

Fiber Optical



Our cables at:

ATHENS AIRPORT



PIRAEUS PORT



TUNNEL IN PARIS



NATIONAL PETROLEUM OIL COMPANY

- **SYMBOLS AND THE MEANING OF THE SYMBOLS FOR FIBRE OPTIC CABLES**
- **SINGLE LOOSE TUBE, SINGLE SHEATH, NON METALLIC**
- **SINGLE LOOSE TUBE, SINGLE SHEATH, CORRUGATED STEEL TAPE ARMORED,**
- **MULTI LOOSE TUBE, SINGLE SHEATH, NON METALLIC ARMORED / DUCT**
- **MULTI LOOSE TUBE, SINGLE SHEATH, NON METALLIC ARMORED / DUCT TYPE DRY CORE CABLE**
- **MULTI LOOSE TUBE, SINGLE SHEATH, CORRUGATED STEEL TAPE ARMORED, DIRECT BURIAL / DUCT TYPE**
- **MULTI LOOSE TUBE, DOUBLE SHEATH, DOUBLE GALVANIZED STEEL TAPE ARMORED, DIRECT BURIAL / DUCT TYPE**
- **MULTI LOOSE TUBE, DOUBLE SHEATH, CORRUGATED STEEL TAPE ARMORED, DIRECT BURIAL / DUCT TYPE**
- **MULTI LOOSE TUBE, DOUBLE SHEATH, NON METALLIC ARMORED, DIRECT BURIAL / DUCT TYPE**
- **MULTI LOOSE TUBE, DOUBLE SHEATH, ADSS AERIAL TYPE**
- **SIMPLE PATCH CABLE (ZIPCORD)**
- **DUBLEX PATCH CABLE (DUBLEX ZIPCORD)**
- **BREAKOUT CABLES INDOOR**
- **BREAKOUT CLABLES OUTDOOR**
- **AERIAL TYPE BREAKOUT CABLES WITH MESSENGER**

THE MEANING OF THE SYMBOLS FOR FIBRE OPTIC CABLES

SLT	SINGLE LOOSE TUBE
MLT	MULTI LOOSE TUBE CABLES
SA	CORRUGATED STEEL TAPE
NMA	NON METALLIC STRENGHT MEMBER
DA	DOUBLE ARMOR TWO LAYERS OF GALVANIZED STEEL TAPE
SJ	SINGLE JACKET (SHEATH)
DJ	DOUBLE JACKET (SHEATH)
-A	AERIAL CABLE
-P	FIBER OPTIC + POWER HYBRID CABLE
LSZH	LOW SMOKE ZERO HALOGEN SHEATH
ADSS	ALL DIELECTRIC SELF SUPPORTING CABLE
DIN VDE 0888	OPTICAL FIBER CABLES STANDARD
A-	OUTDOOR CABLE
B	ARMORING
(BN)	GLASS YARN NON METALLIC ARMORING FOR RO- DENT PROTECTION
D	LOOSE BUFFER TUBE, FILLED GLASS YARN NON METALLIC ARMORING FOR RO- DENT PROTECTION
E	SINGLE MODE FIBER
F	FILLING COMPOUND IN THE CABLE CORE
G	MULTI MODE FIBER
J·	INDOOR CABLE
(L)	LAMINATED ALUMINIUM TAPE
Q	DRY SWELLABLE MATERIAL IN THE CABLE CORE (DRY CORE)
(SR)	ARMORING BY LAMINATED, CORRUGATED, LONGITU- DINAL, OVERLAPPED STEEL TAPE
Y	POLYVINYL CHLORIDE JACKET (SHEATH)
2Y	POLYETHYLENE JACKET (SHEATH)
(ZN)	NON-METALLIC ANTI-BUCKLING ANG STRENGHT MEMBERS

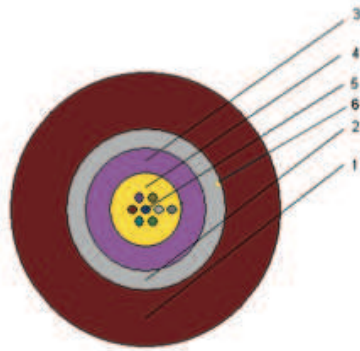
SINGLE LOOSE TUBE, SINGLE SHEATH, NON METALLIC ARMoured DUCT TYPE INTERNAL & EXTERNAL FIBER OPTIC CABLE

Applications

- Light weight structure enables easy and fast installation
- Non Metallic / All dielectric structure prevents electromagnetic interference
- Rodent Protection and waterproof
- Preferred for LAN, WAN applications for structural cabling and premise networks
- Optional LSZH sheath enables usage as Indoor cable as well as Outdoor

Construction:

- 1 - Outer PE Sheath (Optional LSZH sheath)
- 2 - E-Glass yarn
- 3 - Loose Tube (PBT)
- 4 - Water Resistive Tube filling Compound
- 5 - Optical fibers
- 6 - Ripcord



**SINGLE LOOSE
TUBE**

SLT-MNA-SJ,(A-DQ(ZN)B2Y)

Technical Data

Optic Fiber Type:	SM: 652-B, G 652-D, G 655 MM: 62,5/125 OM1, 50/125 OM2, 50/125 OM3
Core Count:	2 to 24
Cable Weight (kg/Km):	55
Outer Diameter (mm):	7
Tensile Strength (N) (IEC 794-1-E1):	1200 to 2500
Crush Strength (N/10cm) (IEC 794-1-E3):	1500
Min Permissible Bending Radius (mm) (IEC 794-1-E 11):	15xo static & 20xo dynamic where o is cable outside diameter in mm
Temperature Range (°C) (IEC 794-1-F-1):	During Operation: -40 °C to + 70 °C During Installation: -30 °C to + 60 °C

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Standards References:

- IEC 60793
- IEC 60794



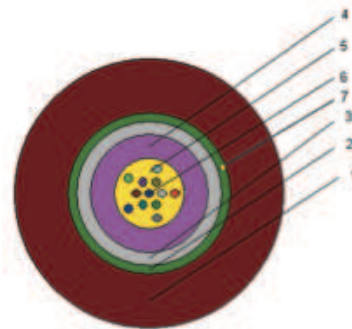
SINGLE LOOSE TUBE, SINGLE SHEATH, CORRUGATED STEEL TAPE ARMURED, DIRECT BURIAL / DUCT TYPE

Applications

- Light weight structure enables easy and fast installation
- Smaller diameter permits easy handling
- Rodent Protection and waterproof
- Application in PE Pipes by blowing / plough technique
- Preferred for LAN, WAN, MAN application for structural cabling and Premise networks
- Possibility of usage as Indoor Cable as well as Outdoor due to light structure
- Optional supporting or galvanized Steel Wire or Power Cable:
SLT-SA-SJ-A (A-DQ(ZN)(SR)2YT)
SLT-NMA-SJ-A (A-DQ(ZN)B2YT)
SLT-NMA-SJ-P (A-DQ(ZN)B2Y+POWER)

Construction:

- 1 - Outer PE Sheath (Optional LSZH Yarn)
- 2 - Non Metallic Strength element (glass Yarn or Aramid Yarn)
- 3 - Core Wrapping(s)
- 4 - PBT Tube
- 5 - Core Filling Compound
- 6 - Optical Fibers
- 7 - Water Resistive Tube Filling Compound
- 8 - Non Metallic Central Strength Member
- 9 - Ripcord



Technical Data

Optic Fiber Type:	SM: 652-B, G 652-D, G 655 MM: 62,5/125 OM1, 50/125 OM2, 50/125 OM3
Core Count:	2 to 24
Cable Weight (kg/Km):	85
Outer Diameter (mm):	7,5
Tensile Strength (N) (IEC 794-1-E1):	1200
Crush Strength (N/10cm) (IEC 794-1-E3):	2500
Min Permissible Bending Radius (mm) (IEC 794-1-E 11):	15xo static & 20xo dynamic where o is cable outside diameter in mm
Temperature Range (°C) (IEC 794-1-F-1):	During Operation: -40 °C to + 70 °C During Installation: -30 °C to + 60 °C

Standards References:

- IEC 60793
- IEC 60794

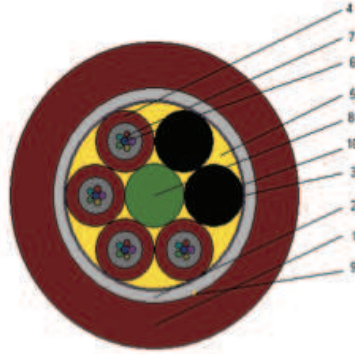
MULTI LOOSE TUBE, SINGLE SHEATH, NON METALLIC ARMoured / DUCT

Applications

- Light weight structure enables easy and fast installation
- Possibility of usage as Indoor Cable as well as Outdoor due to light structure
- Non Metallic Construction / All dielectric structure prevents electromagnetic interference and enables application in power lines side by side with Energy Cables
- Waterproof
- Rodent protection-provided by adequate amount of E glass yarn
- Suitable to be installed with blowing /ploughing method
- Optional LSZH Sheath
- Optional version with external Power Cable: MLT-NMA-SJ-P (A-DF(ZN)B2Y+POWER)

Construction:

- 1 - Outer PE Sheath (Optional LSZH Yarn)
- 2 - Non Metallic Strenght element (glass Yarn or Aramid Yarn)
- 3 - Core Wrapping(s)
- 4 - PBT Tube
- 5 - Core Filling Compound
- 6 - Optical Fibers
- 7 - Water Resistive Tube Filling Compound
- 8 - Non Metallic Central Strenght Member
- 9 - Ripcord



Technical Data

Optic Fiber Type:	SM: 652-B, G 652-D, G 655 MM: 62,5/125 OM1, 50/125 OM2, 50/125 OM3
Tensile Strenght (N) (IEC 794-1-E1):	1200 (Min.) to. 6000
Crush Strenght (N/10cm) (IEC 794-1-E3):	3000
Min Permissible Bending Radius (mm) (IEC 794-1-E 11):	15xo static & 20xo dynamic where o is cable outside diameter in mm
Temperature Range (°C) (IEC 794-1-F-1):	During Operation: -40 °C to + 70 °C During Installation: -30 °C to + 60 °C

Other type of Multi Loose Tube, Single Sheath, Non Metallic Armored/Duct

Fiber Count	Buffer Count	Filler Count	Cable Diameter Aprx (mm)	Cable Weight (Kg/Km)
4	1	5	12	100
6	1	5	12	100
8	1 (2)	5 (4)	12	100
10	5	1	12	100
12	1 (3,2)	5 (3,4)	12	100
16	4 (2)	2 (4)	12	100
24	6 (2,4)	0 (4,2)	12	110
36	6 (3)	0 (3)	12	110
48	6 (4)	0 (2)	13	120
60	5	1	13	130
72	6	0	13	130
96	8	0	15	160
144	12	0	20	260
192	16	0	23	290



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**MULTI LOOSE
TUBE**

MLT-NMA-SJ(A-DF(ZN)B2Y)

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Standards References:

- IEC 60793
- IEC 60794



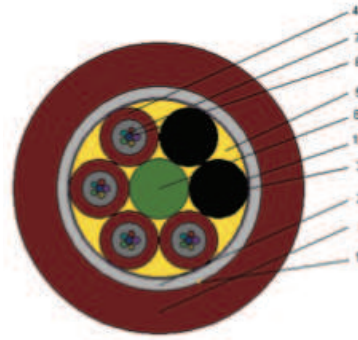
MULTI LOOSE TUBE, SINGLE SHEATH, NON METALLIC ARMoured/DUCT, TYPE DRY CORE CABLE

Applications

- Light weight structure enables easy and fast installation
- Possibility of usage as Indoor Cable as well as Outdoor due to light structure
- Non Metallic Construction / All dielectric structure prevents electromagnetic interference and enables application in power lines side by side with Energy Cables
- Waterproof
- Rodent protection-provided by adequate amount of E glass yarn
- Suitable to be installed with blowing /ploughing method
- Optional LSZH Sheat

Construction:

1. Outer PE Sheath (Optional LSZH Yarn)
2. Non Metallic Strength element (glass Yarn or Aramid Yarn)
3. Water Swelling Tape
4. PBT Tube
5. Water Swelling Yarn
6. Optical fibers
7. Water Resistive Tube filling Compound
8. Non Metallic Central Strength Member (FRP)
9. Ripcord



Technical Data

Optic Fiber Type:

SM: 652-B, G 652-D, G 655
MM: 62,5/125 OM1, 50/125 OM2, 50/125 OM3

Tensile Strenght (N) (IEC 794-1-E1):

1200 (Min.) to. 6000

Crush Strength (N/10cm) (IEC 794-1-E3):

3000

Min Permissible Bending Radius (mm) (IEC 794-1-E 11):

15xo static & 20xo dynamic where o is cable outside diameter in mm

Temperature Range (°C) (IEC 794-1-F-1):

During Operation: -40 °C to + 70 °C
During Installation: -30 °C to + 60 °C

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Standards References:

- IEC 60793
- IEC 60794

Other type of Multi Loose Tube, Single Sheath, Non Metallic Armored/ Duct Type Dry Core Cable

Fiber Count	Buffer Count	Filler Count	Cable Diameter Aprx (mm)	Cable Weight (Kg/Km)
4	1	5	12	100
6	1	5	12	100
8	1 (2)	5 (4)	12	100
10	5	1	12	100
12	1 (3,2)	5 (3,4)	12	100
16	4 (2)	2 (4)	12	100
24	6 (2,4)	0 (4,2)	12	110
36	6 (3)	0 (3)	12	110
48	6 (4)	0 (2)	13	120
60	5	1	13	130
72	6	0	13	130
96	8	0	15	160
144	12	0	20	260
192	16	0	23	290

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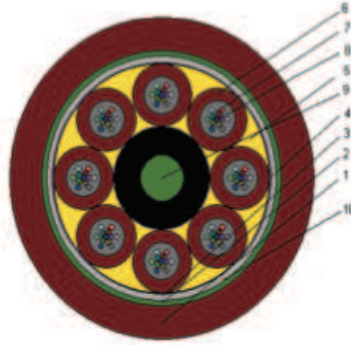
MULTI LOOSE TUBE, SINGLE SHEATH, CORRUGATED STEEL TYPE ARMORED, DIRECT BURIAL/ DUCT TYPE

Applications

- Light weight but heavy duty direct burial / duct usage
- Single sheath enables easy and fast installations
- Suitable to be installed and used in harsh environments under heavy weather conditions
- Rodent Protection and waterproof
- Application both as backbone cable for WAN Telecommunication Systems and as data lines for LAN / Structure Cabling

Construction:

1. Outer PE Sheath (Optional LSZH Yarn)
2. Corrugated Steel Tape Armored
3. Non Metallic Strength element (glass Yarn or Aramid Yarn)
4. Core Wrapping(s)
5. Core filling Compound
6. PBT Tube
7. Water Resistant Tube filling Compound
8. Optical fibers
9. Non Metallic Central Strength Member (FRP)
10. Ripcord



MULTI LOOSE TUBE

MLT-SA-SJ(A-DF(ZN)(SR)2Y

Technical Data

Optic Fiber Type:	SM: 652-B, G 652-D, G 655 MM: 62,5/125 OM1, 50/125 OM2, 50/125 OM3
Tensile Strength (N) (IEC 794-1-E1):	1500 (Min.) to. 6000
Crush Strength (N/10cm) (IEC 794-1-E3):	4000
Min Permissible Bending Radius (mm) (IEC 794-1-E11):	15xo static & 20xo dynamic where o is cable outside diameter in mm
Temperature Range (°C) (IEC 794-1-F-1):	During Operation: -40 °C to + 70 °C During Installation: -30 °C to + 60 °C

Other type of Multi Loose Tube, Single Sheath, Corrugated Steel Tape Armored, Direct Burial /Duct Type

Fiber Count	Buffer Count	Filler Count	Cable Diameter Aprx (mm)	Cable Weight (Kg/Km)
4	1	5	13	150
6	1	5	13	150
8	1 (2)	5 (4)	13	150
10	5	1	13	150
12	1 (3,2)	5 (3,4)	13	150
16	4 (2)	2 (4)	13	150
24	6 (2,4)	0 (4,2)	13	160
36	6 (3)	0 (3)	14	160
48	6 (4)	0 (2)	14	160
60	5	1	14	170
72	6	0	14	170
96	8	0	16	210
144	12	0	19	330
192	16	0	22	560

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Standards References:

- IEC 60793
- IEC 60794

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MULTI LOOSE TUBE

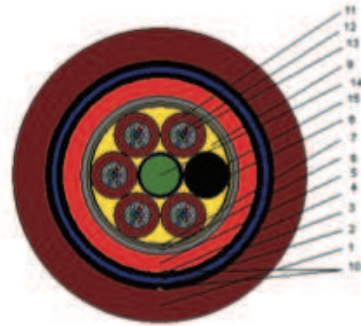
Multiloose tube, double sheath, double layer swa and spa galvanized steel type armored, direct burial/duct type

Applications

- Heavy duty cable for direct burial / duct usage
- Suitable to be installed and used in hard environments under heavy weather conditions
- Galvanized Steel Armor and Second Jacket provides protection against Rodents, moisture and all external effects. Waterproof
- Aluminum foil provides extra protection against moisture
- Suitable to be used for all type of underground application
- To be used as backbone cable for WAN telecommunication systems
- Two layers of galvanized steel tapes helically overlapped around the inner jacket to improve the mechanical strength of the cable

Construction:

1. Outer PE Sheath
2. Crepe Paper
3. Helically Applied Double layer of Galvanized Steel Tape by overlapping method
4. Crepe Paper
5. Inner PE Sheath
6. Aluminum Foil
7. Aramid Yarn for tensile strength
8. Core Wrapping(s)
9. Core filling Compound
10. Ripcord
11. PBT Tube
12. Water Resistive Tube filling Compound
13. Optical fibers
14. Non Metallic Central Strength Member



Technical Data

Optic Fiber Type:

SM: 652-B, G 652-D, G 655
MM: 62,5/125 OM1, 50/125 OM2, 50/125 OM3

Tensile Strength (N) (IEC 794-1-E1):

3000 (Min.) to. 10000

Crush Strength (N/10cm) (IEC 794-1-E3):

6000

Min Permissible Bending Radius (mm) (IEC 794-1-E 11):

20xo static & 20xo dynamic where o is cable outside diameter in mm

Temperature Range (°C) (IEC 794-1-F-1):

During Operation: -40 °C to + 70 °C
During Installation: -30 °C to + 60 °C

Standards References:

- IEC 60793
- IEC 60794

Other type of Multi Loose Tube, Double Sheath, Double Layer Swa and Spa Galvanized Steel Tape Armored, Direct Burial/Duct Type

Fiber Count	Buffer Count	Filler Count	Outer Sheath thickness	Cable Diameter Aprx (mm)	Cable Weight (Kg/Km)
4	1	5	1,1/2	17	370
6	1	5	1,1/2	17	370
8	2	4	1,1/2	17	370
10	5	1	1,1/2	17	370
12	3	3	1,1/2	17	370
24	6	-	1,1/2	17	370
36	6	-	1,1/2	18,5	440
48	6	-	1,1/2	18,5	440
72	6	-	1,1/2	19,5	480
96	8	-	1,1/2	21	580
144	12	-	1,1/2	25	810

MULTI LOOSE TUBE

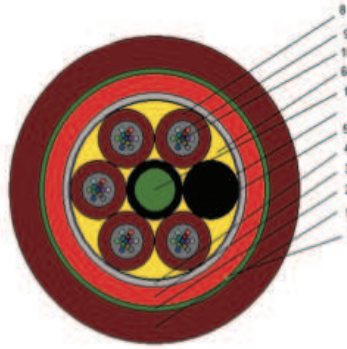
Multiloose tube, double sheath, corrugated steel tape armored, direct burial / duct type

Applications

- Heavy duty cable for direct burial /duct usage
- Suitable to be installed and used in harsh environments under heavy weather conditions
- Corrugated Steel Armor and Second Jacket provides protection against Rodents, moisture and all external effects
- To be used as backbone cable for MAN, WAN, LAN applications and GSM, CATV, SMATV networks
- Rodent protection and waterproof
- Possibly of installation with blowing / plough technique into PE pipes or applied directly underground

Construction:

1. Outer PE Sheath
2. Corrugated Steel Tape Armored
3. Inner PE Sheath
4. Aramid yarn for tensile strength (or Glass Yarn)
5. Core Wrapping(s)
6. Core filling Compound
7. Ripcord
8. PBT Tube
9. Water Resistive Tube filling Compound
10. Optical fibers
11. Non Metallic Central Strength Member(FRP)



MULTI LOOSE TUBE

MLT-SA-DJ(A-DF(ZN)2Y(SR)2Y

Technical Data

Optic Fiber Type:	SM: 652-B, G 652-D, G 655 MM: 62,5/125 OM1, 50/125 OM2, 50/125 OM3
Tensile Strength (N) (IEC 794-1-E1):	2500 (Min.) to. 8000
Crush Strength (N/10cm) (IEC 794-1-E3):	5000
Min Permissible Bending Radius (mm) (IEC 794-1-E11):	15xo static & 20xo dynamic where o is cable outside diameter in mm
Temperature Range (°C) (IEC 794-1-F-1):	During Operation: -40 °C to + 70 °C During Installation: -30 °C to + 60 °C

Other type of Multi Loose Tube, Single Sheath, Corrugated Steel Tape Armored, Direct Burial /Duct Type

Fiber Count	Buffer Count	Filler Count	Outer Sheath thickness	Cable Diameter Aprx (mm)	Cable Weight (Kg/Km)
4	1	5	1,1/2	17	370
6	1	5	1,1/2	17	370
8	2	4	1,1/2	17	370
10	5	1	1,1/2	17	370
12	3	3	1,1/2	17	370
24	6	-	1,1/2	17	370
36	6	-	1,1/2	18,5	440
48	6	-	1,1/2	18,5	440
72	6	-	1,1/2	19,5	480
96	8	-	1,1/2	21	580
144	12	-	1,1/2	25	810

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Standards References:

- IEC 60793
- IEC 60794

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MULTI LOOSE TUBE

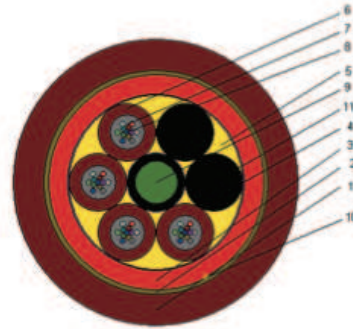
Multiloose tube, double sheath, non metallic armored, direct burial / duct type

Applications

- Heavy duty cable for direct burial / duct usage
- Suitable to be installed and used in hard environments under heavy weather conditions
- Galvanized Steel Armor and Second Jacket provides protection against Rodents, moisture and all external effects. Waterproof
- Aluminum foil provides extra protection against moisture
- Suitable to be used for all type of underground application
- To be used as backbone cable for WAN telecommunication systems
- Two layers of galvanized steel tapes helically overlapped around the inner jacket to improve the mechanical strength of the cable

Construction:

1. Outer PE Sheath
2. Non metallic strength member (Aramid Yarn or Glass Yarn)
3. Inner PE Sheath
4. Core Wrapping(s)
5. Core filling Compound
6. PBT Tube
7. Optical fibers
8. Water Resistive Tube filling Compound
9. Non Metallic Central Strength Member(FRP)
10. Ripcord



Technical Data

Optic Fiber Type:

SM: 652-B, G 652-D, G 655
MM: 62,5/125 OM1, 50/125 OM2, 50/125 OM3

Tensile Strength (N) (IEC 794-1-E1):

2000 (Min.) to. 5000

Crush Strength (N/10cm) (IEC 794-1-E3):

4000

Min Permissible Bending Radius (mm) (IEC 794-1-E 11):

15xo static & 20xo dynamic where o is cable outside diameter in mm

Temperature Range (°C) (IEC 794-1-F-1):

During Operation: -40 °C to + 70 °C
During Installation: -30 °C to + 60 °C

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Standards References:

- IEC 60793
- IEC 60794

Other type of Multi Loose Tube, Double Sheath, non Metallic Armored, Direct Burial/Duct Type

Fiber Count	Buffer Count	Filler Count	Outer Sheath thickness	Cable Diameter Aprx (mm)	Cable Weight (Kg/Km)
4	1	5	1,1/1,6	14	140
6	1	5	1,1/1,6	14	140
8	2	4	1,1/1,6	14	140
10	5	1	1,1/1,6	14	140
12	3	3	1,1/1,6	14	140
24	6	-	1,1/1,6	14	140
36	6	-	1,1/1,6	14	140
48	6	-	1,1/1,6	14	140
60	5	1	1,1/1,6	16	180
72	6	-	1,1/1,6	16	180
96	8	-	1,1/1,6	18	230
144	12	-	1,1/1,6	20	390

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MULTI LOOSE TUBE

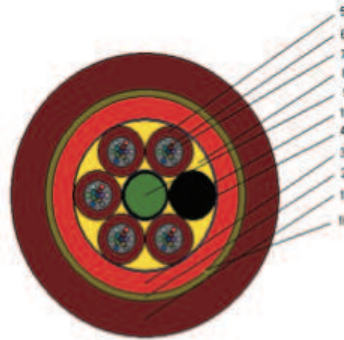
Multiloose tube, double sheath, adss aerial type

Applications

- Aerial cable type without Steel Messenger Wire
- Aerial installation between the poles with the help of special installation / suspension equipment
- All dielectric construction enables application in power lines side by side with Energy Cables
- Very light and easy to install
- Special High Density Black PE provides excellent resistance during installation and protection against external effects like tough weather conditions and UV Ray during operation
- Generally preferred as Aerial backbone cable for Wide Area Telecom Networks
- Optional armored steel wire supported version: MLT-SA-SJ -A (A-DF(SR)2YT)

Construction:

1. Outer Black special HDPE Sheath
2. High modulus Aramid Yarns
3. Optional Inner PE Sheath
4. Core Wrapping(s)
5. PBT tube
6. Core filling Compound
7. Optical fibers
8. Water Resistive Tube filling Compound
9. Non Metallic Central Strength Member
10. Ripcord



MULTI LOOSE TUBE
MLT-SA-DJ(A-DF(ZN)2Y(SR)2Y

Technical Data

Optic Fiber Type:	SM: 652-B, G 652-D, G 655 MM: 62,5/125 OM1, 50/125 OM2, 50/125 OM3
Tensile Strength (N) (IEC 794-1-E1):	2700 (Min.) to. 15000
Crush Strength (N/10cm) (IEC 794-1-E3):	4000
Min Permissible Bending Radius (mm) (IEC 794-1-E 11):	15xo static & 20xo dynamic where o is cable outside diameter in mm
Temperature Range (°C) (IEC 794-1-F-1):	During Operation: -40 °C to + 70 °C During Installation: -30 °C to + 60 °C

Other type of Multi Loose Tube, Double Sheath, Adds Aerial Type

Fiber Count	Buffer Count	Filler Count	Outer Sheath thickness	Cable Diameter Aprx (mm)	Cable Weight (Kg/Km)
4	1	5	1,1/1,6	14	140
6	1	5	1,1/1,6	14	140
8	2	4	1,1/1,6	14	140
12	1 (3)	5 (3)	1,1/1,6	16	150
24	2	4	1,1/1,6	16	150
36	3	3	1,1/1,6	16	150
48	4	2	1,1/1,6	16	160
60	5	1	1,1/1,6	16	180
72	6	-	1,1/1,6	16	180

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Standards References:

- IEC 60793
- IEC 60794



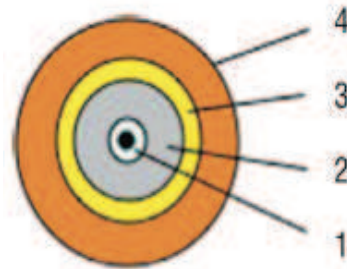
SIMPLE PATCH CABLE (zipcord)

Applications

- Indoor interconnected and Patch-cord installations. All dielectric non-metallic construction, hence no ground loop problems

Construction:

- Optical fiber
- Tight buffered fibre of 900 μm diameter (Easy to strip)
- Non-metallic strength members (Aramide or glass yarn)
- Flame Retardant Non-Corrosive/Low Smoke Zero Halogen Outer Jacket



Technical Data

Number of Fibers:	1
Optic Fiber Type:	ITU-T G.651 (MM), ITU-T G.652 (SM), ITU-T g.655 & G.656 (NZDS Fiber)
Outer Sheath Diameter:	1,8 mm / 2,8 mm
Weight:	5,10 (Kg/Km)
Minimum Bending Radius:	25 (N)
Tensile Strength:	150,200 (N)
Crush Resistance:	300 (N)
Operating Temperature:	-30°C to +70°C
Standard Cable Colour	
Multi Mode 50/125:	Blue
Multi Mode 62,5/125:	Orange
Single-Mode:	Yellow (Other colours are available upon request)
Standard Cable Marking:	Cable <Cable Type><Meter Marking><Manufacturing Year>



Standards References:

- IEC 60793
- IEC 60794

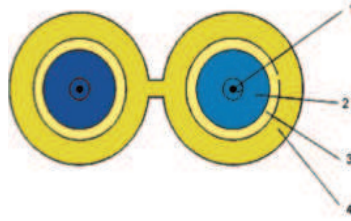
DOUBLE PATCH CABLE (Dublex Zipcord)

Applications

- Indoor interconnected and Patch-cord installations. All dielectric non-metallic construction, hence no ground loop problems

Construction:

- Optical fiber
- Tight buffered fibre of 900 µm diameter (Easy to strip)
- Non-metallic strenght members (Aramide or glass yarn)
- Flame Retardant Non-Corrosive/Low Smoke Zero Halogen Outer Jacket



Technical Data

Number of Fibers:	2
Optic Fiber Type:	ITU-T G.651 (MM), ITU-T G.652 (SM), ITU-T g.655 & G.656 (NZDS Fiber)
Outer Sheath Diameter:	1,8 x 3,6 mm / 2,8 x 5,6 mm
Weight:	14,20 (Kg/Km)
Minimum Bending Radius:	25 (N)
Tensile Strenght:	300 (N)
Crush Resistance:	400 (N)
Operating Temperature:	-30°C to +70°C
Standard Cable Colour	
Multi Mode 50/125:	Blue
Multi Mode 62,5/125:	Orange
Single-Mode:	Yellow (Other colours are avaiable upon request)
Standard Cable Marking:	Cable <Cable Type><Meter Marking><Manufacturing Year>



**DUBLEX
ZIPCORD**

J-VH 2x1 LSZH

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Standards References:

- IEC 60793
- IEC 60794



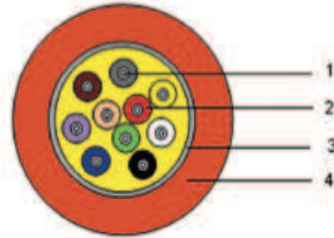
BREAKOUT CABLES INDOOR

Applications

- Indoor and duct installations; Halogen Free Flame Retardant / Flame Retardant Non-Corrosive / Low Smoke Zero Halogen design. All dielectric non-metallic construction, hence no ground loop problems; Ready for direct connectorization in field; suitable for backbone and horizontal sub systems such as FTTH and FTTD.

Construction:

- Optical fiber
- Tight buffered fibre of 900 µm diameter (Easy to strip)
- Non-metallic strenght members (Aramide or glass yarn)
- Flame Retardant Non-Corrosive/Low Smoke Zero Halogen Outer Jacket



Technical Data

Number of Fibers:	2-12
Optic Fiber Type:	ITU-T G.651 (MM), ITU-T G.652 (SM), ITU-T g.655 & G.656 (NZDS Fiber)
Outer Sheath Diameter:	4,0 mm to 7,5 mm
Weight:	35, 60 (Kg/Km)
Minimum Bending Radius:	15 x Diam.
Tensile Strenght:	400 to 2000 (N)
Crush Resistance:	1000 (N)
Operating Temperature:	-30°C to +70°C

Standard Cable Colour

Multi Mode 50/125-62,5/125:	Orange
Single-Mode:	Yellow (Other colours are avaiable upon request)
Standard Reel Lenght:	1000 m -2000 m
Standard Cable Marking:	Cable <Cable Type><Meter Marking><Manufacturing Year>

Standards References:

- IEC 60793
- IEC 60794

BREAKOUT CABLES OUTDOOR

Applications

- Outdoor and duct installations; ready for direct connectorization in field; suitable for backbone and horizontal sub systems such as FTTH and FTTD.

Construction:

1. Optical fiber
2. Tight buffered fibre of 900 µm diameter (Easy to strip)
3. Non-metallic strenght members (Aramide or glass yarn)
4. Flame Retardant Non-Corrosive/Low Smoke Zero Halogen Outer Jacket
5. Corrugated Steel Tape armored
6. Outer Black PE Sheath



Technical Data

Number of Fibers:	2-12
Optic Fiber Type:	ITU-T G.651 (MM), ITU-T G.652 (SM), ITU-T g.655 & G.656 (NZDS Fiber)
Outer Sheath Diameter:	10 mm / 12 mm
Weight:	110, 140 (Kg/Km)
Minimum Bending Radius:	20 x Diam. (N)
Tensile Strength:	1200 to 2000 (N)
Crush Resistance:	2000 (N)
Operating Temperature:	-30°C to +70°C
Standard Cable Colour	
Standard Colour:	Black
Multi Mode 50/125-62,5/125:	Orange
Standard Reel Length:	1200 m - 2000 m
Standard Cable Marking:	Cable <Cable Type><Meter Marking><Manufacturing Year>

**BREAKOUT
CABLES**

A-V2H(SR)2Y nx1

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Standards References:

- IEC 60793
- IEC 60794



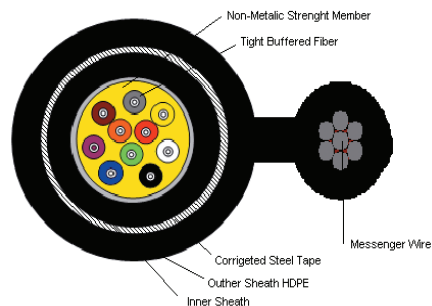
AERIAL TYPE BREAKOUT CABLES WITH MESSENGER

Applications

- Outdoor and Aerial installations; ready for direct connectorization in field; suitable for backbone and horizontal sub systems such as FTTH and FTTD.

Construction:

1. Optical fiber
2. Tight buffered fibre of 900 µm diameter (Easy to strip)
3. Non-metallic strenght members (Aramide or glass yarn)
4. Flame Retardant Non-Corrosive/Low Smoke Zero Halogen Outer Jacket
5. Corrugated Steel Tape armored
6. Outer Black PE Sheath
7. Supporting Steel Wire



Technical Data

Number of Fibers:	2-12
Optic Fiber Type:	ITU-T G.651 (MM), ITU-T G.652 (SM), ITU-T g.655 & G.656 (NZDS Fiber)
Outer Sheath Diameter:	8,5 x 16 mm to 13x21 mm
Weight:	150, 190 (Kg/Km)
Minimum Bending Radius:	20 x Diam.
Tensile Strength:	2000 (N)
Crush Resistance:	2000 (N)
Operating Temperature:	-30°C to +70°C

Standard Cable Colour

Standard Colour:	Black
Multi Mode 50/125-62,5/125:	Orange
Standard Reel Length:	1000 m - 2000 m
Standard Cable Marking:	Cable <Cable Type><Meter Marking><Manufacturing Year>

Standards References:

- IEC 60793
- IEC 60794

COUNTRY	PROJECT	CONTRACTOR	TYPE OF CABLE
POLAND	POLSKIE LNG REGASIFICATION TERMINAL PROJECT	SIRTI	FIBER HYBRID CABLE
LYBIA	SWEET CONDENSATE STABILIZER UNIT PROJECT – AT MARSA EL BREGA GAS PLANT	SIRTE OIL COMPANY	FIBER HYBRID CABLE
DUBAI	NATIONAL PETROLEUM CONST. CO	NPCC & ADCO	FIBER OPTICAL CABLES

PROJECT LIST



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