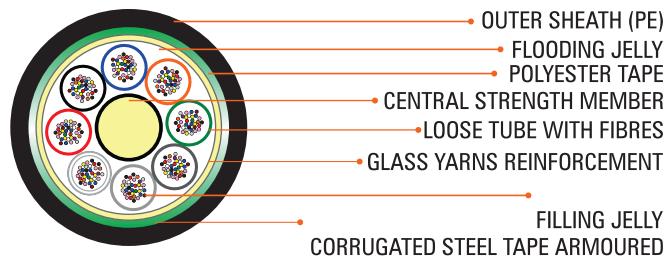
Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2, & OM3)

Dry core construction is optional.

The corrugated steel tape is co-polymer coated at both sides.

ECCS Tape armoring provides excellent rodent /rough terrain protection

Ribbon Fiber designs also available on request.



### 3. Double Sheathed Armored Cable

**Over view :-** Direct Burial Cable is designed to be placed directly under the ground either by trenching or ploughing. The metallic cable is armored with corrugated steel tape that provides good protection against rodents and allows the cable to retain outstanding Flexibility for easy installation. The cable design is available in unitube (up to 12 fibers) And multi tube single sheathed/ double sheathed construction (up to 144 fibers ).

#### Cable Construction :-

Loose tube containing fibres and jelly are stranded around a central strength member (FRP).

Armour of corrugated steel tape provides the necessary strength required for direct burial applications.

ECCS Tape armouring provides excellent rodent/rough terrain protection.

#### Environmental conditions

Temperature ranges for installation and assembly

-5°C + +40°C

Operation temperatures

-20°C + +60°C

Transport and store temperatures

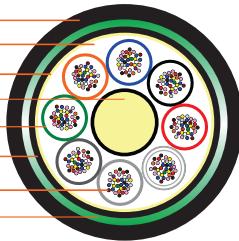
-40°C + +70°C

Minimum bending radius

Min. 10 D

#### (D- Cable outer diameter)

- OUTER SHEATH (PE)
- FLOODING JELLY
- POLYESTER TAPE
- CENTRAL STRENGTH MEMBER
- LOOSE TUBE WITH FIBRES
- INNER SHEATH
- FILLING JELLY
- CORRUGATED STEEL TAPE ARMOUR



#### Options Available

LSZH/FRPVC/HDPE as outer Jacketing Available

Customized designs are available on request.

Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)

Dry core construction is optional.

Composite of various types of fibers (SM & MM).

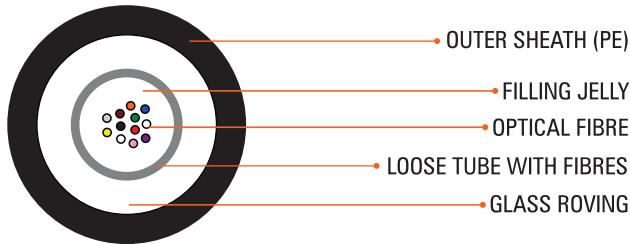
Metallic central strength member option available.

Higher Count Fiber cable designs are available on request.

Ribbon Fiber designs also available on request.

## Cables with Glass Rovings:

### 1. Uni Tube Cable



### 2. Multi Tube with Glass Roving Cable

Another option for direct burial installation is Glass Armoured Cable. This cable is armoured with glass roving tape that provides good protection against rodents and allows the cable to retain outstanding flexibility for easy installation.



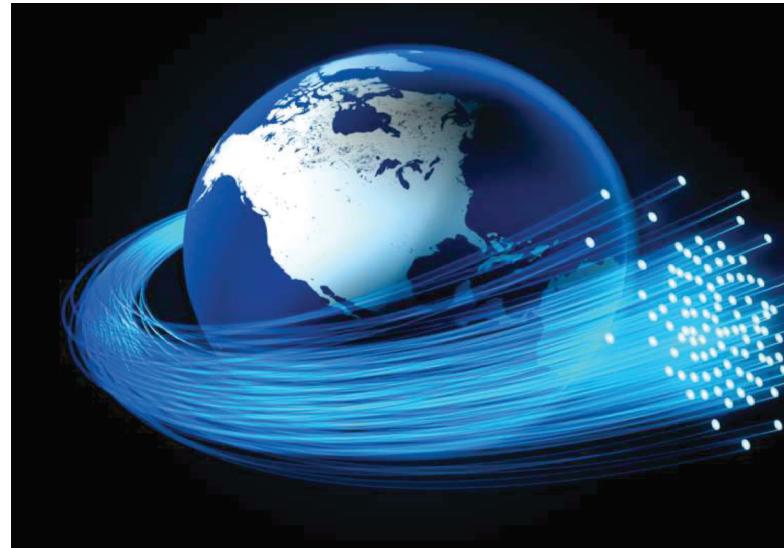
Used mainly in indoor /outdoor with PE/LSZH sheath for long time performance.

### Environmental conditions

Temperature ranges for installation and assembly	-5°C + +40°C
Operation temperatures	-20°C + +60°C
Transport and store temperatures	-40°C + +70°C
Minimum bending radius	Min. 10 D
(D- Cable outer diameter)	

### Options Available

- LSZH/FRPVC/HDPE as outer Jacketing Available
- Customized designs are available on request.
- Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)
- Dry core construction is optional.
- Composite of various types of fibers (SM & MM).
- Metallic central strength member option available.
- Ribbon Fiber designs also available on request.

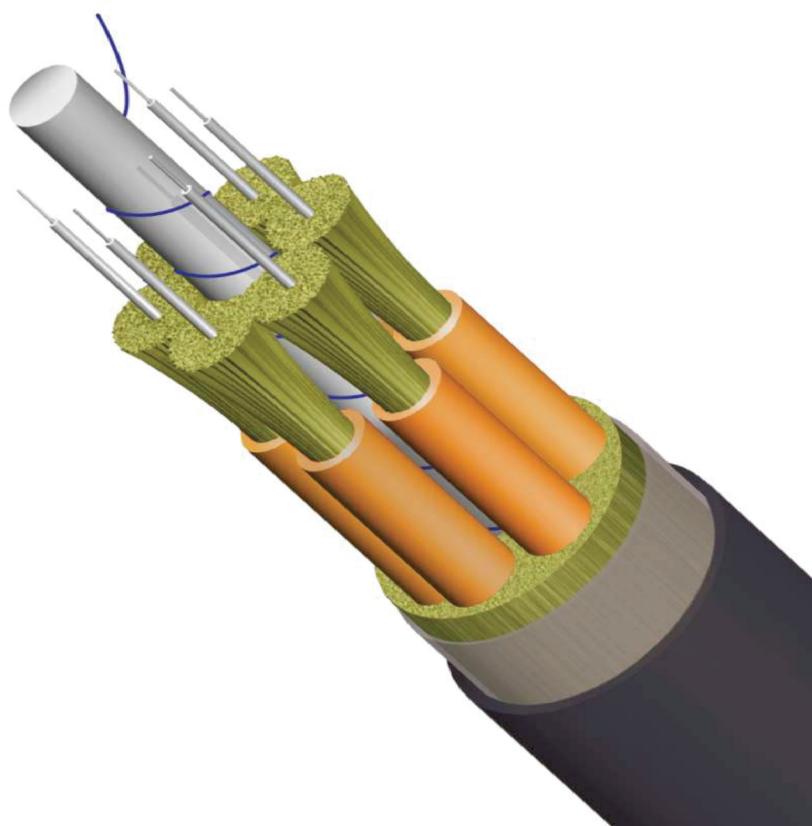
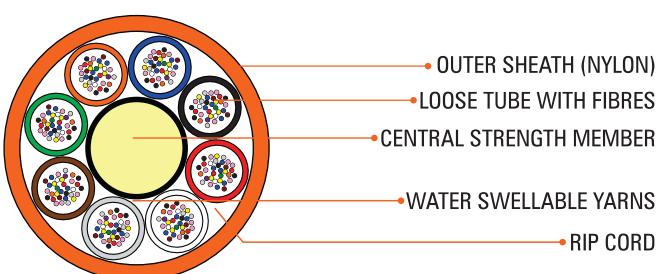


## Micro Cable

### Multi Tube Cable

#### Multi tube Micro Cable Design

Micro cables suitable for Fibre-To-The Home (FTTH) applications for the installation into duct/micro ducts. Extending optical fibres reach directly to the residence/business is the next logical step to provide high-speed broadband services (such as high speed data, delivering voice services, and high quality video service)



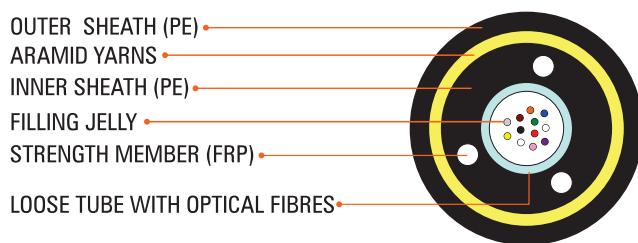
## ADSS Cable

### Overview

Aerial Cable is designed with integral bearer for installation on utility poles of an optical cable communication network. The cable design is available in unitube (up to 12 fibers), multtube design- single sheath construction (up to 144 fibres) and multtube design- double sheath construction (up to 96 fibres) and figure-8 design. The design is lightweight and flexible and able to withstand normal installation forces of strain, crush, bend and twist.

### 1. Uni Tube ADSS Cable

All Dielectric Self Supporting (ADSS) cable is designed for installation on poles with maximum span of 100 meters. It can be supplied with loose and ribbon fiber or both. The aramide yarn strength member and the radial shape of the slotted core profile provide an effective protection against tension and radial forces applied by the cable fittings. Being completely dielectric, the cable can be installed parallel with power lines. Light weight permits larger spans. Ideal for direct installation on poles and buildings



### Options Available

- Nylon/HDPE as outer Jacketing Available.
- Customized designs are available on request.
- Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)
- Dry core construction (non jelly) is optional.
- Composite of various types of fibres (SM & MM).
- Metallic central strength member option available.
- High strength cable construction is available on request.
- Higher count fiber cable designs are available on request

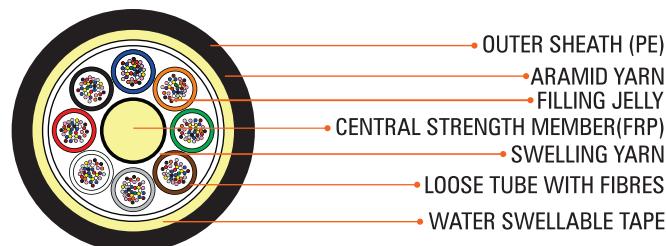
### 2. Single Sheathed ADSS Cable

Aerial Cable is designed with integral bearer for installation on utility poles of an optical cable communication network. The cable design is available in unitube (up to 12fibers), multtube design- single sheath construction (up to 144 fibres) and multtube design- double sheath construction (up to 96 fibres) and figure-8 design. The design is lightweight and flexible and able to withstand normal installation forces of strain, crush, bend and twist.

All Dielectric Self Supporting (ADSS) cable is designed for installation on poles with maximum span of 100 meters. It can be supplied with loose and ribbon fiber or both. The aramide yarn strength member and the radial shape of the slotted core profile provide an effective protection against tension and radial forces applied by the cable fittings. Being completely dielectric, the cable can be installed parallel with power lines.

#### Cable Construction :-

Loose Tube containing fibres and jelly is centrally located. The strength members (FRP) are embedded in the HDPE sheath. A layer of non metallic strength member (aramid yarn) between the inner and outer HDPE sheath provides the extra tensile strengths required for aerial installations. Light weight permits larger spans. Ideal for direct installation on poles and buildings.



### Options Available

- LSZH//HDPE as outer Jacketing available. Customized designs are available on request.
- Fiber options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)
- Dry core construction (non jelly) is optional. Composite of various types of fibers (SM & MM).
- Metallic central strength member option available. For hig strength cable construction is available on request.
- Higher count fiber cable designs are available on request.
- Ribbon Fiber designs also available on request.

### 3. Double Sheathed ADSS Cable

**Over View:-** Aerial Cable is designed with integral bearer for installation on utility poles of an optical cable communication network. The cable design is available in unitube (up to 12 fibers), multtube design- single sheath construction (up to 144 fibres) and multtube design- double sheath construction (up to 96 fibres) and figure-8 design. The design is lightweight and flexible and able to withstand normal installation forces of strain, crush, bend and twist.

All Dielectric Self Supporting (ADSS) cable is designed for installation on poles with maximum span of 100 meters. It can be supplied with loose tubes. The aramide yarn strength member and the radial shape of the slotted core profile provide an effective protection against tension and radial forces applied by the cable fittings. Being completely dielectric, the cable can be installed parallel with power lines

#### Environmental conditions

Temperature ranges for installation and assembly

-5°C + +40°C

Operation temperatures

-20°C + +60°C

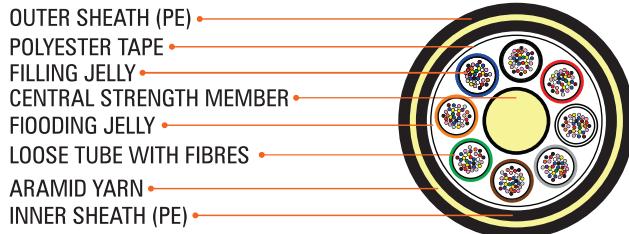
Transport and store temperatures

-40°C + +70°C

Minimum bending radius

Min. 20 D

#### (D- Cable outer diameter)



#### Options Available

Customized designs are available on request.

Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)

Dry core construction (non jelly) is optional.

Composite of various types of fibres (SM & MM).

Metallic central strength member option available.

High strength cable construction is available on request.

Higher fibre count cable designs are available on request.

Ribbon Fiber designs also available on request.

## Aerial Cable

### 1. Unitube Aerial Cable

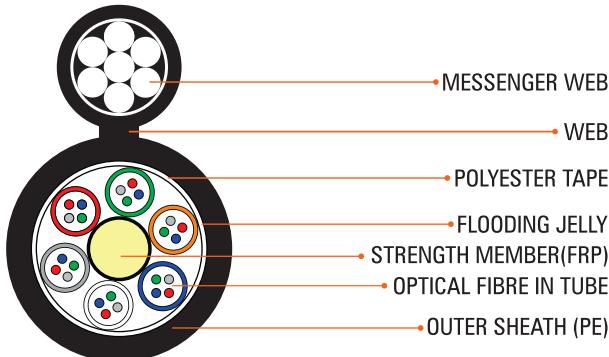
### 2. Single Sheathed Aerial Cable

**Over View :-** Smart core Aerial Cable is designed with integral bearer for installation on utility poles of an optical cable Communication network. The cable design is available in unitube (up to 12 fibers), multi tube design single sheath construction (up to 144 fibers) and multi tube design- double sheath construction (up to 96 fibers) and figure-8 design. The design is lightweight and flexible and able to withstand normal installation forces of strain, crush, bend and twist.

All Dielectric Self Supporting (ADSS) cable is designed for installation on poles with maximum span of 100 meters. It can be supplied with loose tube fiber . The aramid yarn strength member and the radial shape of the slotted core profile provide an effective protection against tension and radial forces applied by the cable fittings. Being completely dielectric, the cable can be installed parallel with power lines.

#### Cable Construction :-

The loose tubes containing fibres and jelly are S-Z stranded around a central strength member. A bunch of stranded steel wires are sheathed with core to make the figure-8 construction, ideal for aerial installation. Light weight permits larger spans. Ideal for direct installation on poles and buildings.



#### Options Available

HDPE as outer Jacketing Available.

Customized designs are available on request.

Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)

Dry core construction (non jelly) is optional.

Composite of various types of fibers (SM & MM).

Metallic central strength member option available.

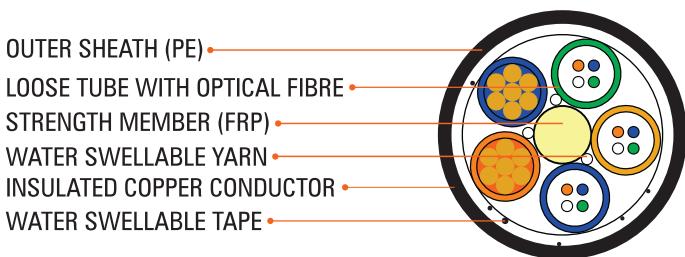
High strength cable construction is available on request.

Higher count fiber cable designs are available on request.

## Hybrid Cables

### Cable Construction :-

High performance Optical fibres are placed in gel-filled buffer tubes which are stranded around a dielectric central member. Water blocking tape is added to eliminate water ingress & migration. Peripherie strength members are included to provide appropriate pulling tension performance. An insulated pair of copper conductor is used as one of the stranding, elements for power transmissions to energies line components.



### Options Available

LSZH/FRPVE as outer Jacketing Available.

Customized designs are available on request.

Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)

Dry core construction (non jelly) is optional.

Rip Cord is optional.

Composite of various types of fibers (SM & MM).

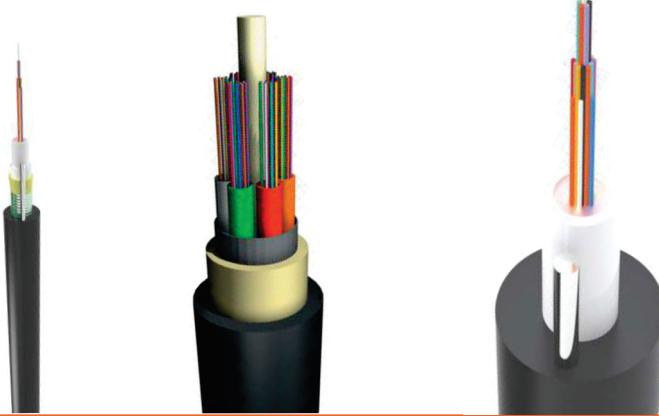
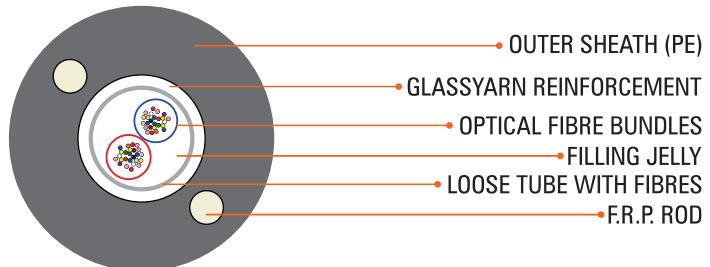
Metallic central strength member option available.

High count fiber cable designs are available on request.

## CATV Cables

### Options Available

- HDPE as outer Jacketing Available.
- Customized designs are available on request.
- Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)
- Dry core construction (non jelly) is optional.
- Rip Cord is optional.
- Composite of various types of fibres (SM & MM).
- Metallic central strength member option available.
- High fibre count cable designs are available on request



## FTTH Cables

### 1. Drop Cable - Flat Design

#### Over View:-

suitable for aerial installation to the end connectivity up to home

#### Cable Construction :-

Loose tube containing the fibres and jelly is protected by two FRP rods and sheathed with tough weather resistant HDPE.

#### Options Available

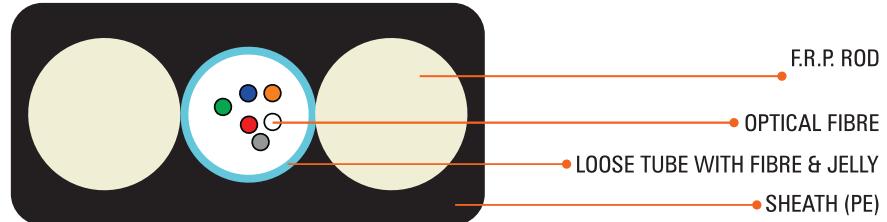
Customized designs are available on request.

Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)

Composite of various types of fibres (SM & MM)

Metallic strength member option available.

Higher fibre count cable designs are available on request.



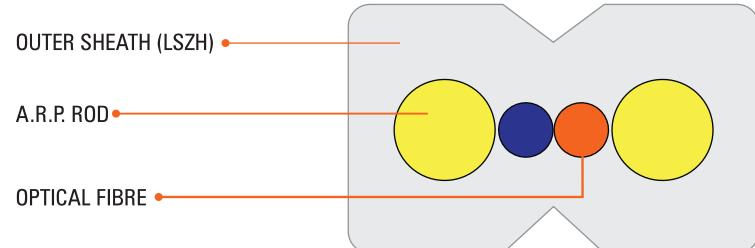
### 2. FTTH Drop Lite Cable

#### Over View:-

Suitable for aerial installation to the end connectivity up to home

#### Cable Construction :-

The 2 fibres embedded in LSZH sheath between 2 ARP rods which can be taken out easily from the LSZH sheath. This is suitable for the successful indoor installation in any type of civil structures



#### Options Available

Customized designs are available on request.

Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)

Composite of various types of fibres (SM & MM)

Metallic strength member option available.

Higher fibre count cable designs are available on request.

## FTTH Drop Cable

### Over View:-

Suitable for aerial installation to the end connectivity up to home

### Cable Construction :-

Loose tube containing fibres and jelly is placed between two aramid FRP rods. One GFRP rod provides extra tensile strength for aerial installation. This cable is good for last mile FTTH connectivity using poles.

### Options Available

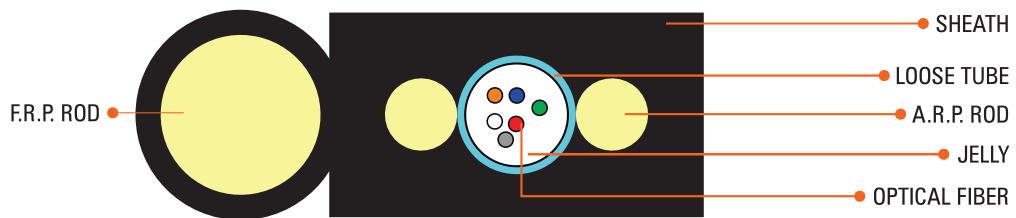
Customized designs are available on request.

Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)

Composite of various types of fibres (SM & MM)

Metallic strength member option available.

Higher fibre count cable designs are available on request.



## Indoor Cables

### 1. Duplex & Simplex Cables

**Over View:-** Indoor cables are flexible, non-gel filled cable for use in telecommunication stations for interconnection between the optical line system and the fiber distribution frame. It is also suitable for data networks. The sheath is made of PVC that has good tensile strength and tear resistance. The cable can be terminated with a wide variety of connectors. Simplex design is supplied with one tight buffered fiber (in single-mode and/or multi-mode) whereas Duplex Design is supplied with two tight buffered fibers, single-mode or multi-mode.

### Cable Construction :-

These tight-buffered cables are designed for indoor inter-equipment connections. The inside cable is used for installation through a duct or conduit or can be placed on ceiling walls. Also suitable for computer data or TV links, home automation system, terminal link and internal connections. High strength good bending performance, easy to operate and splice. With tight structure, light, weight, small dimension and high tensile strength, it facilitates flexible installations.

Aramid Yarn reinforcement for ruggedized protection.

Flame retardant.

Easy to strip & terminate.

Meets IEC 60794, EIA/TIA, ITU-T, EN 187000, RUS 1755.900 & International standards.

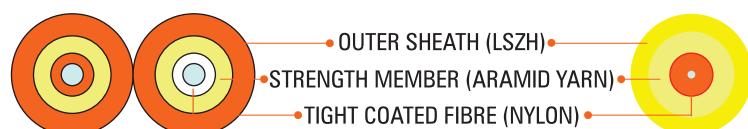
### Options Available

Tight Buffered coating material: Nylon/PVC/LSZH.

Customized designs are available on request.

Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)

Loose tube design also available with Glass Yarns.



## 2. Flat Twin Cable

### Over View:-

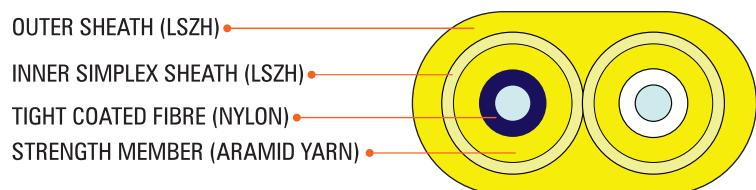
Indoor cables are flexible, non-gel filled cable for use in telecommunication stations for interconnection between the optical line system and the fiber distribution frame. It is also suitable for data networks. The sheath is made of PVC that has good tensile strength and tear resistance. The cable can be terminated with a wide variety of connectors. Simplex design is supplied with one tight buffered fiber (in single-mode and/or multi-mode) whereas Duplex Design is supplied with two tight buffered fibers, single-mode or multi-mode.

### Cable Construction :-

Aramid Yarn reinforcement for ruggedized protection. Flame retardant. Easy to strip & terminate.  
Meets IEC 60794, & International standards.

### Options Available

Tight Buffered coating material: Nylon/PVC/LSZH.  
Customized designs are available on request.  
Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)  
Loose tube design also available with Glass Yarns.



## 3. Break Out Cable

### Over View:-

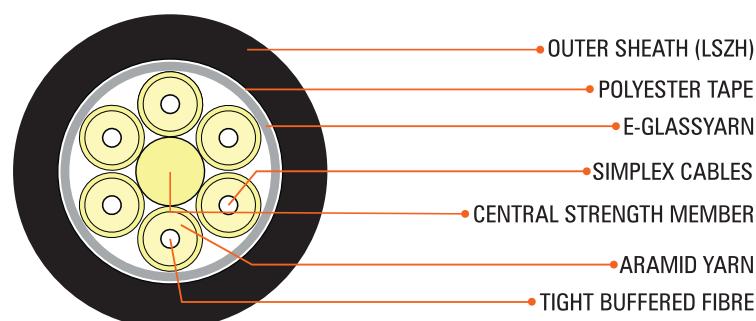
Indoor cables are flexible, non-gel filled cable for use in telecommunication stations for interconnection Between the optical line system and the fiber distribution frame. It is also suitable for data networks. The Sheath is made of PVC that has good tensile strength and tear resistance. The cable can be terminated with a wide variety of connectors. Simplex design is supplied with one tight buffered fiber (in single-mode and/or Multi-mode) whereas Duplex Design is supplied with two tight Buffered fibers, single-mode or multi-mode.

### Cable Construction :-

Simplex cables are stranded around central strength member and outer sheath is LSZH.  
Aramid Yarn reinforcement for ruggedized protection.  
Flame retardant.  
Easy to strip & terminate.  
Meets IEC 60794, & International standards.

### Options Available

Tight Buffered coating material: Nylon/PVC.  
Customized designs are available on request.  
Fibre options: SM (G652B/D, G655 & G657), MM (OM1, OM2 & OM3)  
Loose tube design also available with Glass Yarns.



## Our other range of products



### Flexible Cable

- Single Core Industrial Flexible Cable
- Multi Core Industrial Flexible Cable
- Co Axial TV Cable
- Submersible Cable
- Telephone Switch Board Cable



### HT / LT Cable (Upto 66kV)

- LT Copper Aluminium Conductor PVC and XLPE Power Cables 1.1 kV
- HT Power Cables
- HT-LT Aerial Bunched Cables
- Instrumentation Cables
- Control Cables
- Mining Cables
- Thermocouple Cables
- Airfield Lighting Cables
- Railway Signalling Cables
- Other Specialised Cables



### Conductors

- AAC/AAAC/ACSR/ACAR/AACSR/ AL 59
- HTLS (STACIR/ TACSR/ ACSS/ GAP Type



### Wire Rod

- Aluminium and Alloy as per AA-  
▪ 1XXX ▪ 5XXX ▪ 6XXX ▪ 8XXX



### Rhino LED Lighting

- Indoor Lighting
- Outdoor Lighting
- Retail Lighting
- Corporate campus Lighting
- Warehouse Lighting
- Facades
- Healthcare Lighting
- Residential Lighting

## Gupta Power Infrastructure Limited

### CORPORATE OFFICE /

**INTERNATIONAL  
BUSINESS DIVISION**  
Cuttack Road  
Bhubaneswar 751 006, Odisha  
T + 91 674 2313898/2312945  
F +91 674 2312083

### REGISTERED OFFICE

EN 62, Sector V, 7th Floor  
Salt Lake City  
Kolkata 700 091, India  
Tel/Fax +91 33 40657348

### WORKS

ODISHA  
Plot No. F/9 IID Centre  
Khurda 752 054

UTTARAKHAND  
Plot No. 132  
Nandanagar Ind. Estate  
Phase II, Vill Mahaukheraganj  
Kashipur 244 713

TAMIL NADU  
Shed No. 13 & 18, Phase V  
SIDCO Ind. Estate  
Gummidipoondi 601 201

For enquiries: exports@guptapower.com, info@guptapower.com, rhino@guptapower.com

[www.guptapower.com](http://www.guptapower.com)