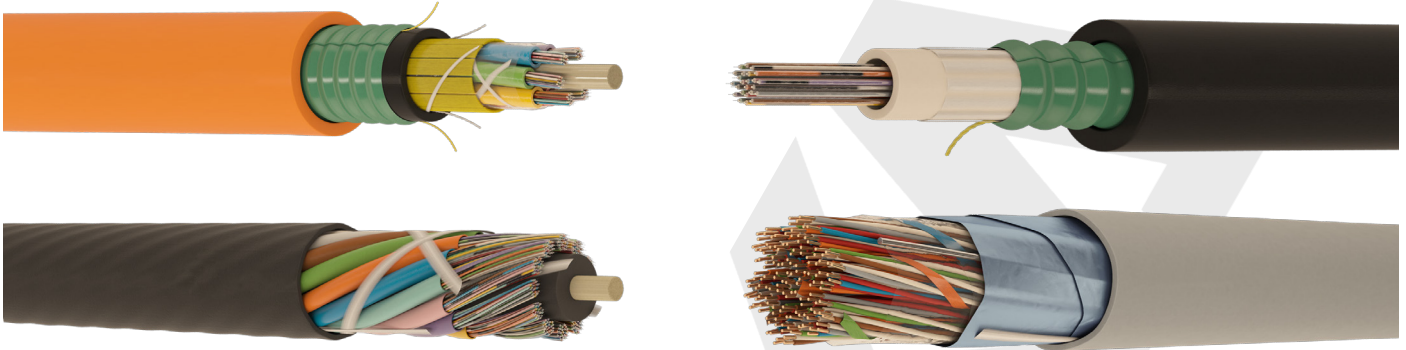


# Fiber Optic CABLES

## Content of Fiber Optic Cables

- **Single Loose Tube Fiber Optic Cables**
  - Single Loose Tube, Non-metallic Armour Fiber Optic Cable
  - Single Loose Tube, Non-metallic Armour Aerial Fiber Optic Cable
  - Single Loose Tube, Non-Metallic Armour Fiber Optic Cable with Stranded Copper
  - Single Loose Tube, Metallic corrugated Steel Tape Armour Fiber Optic Cable
  - Single Loose Tube Corrugated Steel Tape Armour Aerial Fiber Optic Cable
  - Single Loose Tube Corrugated Steel Tape Armour Horizontally Laid Steel Wire in the Outer Jacket Fiber Optic Cable
  - Single Loose Tube Corrugated Steel Tape Armour Fire Resistant Fiber Optic Cable
- **Multi Loose Tube Fiber Optic Cables**
  - Multi Loose Tube, Non-metallic Armour Fiber Optic Cable
  - Multi Loose Tube, Non-Metallic Armour with Stranded Copper
  - Multi Loose Tube, Non-metallic Armour Aerial Fiber Optic Cable
  - Multi Loose Tube, Non-metallic Armour, Light All-Dielectric Self-Supporting Fiber Optic Cable
  - Multi Loose Tube, Non-metallic Armour, Stranded Copper Composite Cable
  - Multi Loose Tube, Corrugated Steel Tape Armour Fiber Optic Cable
  - Multi Loose Tube, Corrugated Steel Tape Armour, Aerial Fiber Optic Cable
  - Multi Loose Tube, Double Galvanized Steel Tape Armour Fiber Optic Cable
  - Multi Loose Tube, Double Galvanized Steel Tape Armour Fire Resistant Fiber Optic Cable
  - Multi Loose Tube, Corrugated Steel Tape Armour, Fire Resistant Fiber Optic Cable
- **Other Fiber Optic Cables**
  - Mini, Single Loose Tube, Non-metallic Armour Fiber Optic Cable
  - Microduct, Single Loose Tube, Non-metallic Armour Fiber Optic Cable
  - Microduct, Multi Loose Tube Fiber Optic Cable
  - Simplex Zipcord
  - Duplex Zipcord
  - Indoor Distribution Cable
  - Outdoor Distribution Cable
  - Drop Cable
  - Drop Aerial Cable

## FIBER OPTIC CABLES



### TECHNICAL DATA

A fiber-optic cable, also known as an optical-fiber cable, is a cable assembly that is similar to an electrical cable but contains one or more optical fibers that convey light. Individual optical fiber elements are often coated with plastic coatings and housed in a protective tube appropriate for the environment in which the cable is used. Different types of cable are used for various purposes, such as long-distance telephony or providing a high-speed data link between different areas of a building. Because of the difference in refractive indexes, optical fiber is made up of a core and a cladding layer that are designed for complete internal reflection. In practical fibers, the cladding is often coated with an acrylate polymer or polyimide layer. This coating shields the fiber from damage but has no effect on its optical wave guide capabilities. Individual coated fibers (or fibers shaped into ribbons or bundles) are then extruded with a strong resin buffer layer or core tube(s) to produce the cable core. Depending on the application, many layers of protective wrapping are applied to make the cable. Light-absorbing ("dark") glass is occasionally used between the fibers in rigid fiber assemblies to prevent light from leaking out of one fiber from entering another. In fiber bundle imaging applications, this lowers crosstalk between fibers or flare.

### APPLICATION

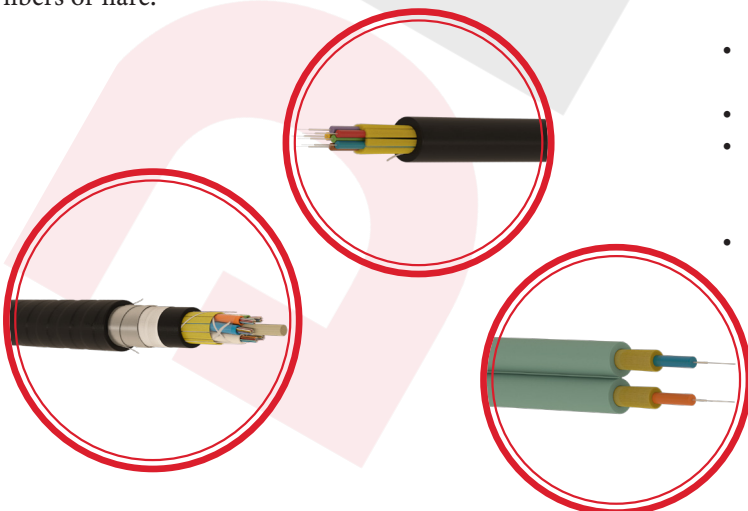
- Computer Networking
- Medical in Surgery and Dentistry
- Decorations and Lighting System
- Mechanical Inspections
- TV Cables
- Automotive Industry
- Military and Aerospace
- Internet
- Telephone
- Remote Sensing

### TYPES

- SLT (Single Loose Tube)
- MLT (Multi Loose Tube)
- Other Types Fiber Optic Cables

### ADVANTAGES

- Bandwidth is higher than copper cables
- Less power loss and allows data transmission for longer distances
- The optical cable is resistance for electromagnetic interference
- The size of the fiber cable is 4.5 times better than copper wires
- These cables are lighter, thinner, and occupy less area compare with metal wires.
- Installation is very easy due to less weight.
- The optical fiber cable is very hard to tap because they don't produce electromagnetic energy. These cables are very secure while carrying or transmitting data.
- A fiber optic cable is very flexible, easily bends, and opposes most acidic elements that hit the copper wire.



## FIBER OPTIC CABLES DESIGNATION CODES ACCORDING TO VDE STANDARD

- **Optical Fiber Core Type**
  - SM Single Mode (9/125) (G.652.D)
  - SM1 Single Mode (9/125) (G.655)
  - SM2 Single Mode (9/125) (G.656)
  - SM7.A1 Single Mode (9/125) (G.657.A1)
  - SM7.A2 Single Mode (9/125) (G.657.A2)
  - OM1 Multi Mode OM1 (62.5/125)
  - OM2 Multi Mode OM2 (50/125)
  - OM3 Multi Mode OM3 (50/125)
  - OM4 Multi Mode OM4 (50/125)
  - Hybrid Hybrid
- **Tube**
  - SmicroSLT Supermicro, single loose tube
  - microSLT Micro, single loose tube
  - miniSLT Mini, single loose tube
  - SLT Single loose tube
  - mdMLT Microduct, multi loose tube
  - miniMLT Mini, multi loose tube
  - MLT Multi loose tube
  - TB Tight buffer
- **Tape**
  - L Laminated aluminium foil tape
- **Armour**
  - NMA Non-metallic armor
  - SA Single corrugated steel tape armor
  - DA Double corrugated steel tape armor
  - DGSTA Double galvanized steel tape armor
  - 5Extra Strength Member
  - SW Horizontally laid steel wire in the outer jacket
- **Jacket**
  - SJ Single polyethylene jacket
  - DJ Double polyethylene jacket
  - TJ Triple polyethylene jacket
  - SHFJ Single halogen-free jacket
  - DHFJ Double halogen-free jacket
  - THFJ Triple halogen-free jacket
  - 7Composite Cable
  - C(M) Solid copper, composite
  - C(S) Stranded copper, composite
  - C(M)F8 Solid copper, figure eight, composite
  - C(S)F8 Stranded copper, figure eight, composite
- **Aerial**
  - -A(x) Aerial (x= S (Short pole span), x= M (Medium pole span), x= L (Long pole span))
  - ADSS All-dielectric self-supporting
  - LADSS Light all-dielectric self-supporting
- **Non-metallic Strength Member**
  - (GYxxx) Glass yarn (xxx= Newton/100)
  - (AYxxx) Aramid yarn (xxx= Newton/100)
  - 10 Optical Fiber Core Count
  - xFO x= Optical fiber core count
  - xFO(axb) x= Optical fiber core count, a= Tube count, b= Number of optical fiber cores per loose tube
  - XOther
  - (D) Dry core
  - (RP) Rodent protection (Dielectric)
  - (FR) Fire Resistant

## FIBER OPTIC CABLES DESIGNATION CODES

- **Product - Application**
- A Outdoor Cable
- AT Dividable Outdoor Cable
- B Loose Tube, Unfilled
- D Loose Tube, Filled
- F Fiber
- H Hollow Core, Unfilled
- J Indoor Cable
- U Universal Cable (Indoor and Outdoor)
- V Tight Buffer
- W Hollow Core, Filled
- **Type**
- B Loose Tube, Unfilled
- D Loose Tube, Filled
- DA Loose Tube made of Aluminium, Filled
- DC Loose Tube made of Copper, Filled
- DS Loose Tube made of Steel, Filled
- H Hollow Core, Unfilled
- V Tight Buffer
- W Hollow Core, Filled
- **Construction (From left to right, from inside to outside of the cable)**
- B Armoring
- 1B Armoring with One Layer Steel Tape
- 2B Armoring with Two Layer Steel Tape
- F Cable Core Filled
- 0F Cable Core Filled with Solids
- Q Dry Swelling Material in the Cable Core
- (L) Smooth Aluminium Foil Tape
- (R xx) Armoring made of Round Wires; xx= Wire Diameter in millimeters
- S Metal Conductor in the Cable Core
- (SR) Overlapping Corrugated Steel Tape
- (ZN) Non-metallic Strain Relief Elements
- (ZS) Metallic Tensile/Supporting Element in the Cable Core
- **Sheath Material**
- H Sheath or Protective Cover of Halogen-free Material
- M Lead Sheath
- Y Sheath or Protective Cover of PVC
- 2Y Sheath or Protective Cover of PE
- 4Y Sheath or Protective Cover of PA
- 5Y Sheath or Protective Cover of PTFE
- 6Y Sheath or Protective Cover of FEP
- 7Y Sheath or Protective Cover of ETFE
- 9Y Sheath or Protective Cover of PP
- 10Y Sheath or Protective Cover of PVDF
- 11Y Sheath or Protective Cover of TPE-U (PUR)
- 12Y Sheath or Protective Cover of TPE-E
- **Optical Fiber Core - Optical Fiber Core Dimensions**
- E Single Mode Optical Fiber Core (Glass Core/Glass Cladding)
- G Multi Mode Graded Index Optical Fiber Core (Glass Core/Glass Cladding)
- GK Multi Mode Graded Index Optical Fiber Core (Glass Core/Plastic Cladding)
- K Multi Mode Level Index Optical Fiber Core (Glass Core/Plastic Cladding)
- P Multi Mode Level Index Optical Fiber Core (Plastic Core/Plastic Cladding)
- S Multi Mode Level Index Optical Fiber Core (Glass Core/Plastic Cladding)
- Core Diameter and Field Diameter in  $\mu\text{m}$  (Nominal)
- Cladding Diameter in  $\mu\text{m}$  (Nominal)

## SINGLE LOOSE TUBE, NON-METALLIC ARMOUR FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables have easy and fast installation due to its small diameter and light construction. They are suitable for pushing, blowing method. These cables are used in network systems, MAN, WAN, LAN applications and rodent protection.

### CODE of CABLE

- A-DQ(ZN)2Y
- U-DQ(ZN)H

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic strength member (Glass yarn and aramid yarn)
- Ripcord
- UV resistant polyethylene (HDPE) black outer jacket

## SINGLE LOOSE TUBE, NON-METALLIC ARMOUR AERIAL FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are for aerial applications with easy and fast installation due to its small diameter and light construction. They are suitable to be used up to 40 meters pole span. These cables are used in network systems, MAN, WAN, LAN applications and rodent protection.

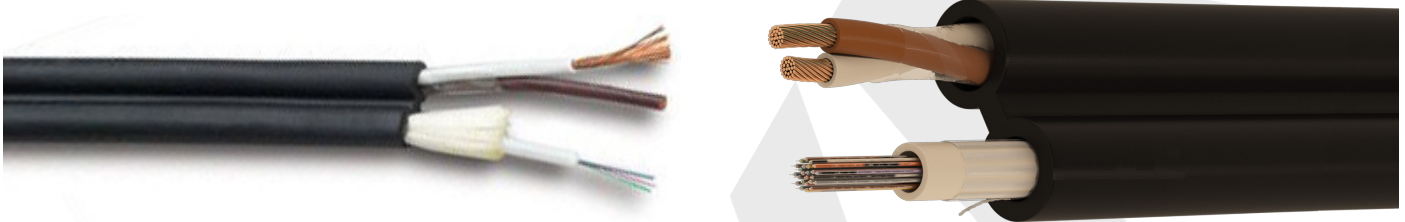
### CODE of CABLE

- A-DQ(ZN)T2Y

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic strength member (Glass yarn)
- Ripcord
- Web
- Galvanized steel wire (1.2 mm)
- UV resistant polyethylene (HDPE) black outer jacket

## SINGLE LOOSE TUBE, NON-METALLIC ARMOUR FIBER OPTIC CABLE WITH STRANDED COPPER



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are for aerial applications with easy and fast installation due to its small diameter and light construction with rodent protection. They are suitable for pushing, blowing method. They can be used in CCTV applications with mobile video camera and central network systems, signalization systems.

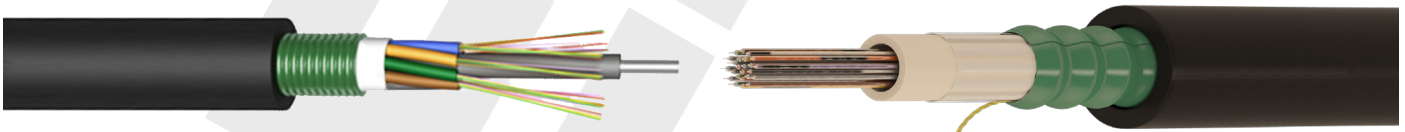
### CODE of CABLE

- A-DQ(ZN)T2Y - Composite (Stranded Copper)

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic strength member (Glass yarn)
- Ripcord
- Web
- Power cable
- UV resistant polyethylene (HDPE) black outer jacket

## SINGLE LOOSE TUBE, METALLIC CORRUGATED STEEL TAPE ARMOUR FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are for aerial applications with easy and fast installation due to its small diameter and light construction. They are suitable for pushing, blowing methods. They are suitable for indoor and duct type applications with low smoke, zero halogen. These cables can be used in heavy-duty environments, network systems, MAN, WAN, LAN applications. They have rodent protection. Due to its thin construction, these cables can be used as an indoor cable.

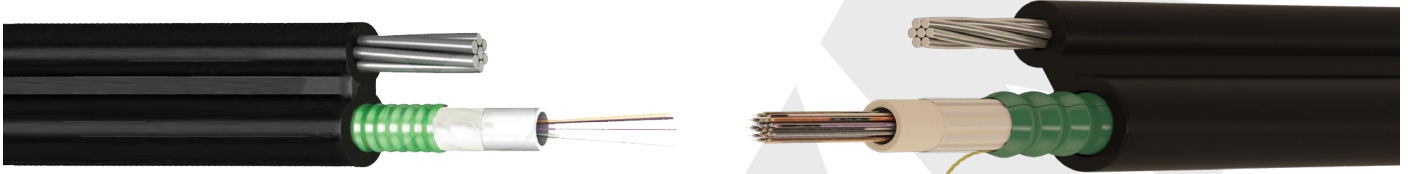
### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic strength member (Glass yarn)
- Ripcord
- Corrugated steel tape
- UV resistant halogen-free (LSOH) outer jacket

### CODE of CABLE

- A-DQ(ZN)(SR)2Y
- U-DQ(ZN)(SR)H
- A-DQ(ZN)2Y(SR)2Y

## SINGLE LOOSE TUBE CORRUGATED STEEL TAPE ARMOUR AERIAL FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are for aerial applications with easy and fast installation due to its small diameter and light construction. They are suitable to be used up to 60 meters pole span. These cables are used in network systems, MAN, WAN, LAN applications and rodent protection.

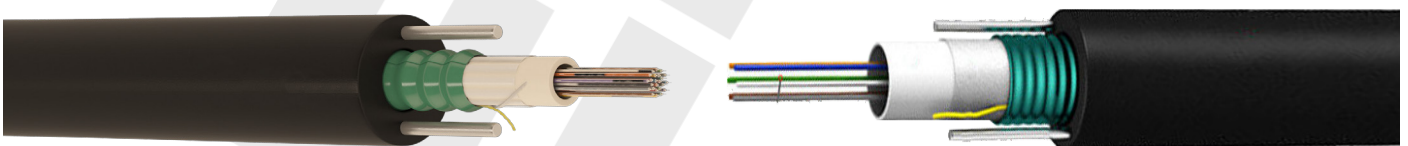
### CODE of CABLE

- A-DQ(ZN)(SR)T2Y

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic strength member (Glass yarn)
- Ripcord
- Web
- Power cable
- UV resistant polyethylene (HDPE) black outer jacket

## SINGLE LOOSE TUBE CORRUGATED STEEL TAPE ARMOUR HORIZONTALLY LAID STEEL WIRE IN THE OUTER JACKET FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables have easy and fast installation due to its small diameter and light construction. They are suitable for pushing, blowing method. These cables are used in network systems, MAN, WAN, LAN applications and rodent protection.

### CODES of CABLE

- A-DQ(ZN)(SR)2Y

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic strength member (Glass yarn)
- Ripcord
- Corrugated steel tape
- Galvanized steel wire (2x1.2 mm)
- UV resistant polyethylene (HDPE) black outer jacket



## SINGLE LOOSE TUBE CORRUGATED STEEL TAPE ARMOUR FIRE RESISTANT FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are for aerial applications with easy and fast installation due to its small diameter and light construction. They are suitable for pushing, blowing methods. They are suitable for indoor and duct type applications with low smoke, zero halogen. These cables can be used in heavy-duty environments, network systems, MAN, WAN, LAN applications. They have rodent protection. Due to its thin construction, these cables can be used as an indoor cable.

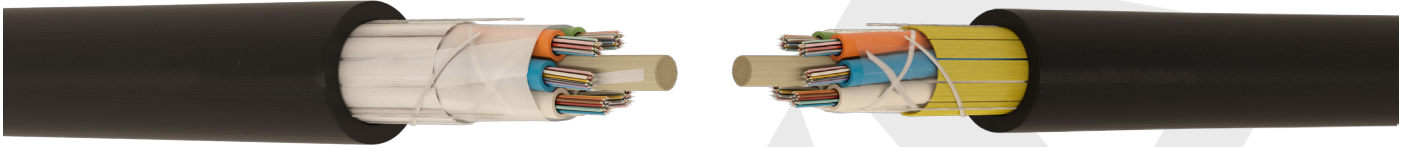
### CODES of CABLE

- U-DQ(ZN)H(SR)H

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Mica tape
- Non-metallic strength member (Glass yarn)
- Ripcord
- UV resistant halogen-free (LSOH) inner jacket
- Ripcord
- Corrugated steel tape
- UV resistant halogen-free (LSOH) outer jacket

## MULTI LOOSE TUBE, NON-METALLIC ARMOUR FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables have easy and fast installation due to its small diameter and light construction and rodent protection. They are suitable for pushing, blowing method. These cables can be used in power lines due to its non-metallic construction.

### CODES of CABLE

- A-DF(ZN)2Y
- A-DQ(ZN)2Y
- U-DF(ZN)H
- U-DQ(ZN)H
- A-DF2Y(ZN)2Y
- A-DQ2Y(ZN)2Y

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic central strength member (FRP)
- Jelly filling
- Core Wrapping (Polyester Tape)
- Non-metallic strength member (Aramid yarn)
- Ripcord
- UV resistant polyethylene (HDPE) black outer jacket

## MULTI LOOSE TUBE, NON-METALLIC ARMOUR, STRANDED COPPER COMPOSITE CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø

### INTRODUCTION

These cables are used for aerial applications in heavy duty environments. They have easy and fast installation due to its light construction. They are suitable to be used up to 60 meters pole span. As a backbone cable in telecommunication lines. These cables can be used in power lines due to its non-metallic construction.

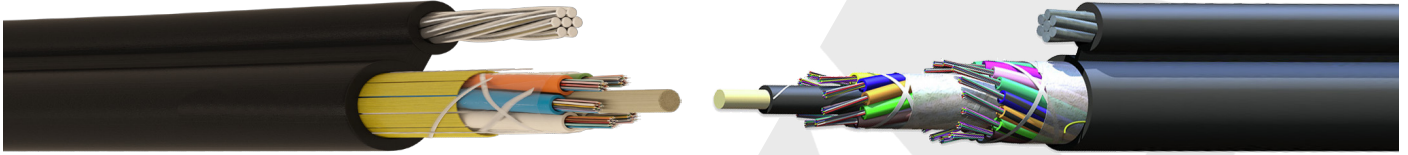
### CODES of CABLE

- A-DQ(ZN)2Y Composite (Stranded Copper)

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic central strength member (FRP)
- Power cable
- Water-swellable yarn
- Core Wrapping (Water-swellable Tape)
- Non-metallic strength member (Glass yarn).
- Ripcord
- UV resistant polyethylene (HDPE) black outer jacket

## MULTI LOOSE TUBE, NON-METALLIC ARMOUR AERIAL FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used for aerial applications in heavy duty environments. They have easy and fast installation due to its light construction. They are suitable to be used up to 60 meters pole span. As a backbone cable in telecommunication lines.

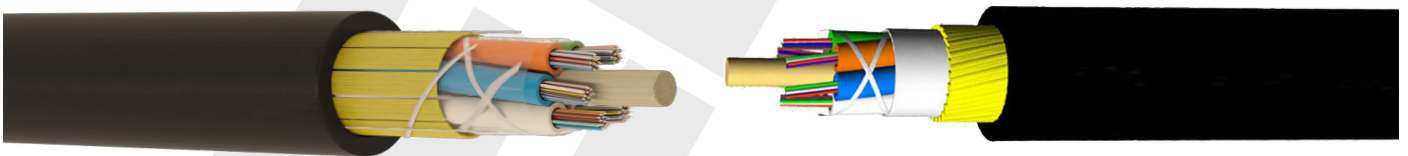
### CODES of CABLE

- A-DF(ZN)T2Y

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic central strength member (FRP)
- Jelly filling
- Core Wrapping (Polyester Tape)
- Non-metallic strength member (Aramid yarn)
- Ripcord
- Web
- Steel messenger wire (7x1.32 mm)
- UV resistant polyethylene (HDPE) black outer jacket

## MULTI LOOSE TUBE, NON-METALLIC ARMOUR, LIGHT ALL-DIELECTRIC SELF-SUPPORTING FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables have easy and fast installation due to its small diameter and light construction and rodent protection. Because of their non-metallic nature, they are ideal for use in electricity lines. Aerial cable that isn't connected to a messenger wire. In high-stress situations and telecommunication lines, uses as a backbone wire.

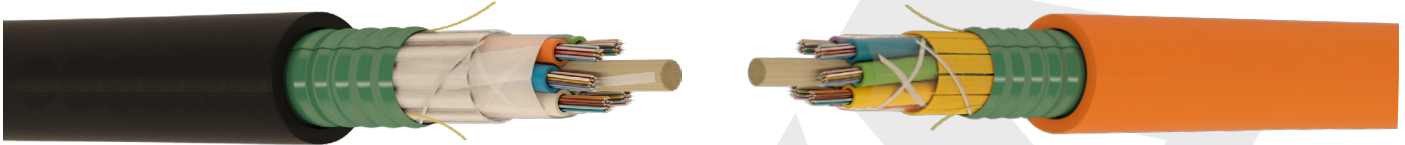
### CODES of CABLE

- A-DF(ZN)2Y

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic central strength member (FRP)
- Jelly filling
- Core Wrapping (Polyester Tape)
- Non-metallic strength member (Aramid yarn)
- Ripcord
- UV resistant polyethylene (HDPE) black outer jacket

## MULTI LOOSE TUBE, CORRUGATED STEEL TAPE ARMOUR FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables have easy and fast installation due to its small diameter and light construction and rodent protection. They are suitable for pushing, blowing method. These cables can be used in power lines due to its non-metallic construction.

### CODES of CABLE

- A-DF(ZN)(SR)2Y
- A-DQ(ZN)(SR)2Y
- U-DF(ZN)(SR)H
- U-DQ(ZN)(SR)H

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic central strength member (FRP)
- Water-swappable yarn / Jelly filling
- Core Wrapping (Water-swappable Tape)/(Polyester Tape)
- Non-metallic strength member (Glass yarn).
- Ripcord
- Corrugated steel tape
- UV resistant halogen-free (LSOH) outer jacket

## MULTI LOOSE TUBE, CORRUGATED STEEL TAPE NON-METALLIC ARMOUR AERIAL FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø

### INTRODUCTION

These cables are used for aerial applications in heavy duty environments. They are suitable to be used up to 60 meters pole span. They can also be used as a backbone cable in telecommunication lines.

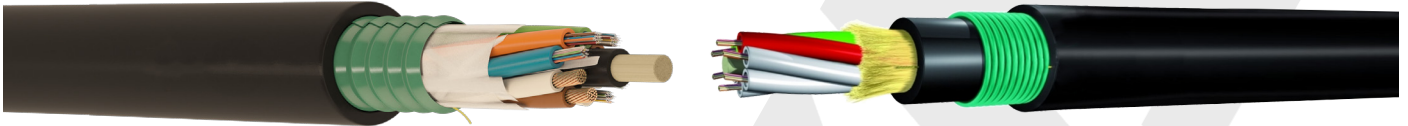
### CODES of CABLE

- A-DF(ZN)2Y(SR)T2Y

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic central strength member (FRP)
- Jelly filling
- Core Wrapping (Polyester Tape)
- Non-metallic strength member (Glass yarn)
- Ripcord
- Corrugated steel tape
- Web
- Steel messenger wire (7x1.12 mm)
- UV resistant polyethylene (HDPE) black outer jacket

## MULTI LOOSE TUBE, CORRUGATED STEEL TAPE ARMOUR STRANDED COPPER COMPOSITE CABLE FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables have easy and fast installation due to its small diameter and light construction with rodent protection. They are suitable for pushing, blowing method. They can be used in CCTV applications with mobile video camera and central network systems, signalization systems.

### CODES of CABLE

- A-DQ(ZN)(SR)2Y - Composite (Stranded Copper)

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic central strength member (FRP)
- Non-metallic central strength member (FRP)
- Power cable
- Water-swellable yarn
- Core Wrapping (Water-swellable Tape)
- Non-metallic strength member (Glass yarn).
- Ripcord
- Corrugated steel tape
- UV resistant polyethylene (HDPE) black outer jacket

## MULTI LOOSE TUBE, DOUBLE GALVANIZED STEEL TAPE ARMOUR FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables have easy and fast installation due to its small diameter and light construction and rodent protection. Because of their non-metallic nature, they are ideal for use in electricity lines. Aerial cable that isn't connected to a messenger wire. In high-stress situations in telecommunication lines, as a backbone wire.

### CODES of CABLE

- A-DF(ZN)2Y2B2Y

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic central strength member (FRP)
- Jelly filling
- Core Wrapping (Polyester Tape)
- Non-metallic strength member (Aramid yarn)
- Ripcord
- UV resistant polyethylene (LLDPE) black inner jacket
- Water-swellable tape
- Two helically laid galvanized steel tape
- Ripcord
- UV resistant polyethylene (HDPE) black outer jacket

## MULTI LOOSE TUBE, DOUBLE GALVANIZED STEEL TAPE ARMOUR FIRE RESISTANT FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are designed for heavy-duty applications and aerial applications. Due to the double layer of galvanized steel, it provides added strength. They can be used in telecommunication lines as a backbone wire.

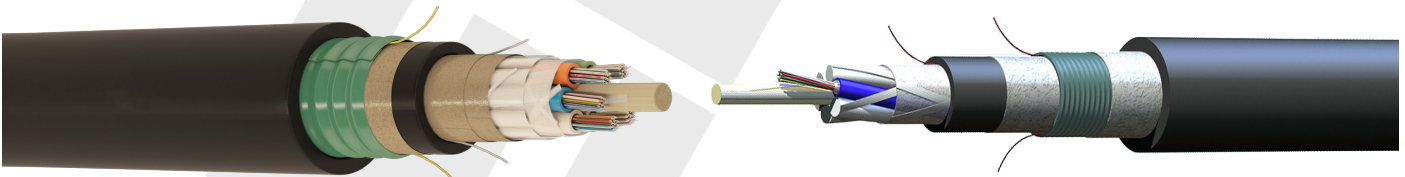
### CODES of CABLE

- A-DF(ZN)2Y2BT2Y

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic central strength member (FRP)
- Jelly filling
- Core Wrapping (Polyester Tape)
- Non-metallic strength member (Aramid yarn)
- Ripcord
- UV resistant polyethylene (LLDPE) black inner jacket
- Water-swellaable tape / Crepe paper
- Two ballistic proof, helically laid galvanized steel tape
- Ripcord
- Web
- Steel messenger wire (7x1.75 mm)
- UV resistant polyethylene (HDPE) black outer jacket

## MULTI LOOSE TUBE, CORRUGATED STEEL TAPE ARMOUR FIRE RESISTANT FIBER OPTIC CABLE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 20 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables can be used for indoor and duct type applications that needs low smoke, zero halogen. Suitable for heavy duty environments applications and network systems, MAN, WAN, LAN applications. Due to its fire resistance and rodent protection, they are suitable in applications where human life needs to be protected.

### CODES of CABLE

- U-DQ(ZN)H(SR)H

### CONSTRUCTION

- Optical fiber core
- Waterproof thixotropic jelly
- PBT Tube
- Non-metallic central strength member (FRP)
- Water-swellaable yarn
- Core Wrapping (Water-swellaable Tape)
- Non-metallic strength member (Glass yarn)
- Double layer of mica tape
- Ripcord
- UV resistant halogen-free (LSOH) inner jacket
- Mica tape
- Ripcord
- Corrugated steel tape
- UV resistant halogen-free (LSOH) outer jacket



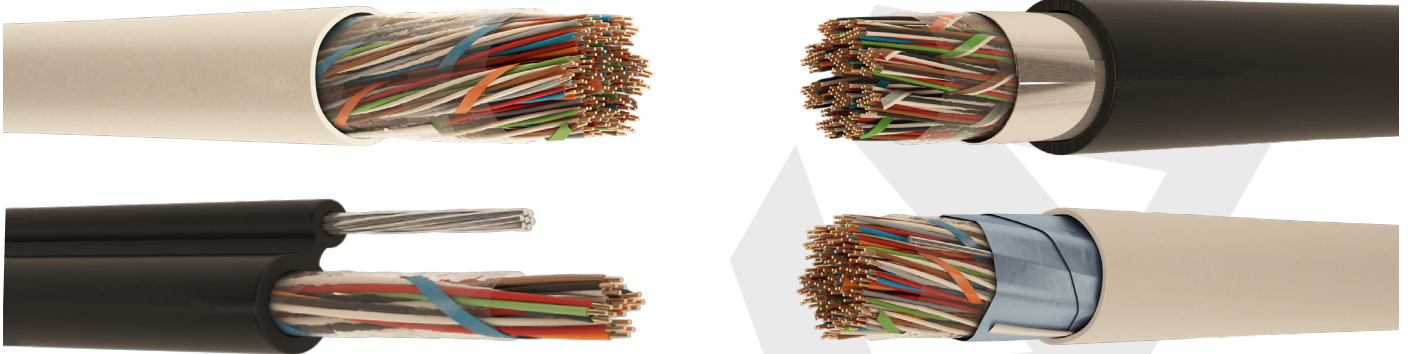
# Telecommunication CABLES

## Content of Telecommunication Cables

- **Indoor Telephone Cables**
  - PDV / J-2YY
  - PDH / J-2YH
  - VBV / J-YY
  - HBH / J-HH
  - PD-APV / JE-02YS(St)Y
  - PD-APH / JE-02YS(St)H
  - VB-APV / JE-Y(St)Y
  - HB-APH / JE-H(St)H
  - Jumper Wire
  - J-Y(St)Y Lg
  - J-H(St)H Lg
- **Outdoor Telephone Cables**
  - KPD-AP / A-02YS(L)2Y
  - PD-AP / A-2Y(L)2Y
  - KPD-AP-A / A-02YS(L)T2Y
  - PD-AP-A / A-2Y(L)T2Y
  - KPD-PAP / A-02YS2Y(L)2Y / A-2Y2Y(L)2Y
  - KPD-P-A / PD-P-A / A-02YST2Y / A-2YT2Y
  - KPD-HAH / A-02YSH(L)H
  - KPDP-AP / A-02YSF(L)2Y
  - PDF-AP / A-2YF(L)2Y
  - KPDP-AP-A / A-02YSF(L)T2Y
  - PDF-AP-A / A-2YF(L)T2Y
  - Drop Wire Aerial
  - KPDP-PAP / PDF-PAPE / A-02YSF2Y(L)2Y / A-2YF2Y(L)2Y
  - Drop Wire
  - KPDP-PABP / A-02YSF(L)2Yb2Y
  - KPDP-PAbP / PDF-PAbP / A-02YSF(L)2Yb2Y / A-2YF2Y(L)b2Y
  - J-H(St)H FE 180



## TELEPHONE CABLES



### TECHNICAL DATA

Telephone cables are made up of a single user circuit, which is a physical line that connects the device to the phone network. Copper wires are commonly used and feature a twisted pair structure. These arrangements eliminate the possibility of external electromagnetic interference and, when combined with a shielding layer, assure improved performance.

Telephone cables are often used for indoor telephone applications grouped into sets of 25 pairs, whilst outdoor cables are composed by hundreds of pairs. As most of cables, telephone cables must withstand environmental disadvantaged conditions such as dust, humidity, extreme temperature and be flame retardant and halogen free.

Copper wire quality, as well as foaming extrusion, are part of the efficiency of signal.

### APPLICATION

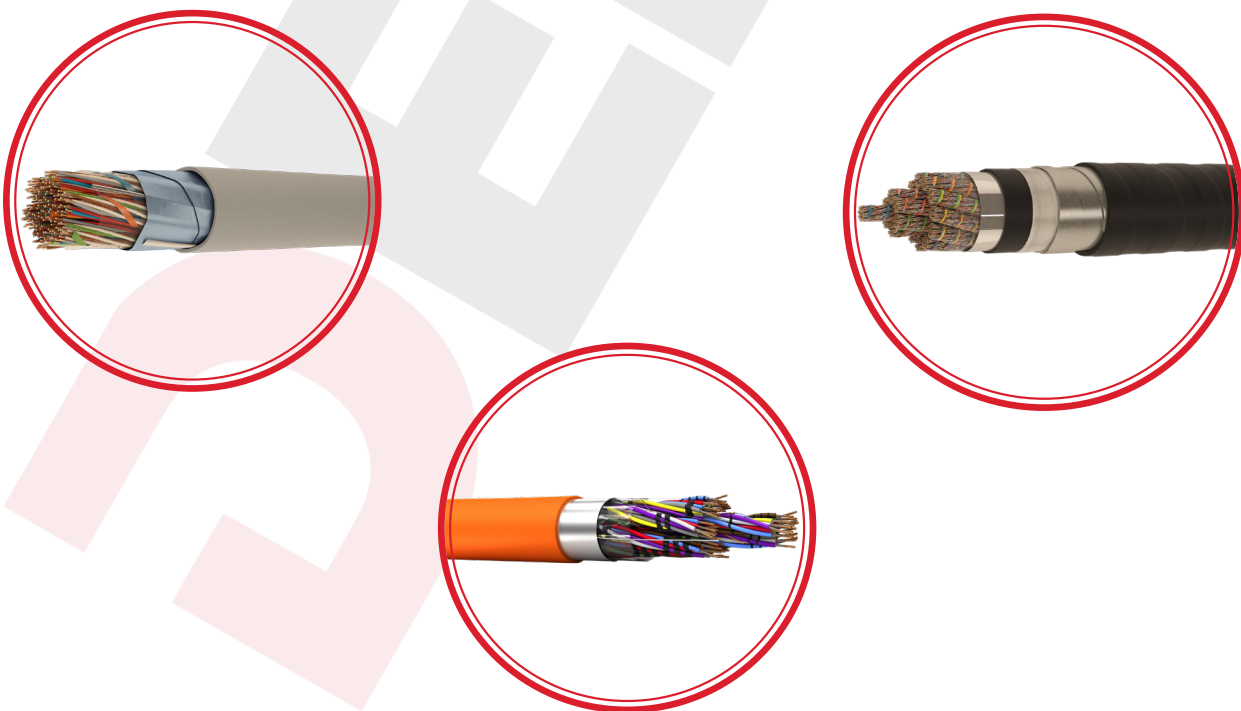
- Indoor and outdoor installation
- Signal and data transmission
- Telephone networks

### TYPES

- Indoor Telephone Cables
- Outdoor Telephone Cables

### ADVANTAGES

- High safety
- Water-proof
- Flexible
- Durable



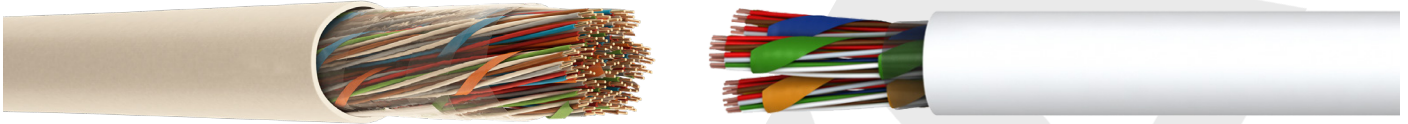
## INDOOR TELEPHONE CABLES DESIGNATION CODES ACCORDING TO VDE STANDARD

- **Application**
  - J Installation cable
  - JE Installation cable for industrial electronic
- **Insulation Type**
  - Y PVC
  - 2Y Polyethylene
  - 02YS Foam-skin Polyethylene
  - H Halogen-free
- **Screen**
  - (St) Al/PET Tape
  - C Copper Wire Braid
- **Outer Sheath**
  - Y PVC Outer Jacket
  - 2Y Polyethylene Outer Jacket
  - H Halogen-free Outer Jacket
- **Stranding Annex**
  - St Star Quad, phantom circuit for long distance
  - St III Star Quad, subscriber cable
- **Stranding Layout**
  - Lg Stranding in layers
  - Bd Unit stranding

## INDOOR TELEPHONE CABLES DESIGNATION CODES

- **Insulation Type**
  - V PVC
  - H Halogen-free
  - P Polyethylene
- **Stranding Type**
  - B Twisted
  - D Quad
- **Screen**
  - AP Al/PET foil tape
- **Outer Sheath**
  - V PVC Outer Jacket
  - H Halogen-free Outer Jacket
  - P Polyethylene Outer Jacket
- **Copper Type**
  - K Tinned Copper

## PDV J-2YY



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables used in indoor installations and telephone exchanges and subscriber distributions, signal and data transmission.

### CODES of CABLE

- PDV; J-2YY

### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (IEC 60228, DIN VDE 0295, EN 60228)

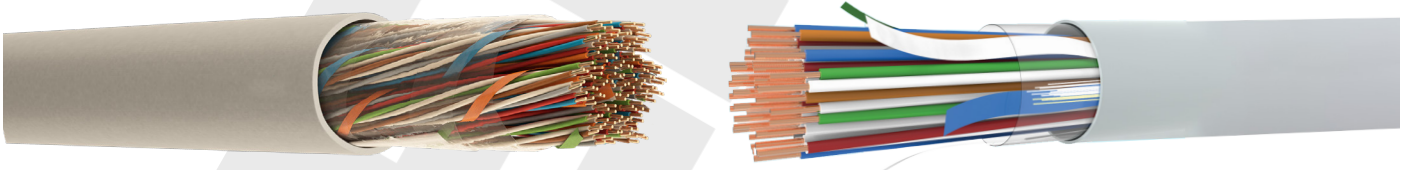
**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (TS EN 60708)

**Stranding:** In layers up to 10 pairs, 20 pairs to 100 pairs consist of stranding of 10 pair groups wrapped with polypropylene identification tape

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically. (More than 10 pairs)

**Outer Jacket:** UV resistant PVC outer jacket. RAL 7035 (Grey)

## PDH J-2YH



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables used in indoor installations and telephone exchanges and subscriber distributions, signal and data transmission.

### CODES of CABLE

- PDH; J-2YH

### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (IEC 60228, DIN VDE 0295, EN 60228)

**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (TS EN 60708)

**Stranding:** In layers up to 10 pairs, 20 pairs to 100 pairs consist of stranding of 10 pair groups wrapped with polypropylene identification tape

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically. (More than 10 pairs)

**Outer Jacket:** UV resistant PVC outer jacket. RAL 7035 (Grey)

## VBV J-YY



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables used in indoor installations and telephone exchanges and subscriber distributions, signal and data transmission.

### CODES of CABLE

- VBV; J-YY

### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (IEC 60228, DIN VDE 0295, EN 60228)

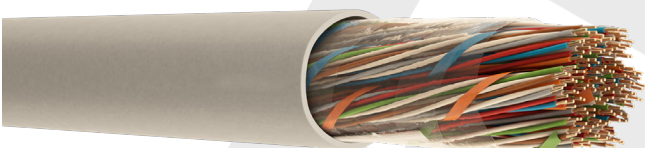
**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (TS EN 60708)

**Stranding:** In layers up to 10 pairs, 20 pairs to 100 pairs consist of stranding of 10 pair groups wrapped with polypropylene identification tape

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically. (More than 10 pairs)

**Outer Jacket:** UV resistant PVC outer jacket. RAL 7035 (Grey)

## HBH J-HH



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables used in indoor installations and telephone exchanges and subscriber distributions, signal and data transmission.

### CODES of CABLE

- HBH; J-HH

### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (IEC 60228, DIN VDE 0295, EN 60228)

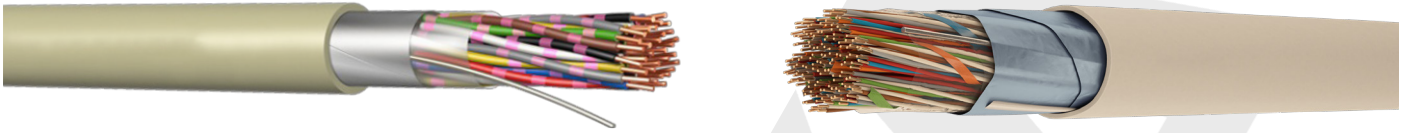
**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (TS EN 60708)

**Stranding:** In layers up to 10 pairs, 20 pairs to 100 pairs consist of stranding of 10 pair groups wrapped with polypropylene identification tape

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically. (More than 10 pairs)

**Outer Jacket:** UV resistant PVC outer jacket. RAL 7035 (Grey)

## PD-APV JE-02YS(St)Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables used in indoor installations and telephone exchanges and subscriber distributions, signal and data transmission.

### CODES of CABLE

- PD-APV; JE-02YS(St)Y

### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (IEC 60228, DIN VDE 0295, EN 60228)

**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (TS EN 60708)

**Stranding:** In layers up to 10 pairs, 20 pairs to 100 pairs consist of stranding of 10 pair groups wrapped with polypropylene identification tape

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically. (More than 10 pairs)

**Outer Jacket:** UV resistant PVC outer jacket. RAL 7035 (Grey)

## PD-APH JE-02YS(St)H



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables used in indoor installations and telephone exchanges and subscriber distributions, signal and data transmission.

### CODES of CABLE

- PD-APH; JE-02YS(St)H

### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (IEC 60228, DIN VDE 0295, EN 60228)

**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (TS EN 60708)

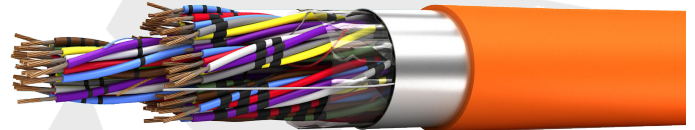
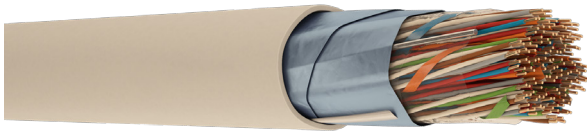
**Stranding:** In layers up to 10 pairs, 20 pairs to 100 pairs consist of stranding of 10 pair groups wrapped with polypropylene identification tape

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically. (More than 10 pairs)

**Screen:** Tinned copper earthing wire, Al/PET tape

**Outer Jacket:** UV resistant PVC outer jacket. RAL 7035 (Grey)

## VB-APV JE-Y(St)Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables used in indoor installations and telephone exchanges and subscriber distributions, signal and data transmission.

### CODES of CABLE

- VB-APV; JE-Y(St)Y

### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (IEC 60228, DIN VDE 0295, EN 60228)

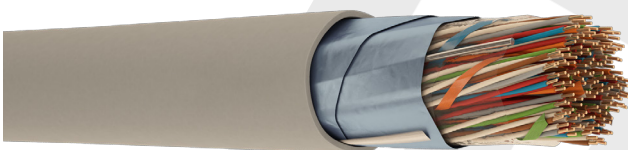
**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (TS EN 60708)

**Stranding:** In layers up to 10 pairs, 20 pairs to 100 pairs consist of stranding of 10 pair groups wrapped with polypropylene identification tape

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically. (More than 10 pairs)

**Outer Jacket:** UV resistant PVC outer jacket. RAL 7035 (Grey)

## HB-APH JE-H(St)H



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables used in indoor installations and telephone exchanges and subscriber distributions, signal and data transmission.

### CODES of CABLE

- HB-APH; JE-H(St)H

### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (IEC 60228, DIN VDE 0295, EN 60228)

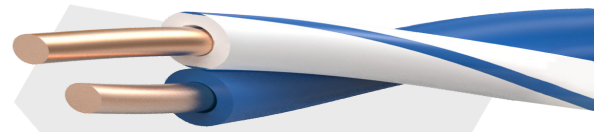
**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (TS EN 60708)

**Stranding:** In layers up to 10 pairs, 20 pairs to 100 pairs consist of stranding of 10 pair groups wrapped with polypropylene identification tape

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically. (More than 10 pairs)

**Outer Jacket:** UV resistant PVC outer jacket. RAL 7035 (Grey)

## JUMPER WIRE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables used in distribution frames and cabinets

### CODES of CABLE

- Jumper Wire

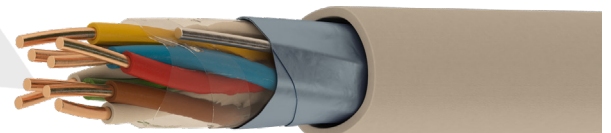
### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (TS 3544, IEC 60228, DIN VDE 0295, EN 60228)

**Insulation:** UV resistant PVC insulation (BS 6746). RAL 5015 (Blue)/RAL 9001 (White)

**Stranding:** Insulations are stranded together

## J-Y(St)Y Lg



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used as feeder cable for frequency controlled motors with electromagnetic interference. Application areas are instrumentation and control engineering, at industrial electronics, computer and office devices, indoor communication systems, indoor sound systems, security systems.

### CODES of CABLE

- J-Y(St)Y Lg

### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (IEC 60228, DIN VDE 0295, EN 60228)

**Insulation:** PVC (VDE 0815) (EN 50290-2-21)

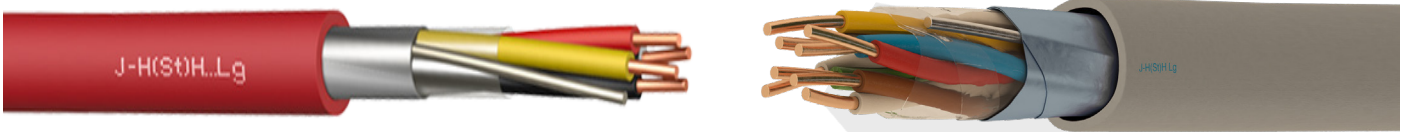
**Stranding:** Pair stranding in layers

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Screen:** Tinned copper earthing wire, Al/PET tape

**Outer Jacket:** UV resistant PVC outer jacket. RAL 7035 (Grey) (EN 50290-2-22)

## J-H(St)H Lg



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used as feeder cable for frequency controlled motors with electromagnetic interference. Application areas are instrumentation and control engineering, at industrial electronics, computer and office devices, indoor communication systems, indoor sound systems, security systems.

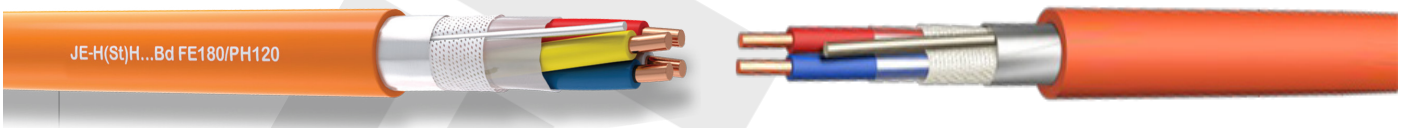
### CODES of CABLE

- J-H(St)H Lg

### CONSTRUCTION

**Conductor:** Class 1 electrolytic solid copper (IEC 60228, DIN VDE 0295, EN 60228)  
**Insulation:** PVC (VDE 0815) (EN 50290-2-21)  
**Stranding:** Pair stranding in layers  
**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically  
**Screen:** Tinned copper earthing wire, Al/PET tape  
**Outer Jacket:** UV resistant PVC outer jacket. RAL 7035 (Grey) (EN50290-2-22)

## J-H(St)H FE 180



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used for fire alarm systems, power supply, or control of equipment that must operate during a fire, such as warning, emergency lighting, evacuation, and monitoring systems. Intelligent or semi-intelligent buildings with dense human populations or valuable goods are suitable for use. These can include hospitals, cinemas, theaters, schools, shopping malls, airports, and factories, among other things. These cables have a low smoke density, are halogen-free, and do not emit any toxic gases.

### CODES of CABLE

- J-H(St)H FE 180

### CONSTRUCTION

**Conductor:** Annealed Solid Copper (IEC/EN 60228)  
**Insulation:** Fire Resistant Silicon Rubber (EN 50363-1, BS 7655 EI2)  
**Core Colors:** Blue/Red, Grey/Yellow, Green/Brown, White/Black - VDE 0815  
**Lay-up:** 4 pairs laid up to a bundle, bundles identified by spiral numbered or colored polyester tape, bundles laid up in layers. (Two pairs laid up as a star quad)  
**Separator:** PET Foil  
**Flame Barrier:** Fiber Glass Tape  
**Drain Wire:** 0.80 mm Solid Tinned Copper  
**Screen:** Al-PET Foil  
**Outer Sheath:** HFFR (EN 50290-2-27), RAL 2004 - Orange (other colors upon request)



## OUTDOOR TELEPHONE CABLES DESIGNATION CODES ACCORDING TO VDE STANDARD

- **Product - Application**
  - A Outdoor Cable
- **Insulation Type**
  - 2Y Polyethylene
  - 02Y Foam Polyethylene
  - 02YS Foam-skin Polyethylene
- **Filling**
  - F Jelly Filling
- **Inner Jacket**
  - 2Y Polyethylene Inner Jacket
- **Screen**
  - (L) Aluminium Foil Tape
- **Armour**
  - b Galvanized Steel Tape
  - B Corrugated Steel Tape
- **Outer Jacket**
  - 2Y Polyethylene Outer Jacket
- **Aerial**
  - T Steel Messenger Wire
- **Stranding**
  - x2x Pair
  - x4x Star Quad
- **Stranding Annex**
  - P Twisted Pair
  - St III Star Quad, subscriber cable
- **Stranding Layout**
  - Lg Stranding in layers
  - Bd Unit stranding

## OUTDOOR TELEPHONE CABLES DESIGNATION CODES

- **Insulation Type**
  - P Polyethylene
  - KP Foam-skin Polyethylene
- **Twisting**
  - D Insulations twisted to star quads
- **3Filling**
  - F Jelly Filling
- **Inner Jacket**
  - P Polyethylene Inner Jacket
  - H Halogen-free Inner Jacket
- **Screen**
  - A Aluminium Foil Tape
- **Armour**
  - b Galvanized Steel Tape
  - B Corrugated Steel Tape
- **Outer Jacket**
  - P Polyethylene Outer Jacket
  - H Halogen-free Outer Jacket
- **Aerial**
  - A Steel Messenger Wire

## KPD-AP A-02YS(L)2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used as underground cable ducts. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

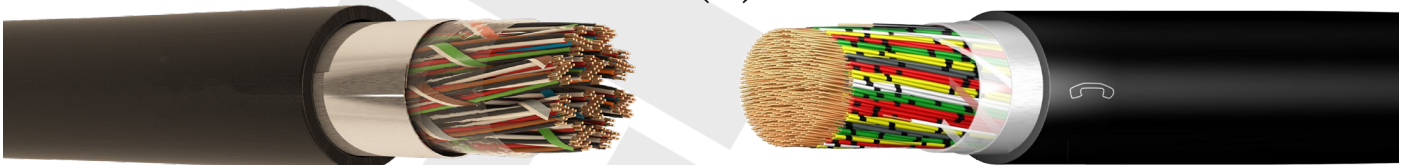
### CODES of CABLE

- KPD-AP; A-02YS(L)2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper (CCITT Yellow Book Vol. III-2-G.541 B article, IEC 28 and ASTM B 3)  
**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (BS 6234 Type 03 - ASTM D 1248)  
**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core  
**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically  
**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening  
**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248).

## PD-AP A-2Y(L)2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used as underground cable ducts. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

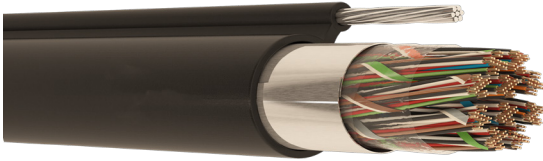
### CODES of CABLE

- PD-AP; A-2Y(L)2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper (CCITT Yellow Book Vol. III-2-G.541 B article, IEC 28 and ASTM B 3)  
**Insulation:** Color coded solid polyethylene (BS 6234 Type 03 - ASTM D 1248)  
**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core  
**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically  
**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening  
**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## KPD-AP-A A-02YS(L)T2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used as underground cable ducts. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- KPD-AP; A-02YS(L)2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

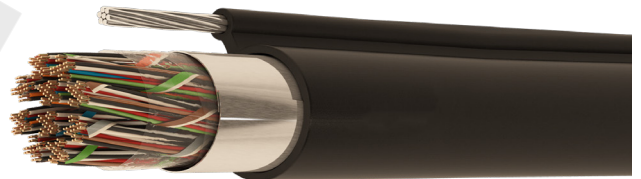
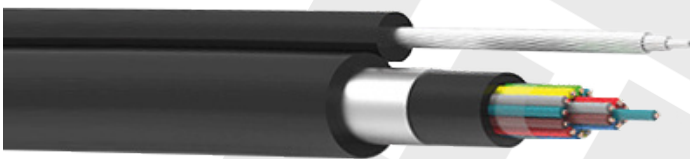
**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Messenger Wire:** Galvanized steel messenger wire (ASTM A 475-66T)

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## PD-AP-A A-2Y(L)T2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used as underground cable ducts. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- PD-AP; A-2Y(L)2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded solid polyethylene (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

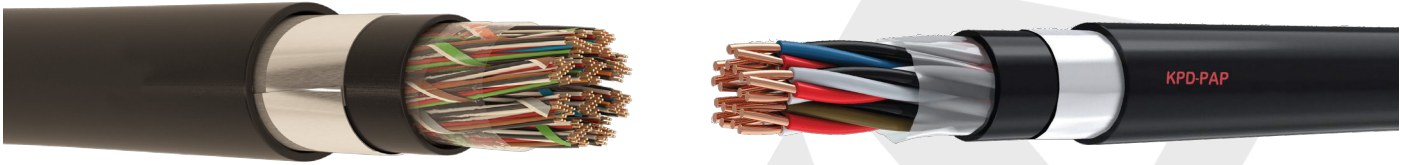
**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Messenger Wire:** Galvanized steel messenger wire (ASTM A 475-66T)

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## KPD-PAP - PD-PAP A-02YS2Y(L)2Y - A-2Y2Y(L)2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used in direct burial, telephone exchanges and subscriber distributions. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- KPD-PAP - PD-PAP; A-02YS2Y(L)2Y - A-2Y2Y(L)2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

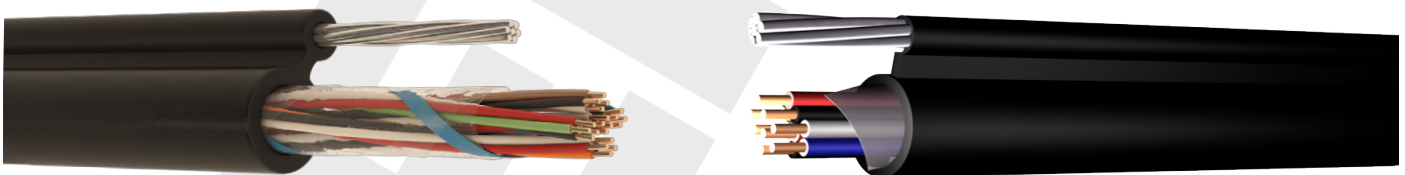
**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Inner Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## KPD-P-A - PD-P-A A-02YST2Y - A-2YT2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are designed to provide service extension to the subscribers. These cables having 0.5 mm conductor diameter are used for distribution network and 0.6 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- KPD-P-A - PD-P-A; A-02YST2Y - A-2YT2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded solid polyethylene (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

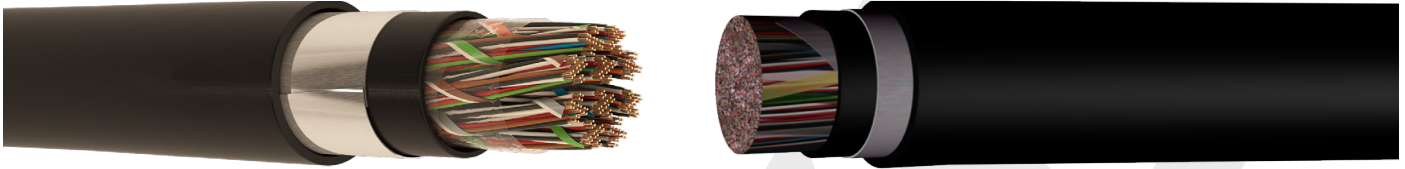
**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Messenger Wire:** Galvanized steel messenger wire (ASTM A 475-66T)

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## KPD-HAH A-02YSH(L)H



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used in direct burial, underground cable ducts, indoor installations. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- KPD-HAH; A-02YSH(L)H

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

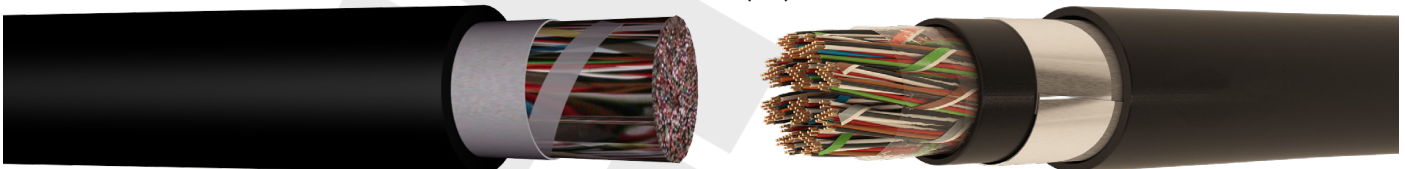
**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Inner Jacket:** Flame retardant, UV resistant halogen-free outer jacket. RAL 7035 (Grey)

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Outer Jacket:** Flame retardant, UV resistant halogen-free outer jacket. RAL 7035 (Grey)

## KPDF-AP A-02YSF(L)2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used as underground cable ducts. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- KPDF-AP; A-02YSF(L)2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded solid polyethylene (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

**Filling Compound:** Cable core is filled with a special jelly filling compound to avoid the water leakage into air spaces

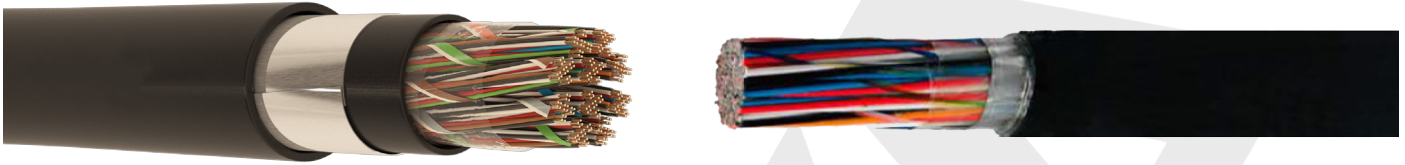
**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Filling Compound:** Secondary jelly filling is applied between wrapping and screen in order to provide water-proofness

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## PDF-AP A-2YF(L)2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used in direct burial, telephone exchanges and subscriber distributions. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- PDF-AP; A-2YF(L)2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded solid polyethylene (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

**Filling Compound:** Cable core is filled with a special jelly filling compound to avoid the water leakage into air spaces

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Filling Compound:** Secondary jelly filling is applied between wrapping and screen in order to provide water-proofness

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## KPDF-AP-A A-02YSF(L)T2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are designed to provide service extension to the subscribers. These cables having 0.5 mm conductor diameter are used for distribution network and 0.6 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- KPDF-AP-A; A-02YSF(L)T2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded solid polyethylene (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

**Filling Compound:** Cable core is filled with a special jelly filling compound to avoid the water leakage into air spaces

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Filling Compound:** Secondary jelly filling is applied between wrapping and screen in order to provide water-proofness

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## PDF-AP-A A-2YF(L)T2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used in the country, rural areas for aerial purposes between poles. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- PDF-AP-A; A-2YF(L)T2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded solid polyethylene (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

**Filling Compound:** Cable core is filled with a special jelly filling compound to avoid the water leakage into air spaces

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Filling Compound:** Secondary jelly filling is applied between wrapping and screen in order to provide water-proofness

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Messenger Wire:** Galvanized steel messenger wire (ASTM A 475-66T)

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## DROP WIRE AERIAL



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used in direct burial, telephone exchanges and subscriber distributions.

### CODES of CABLE

- Drop Wire Aerial

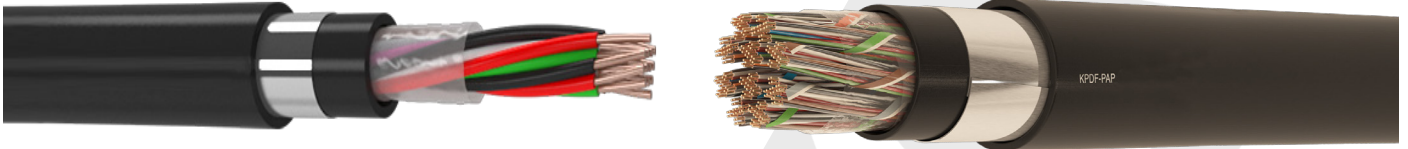
### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper (TS 2, IEC28, ASTM B3)

**Messenger Wire:** Galvanized steel messenger wire (ASTM A 475-66T)

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## KPDF-PAP - PDF-PAP A-02YSF2Y(L)2Y - A-2YF2Y(L)2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used in direct burial, telephone exchanges and subscriber distributions. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- KPDF-PAP - PDF-PAP;  
A-02YSF2Y(L)2Y - A-2YF2Y(L)2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene or solid polyethylene insulation (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

**Filling Compound:** Cable core is filled with a special jelly filling compound to avoid the water leakage into air spaces

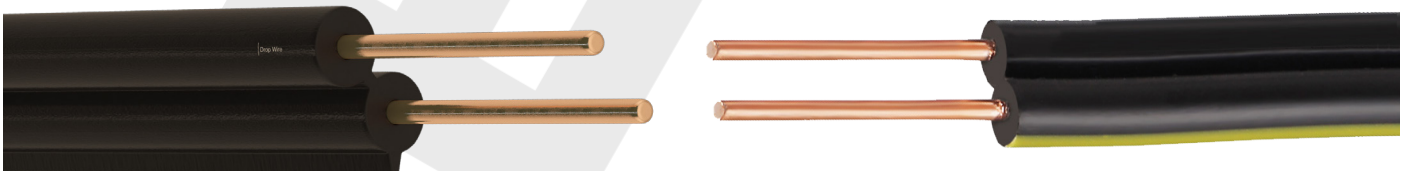
**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Filling Compound:** A secondary filling compound (Jelly) is applied between inner jacket and screen in order to have water proofness

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## DROP WIRE



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used in direct burial, telephone exchanges and subscriber distributions.

### CODES of CABLE

- Drop Wire

### CONSTRUCTION

**Conductor:** Electrolytic solid copper (TS 2, IEC28, ASTM B3)

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)



## KPDF-PABP A-02YSF(L)2YB2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used in direct burial, telephone exchanges and subscriber distributions. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- KPDF-PABP; A-02YSF(L)2YB2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene or solid polyethylene insulation (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

**Filling Compound:** Cable core is filled with a special jelly filling compound to avoid the water leakage into air spaces

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Filling Compound:** Secondary jelly filling is applied between wrapping and screen in order to provide water proofness

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

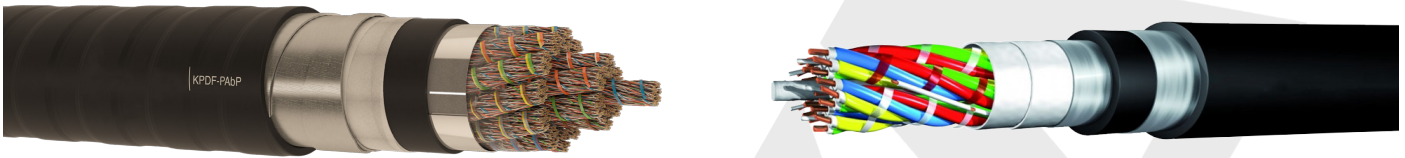
**Inner Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

**Filling Compound:** A filling compound (Jelly) is applied between inner jacket and armour in order to have water proofness

**Armour:** Copolymer coated corrugated steel tape is applied to secure the cable from rodents

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

## KPDF-PAbP - PDF-PAbP A-02YSF(L)2Yb2Y - A-2YF2Y(L)b2Y



### TECHNICAL DATA

- Max. Operating Temperature: 70°C
- Min. Bending Radius: 10 x cable Ø
- Production Standards: EN 60794-3-12

### INTRODUCTION

These cables are used in direct burial, telephone exchanges and subscriber distributions. These cables having 0.4 and 0.5 mm conductor diameter are used for distribution network and 0.6, 0.63, 0.65, 0.8 and 0.9 mm conductor diameter are used for long distance network.

### CODES of CABLE

- KPDF-PAbP - PDF-PAbP;  
A-02YSF(L)2Yb2Y - A-2YF2Y(L)b2Y

### CONSTRUCTION

**Conductor:** Electrolytic annealed solid copper

**Insulation:** Color coded foam skin polyethylene clad with solid polyethylene or solid polyethylene insulation (BS 6234 Type 03 - ASTM D 1248)

**Stranding:** Star quads or pairs, each having special lay length to minimize the crosstalk and capacitance unbalance, are assembled into 10 pairs units. Groups having 25, 50 or 100 pairs are stranded together into cable core

**Filling Compound:** Cable core is filled with a special jelly filling compound to avoid the water leakage into air spaces

**Wrapping:** A non-hygroscopic and dielectric polyester tape is applied on the cable core longitudinally or helically

**Filling Compound:** Secondary jelly filling is applied between wrapping and screen in order to provide water proofness

**Screen:** Both sides are coated with copolymer coated flat aluminium tape over cable core longitudinally for screening

**Inner Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)

**Filling Compound:** Water-swellable tape or filling compound (Jelly) is applied between inner jacket and armour in order to have water proofness

**Armour:** Two helically laid galvanized steel tape is applied to increase the mechanical resistance of the cable

**Outer Jacket:** Linear low-density or medium-density, UV resistant black polyethylene outer jacket (ASTM D 1248)