

FIBER OPTIC Cables

Cable for Indoor and Outdoor & Hybrid
& Marine Fiber Optic Cables



ENTERPRISE WITH DREAM, HOPE, AND FUTURE

TMC Co., Ltd has been pursuing innovation in technology and products for the specialty industrial cable market.

For 31 years TMC has had a single-minded focus on delivering superior customer services with marine and offshore plant cable solutions.

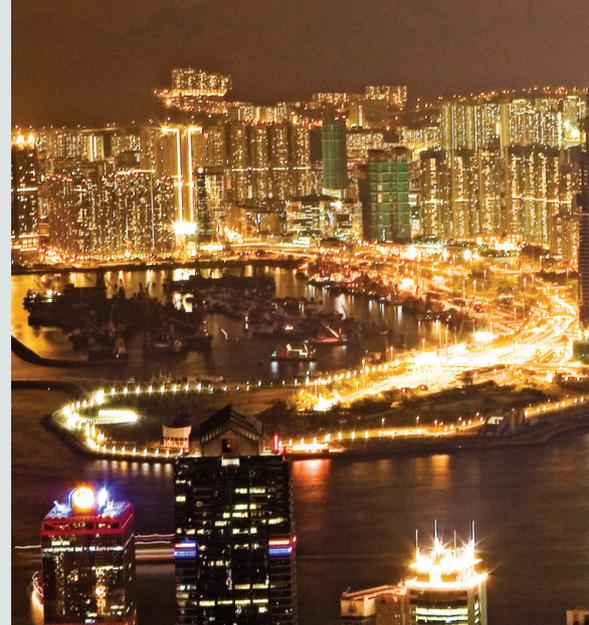
The operational excellence of TMC is underpinned by its products with the best quality and outstanding service to meet specific requirements that makes us the world's most experienced marine and offshore cable manufacturer.

Company History

- 1991** Establishment of Seojin Industry Co.,Ltd.
- 1998** ISO 9001 Certification by LRQA
- 2004** ISO 14001 Certification by LRQA
- 2005** Changed the name of company to TMC Co.,Ltd.
- 2006** Won the 30 million USD Export Tower Award granted by the Ministry of Knowledge Economy
- 2007** Achieved Korean world-class product award 2007
- 2008** Won the 100 million USD Export Tower Award granted by the Ministry of Knowledge Economy
- 2008** OHSAS 18001 Certification by LRQA
- 2010** Earned recognition by DSME as one of the excellent supplier
- 2011** KEPIC Certification by KEA (Manufacture of Class 1E cable)
- 2012** Won the 200 million USD Export Tower Award granted by the Ministry of Knowledge Economy
- 2013** Designated as 'Korean Hidden Champion' by Korea Eximbank
- 2014** Selected as a Good Supplier for KT
- 2015** Acquisition of Seepel
- 2016** Acquisition of Glow One (Formerly Posco LED)
- 2017** Awarded 'Certificate of Reliable marine equipment manufacturer&supplier' by KOSHIPA and KOMEA
- 2019** Selected as Best Quality Managed Supplier of Hyundai Heavy Industries
- 2019** Obtained ISO 45001
- 2020** Selected Best A/S Quality Managed Supplier of DSME
- 2020** Selected Best Supplier of Samsung Heavy Industries
- 2021** Selected as Regionally Leading Mid-sized Enterprises

Certificates for Optical Fiber Cables

- (UL) and c(UL)
- CPR
- ABS, DNV, LR





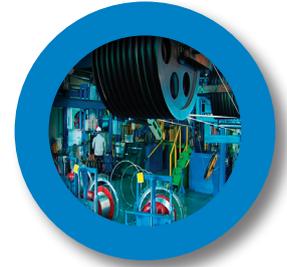
Optical Fibers

Single Mode Fiber

| Attribute | Detail | Unit | Specification | | | |
|-------------------------------|--------------------|------------------------|---------------|-------------|----------------|-------------|
| | | | SM G.652D | SM G.657A1 | SM G.657 A2&B2 | SM G.657B3 |
| Attenuation Coefficient | at 1310nm | dB/km | ≤ 0.40 | ≤ 0.40 | ≤ 0.40 | ≤ 0.40 |
| | at 1550nm | | ≤ 0.30 | ≤ 0.30 | ≤ 0.30 | ≤ 0.30 |
| Chromatic Dispersion | at 1290nm ~ 1330nm | ps/nm.km | ≤ 2.8 | ≤ 2.8 | ≤ 2.8 | ≤ 2.8 |
| | at 1550 nm | | ≤ 18 | ≤ 18 | ≤ 18 | ≤ 18 |
| Zero Dispersion Wavelength | | nm | 1300 ~ 1324 | 1300 ~ 1324 | 1300 ~ 1324 | 1300 ~ 1324 |
| Zero Dispersion Slope | | ps/nm ² .km | ≤ 0.095 | ≤ 0.095 | ≤ 0.095 | ≤ 0.095 |
| PMD Coefficient | | ps/√ km | ≤ 0.4 | ≤ 0.4 | ≤ 0.4 | ≤ 0.4 |
| Cut-off Wavelength | | nm | ≤ 1260 | ≤ 1260 | ≤ 1260 | ≤ 1260 |
| Mode Field Diameter | at 1310nm | μm | 9.2 ± 0.5 | 8.6 ± 0.5 | 8.6 ± 0.5 | 8.6 ± 0.5 |
| Cladding Diameter | | μm | 125 ± 1 | 125 ± 1 | 125 ± 1 | 125 ± 1 |
| Core/Clad concentricity error | | μm | ≤ 0.8 | ≤ 0.8 | ≤ 0.8 | ≤ 0.8 |
| Cladding Non-circularity | | % | ≤ 1 | ≤ 1 | ≤ 1 | ≤ 1 |
| Coating Diameter | | μm | 245 ± 15 | 245 ± 15 | 245 ± 15 | 245 ± 15 |

Multi-Mode Fiber

| Attribute | Detail | Unit | Specification | | | | |
|-----------------------------------|------------|--------|---------------|--------------|--------------|--------------|--------------|
| | | | MM62.5 (OM1) | MM50 (OM2) | MM50 (OM3) | MM50 (OM4) | MM50 (OM5) |
| Attenuation Coefficient | at 850nm | dB/km | ≤ 3.5 | ≤ 3.0 | ≤ 3.0 | ≤ 3.0 | ≤ 3.0 |
| | at 1300nm | | ≤ 1.5 | ≤ 1.0 | ≤ 1.0 | ≤ 1.0 | ≤ 1.0 |
| Bandwidth | at 850nm | MHz.km | ≥ 200 | ≥ 500 | ≥ 1500 | ≥ 3500 | ≥ 3500 |
| | at 953nm | | - | - | - | - | ≥ 1850 |
| | at 1300 nm | | ≥ 500 | ≥ 500 | ≥ 500 | ≥ 500 | ≥ 500 |
| Numerical Aperture | | - | 0.275 ± 0.015 | 0.20 ± 0.015 | 0.20 ± 0.015 | 0.20 ± 0.015 | 0.20 ± 0.015 |
| Core Diameter | | μm | 62.5 ± 3.0 | 50 ± 3.0 | 50 ± 3.0 | 50 ± 3.0 | 50 ± 3.0 |
| Cladding Diameter | | μm | 125 ± 2.0 | 125 ± 2.0 | 125 ± 2.0 | 125 ± 2.0 | 125 ± 2.0 |
| Cladding Non-circularity | | % | ≤ 2.0 | ≤ 2.0 | ≤ 2.0 | ≤ 1.0 | ≤ 1.0 |
| Core/Cladding Concentricity Error | | μm | ≤ 3.0 | ≤ 3.0 | ≤ 3.0 | ≤ 3.0 | ≤ 3.0 |
| Coating Diameter | | μm | 245 ± 15 | 245 ± 15 | 245 ± 15 | 245 ± 15 | 245 ± 15 |



OPTICAL Cable



| | |
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Patch cord Cables



Description

- Available Single-mode and Multi-mode fibers
- Flame retardant and Tight buffered cable
- 1.6mm to 3.0mm diameter
- Alternative outer jacket material and colors available

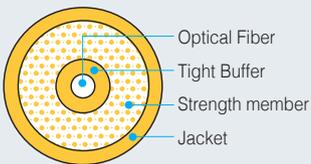
Application

- Indoor communication system
- Jumpers, Pigtails, Patch cords
- All dielectric application

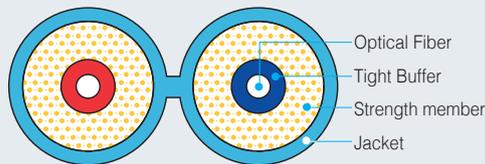
Features

- Highly flexible and light weight for easy handling
- RoHS compliance
- UL listed OFNR, OFNP

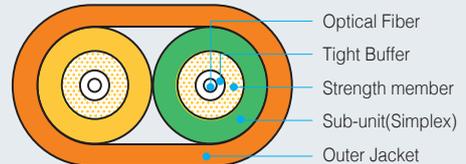
Cable Cross Section



[Simplex Cable]



[Duplex ZIP Cable]

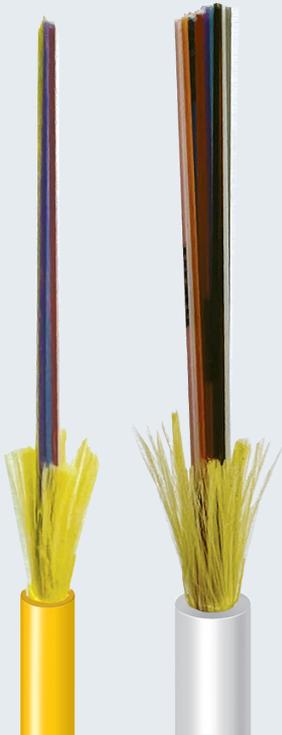


[Duplex Twin Flat]

Standard Cable Information

| Type | Number of Fiber | Buffer Diameter (μm) | Cable Diameter (mm) | Cable Weight (kg/km) | Min. Bending Radius (mm) | Tensile Load | |
|------------------|-----------------|----------------------|---------------------|----------------------|--------------------------|------------------|---------------|
| | | | | | | Installation (N) | Operation (N) |
| Simplex | 1 | 600 ± 50 | 1.6 | 3.0 | 24 | 90 | 50 |
| | | | 1.8 | 3.5 | 27 | 100 | 60 |
| | | 900 ± 50 | 2.0 | 4.0 | 30 | 150 | 70 |
| | | | 2.4 | 6.5 | 36 | 190 | 90 |
| | | | 3.0 | 9.0 | 45 | 200 | 100 |
| Duplex ZIP | 2 | 600 ± 50 | 1.6*3.2 | 6.5 | 24 | 180 | 80 |
| | | | 1.8*3.6 | 7.5 | 27 | 200 | 100 |
| | | 900 ± 50 | 2.0*4.0 | 8.0 | 30 | 300 | 140 |
| | | | 2.4*4.8 | 12.5 | 36 | 380 | 180 |
| | | | 3.0*6.0 | 18.5 | 45 | 400 | 200 |
| Duplex Twin Flat | 2 | 900 ± 50 | (2.0 SP) 2.0*5.0 | 17 | 30 | 300 | 140 |
| | | | (2.8 SP) 3.8*6.6 | 25 | 38 | 400 | 200 |

Multi fiber Cables



Description

- Available Single-mode or Multi-mode colored fibers
- 2C to 24C Single-unit,
- Range of diameter 1.8mm to 3.0mm

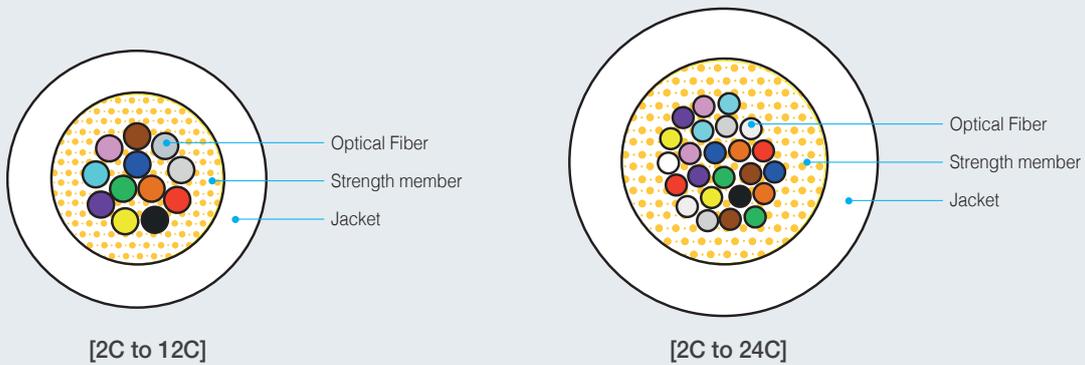
Application

- For Indoor communication system
- Ideal for use in trunk, data center cables
- Small and highly concentrated number of optical fibers
- Suitable for MPO/MTP assembly

Features

- Compact and light weight, Very flexible
- Flame retardant cable
- RoHS compliance
- UL listed OFNR, OFNP

Cable Cross Section



Standard Cable Information

| Number of Fiber | Cable Diameter (mm) | Approx. Cable Weight (kg/km) | Min. Bending Radius | | Tensile Load | |
|-----------------|---------------------|------------------------------|---------------------|-------------|------------------|---------------|
| | | | Installation (mm) | Static (mm) | Installation (N) | Operation (N) |
| 2C to 12C | 1.8 or 2.0 | 3.5 | 30 | 15 | 100 | 60 |
| 2C to 24C | 3.0 | 8.5 | 45 | 23 | 120 | 70 |

Note 1. Cable construction and performance available on customer request.

Distribution Cables



Description

- Available Single-mode and Multi-mode fibers
- Flame retardant and Tight buffered cable
- 2C to 48C single or multi units
- Alternative outer jacket material and colors available

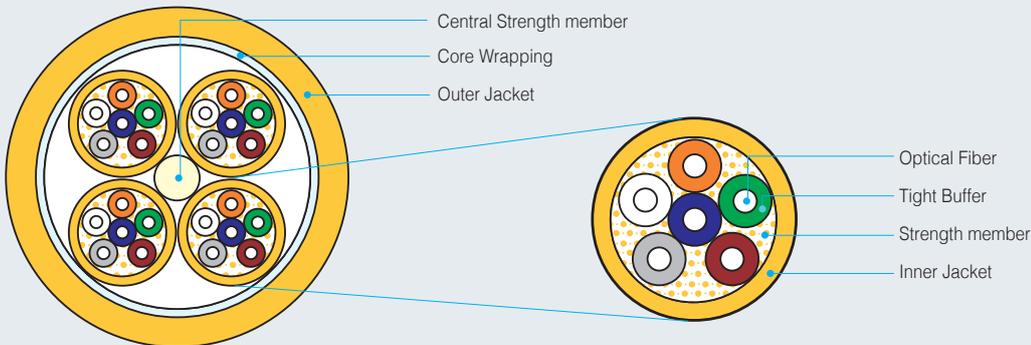
Application

- Inner building Backbone application
- All dielectric application

Features

- Compact design to save duct or conduit space
- RoHS compliance
- UL listed OFNR, OFNP

Cable Cross Section

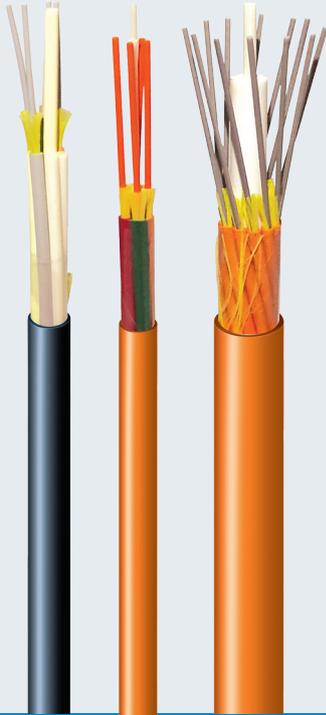


Standard Cable Information

| Number of Fiber | Units | Tight Buffer Diameter (μm) | Cable Diameter (mm) | Approx. Cable Weight (kg/km) | Min. Bending Radius (mm) | Tensile Load | |
|-----------------|----------|----------------------------|---------------------|------------------------------|--------------------------|------------------|---------------|
| | | | | | | Installation (N) | Operation (N) |
| 2 | 2F x 1U | 600 ± 50 | 4.3 | 18 | 450 | 450 | 250 |
| 4 | 4F x 1U | | 4.7 | 22 | 450 | 450 | 250 |
| 6 | 6F x 1U | | 5.5 | 28 | 450 | 450 | 250 |
| 8 | 8F x 1U | 900 ± 50 | 6.1 | 34 | 600 | 600 | 300 |
| 12 | 12F x 1U | | 6.5 | 41 | 65 | 600 | 300 |
| 24 | 24F x 1U | 900 ± 50 | 9.0 | 72 | 90 | 1000 | 500 |
| 24 | 6F x 4U | | 12.8 | 146 | 192 | 1400 | 800 |
| 36 | 6F x 6U | | 15.5 | 220 | 230 | 1600 | 900 |
| 48 | 8F x 6U | | 17.0 | 280 | 250 | 1800 | 1000 |
| | | | | | | | |

Note 1. F: fibers, U: units **Note 2.** This table is calculated with 900μm tight buffer.

Breakout Cables



Description

- Available Single-mode and Multi-mode fibers
- Flame retardant and Tight buffered cable
- 2C to 24C
- Alternative outer jacket material and colors available

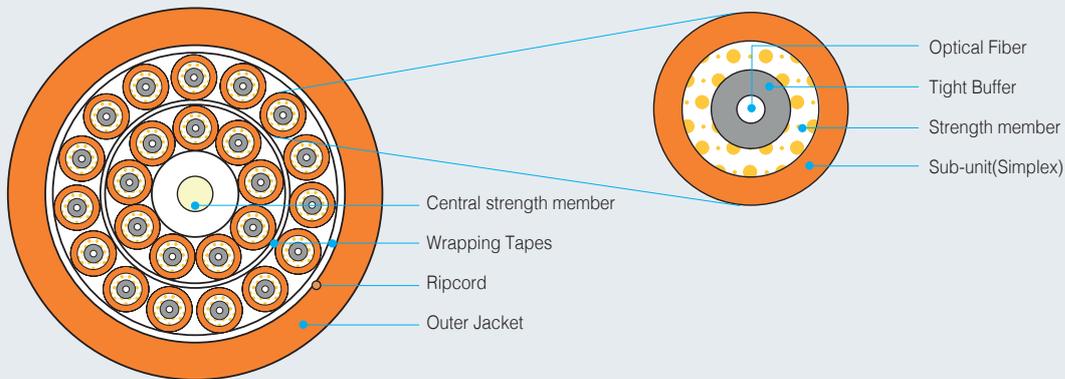
Application

- Inner building Backbone application
- All dielectric application

Features

- Excellent mechanical and environmental characteristics
- Compact design to save duct or conduit space
- Easy stripping for quick splicing
- RoHS compliance
- UL listed OFNR

Cable Cross Section



Standard Cable Information

| Number of Fiber | Tight Buffer Diameter (μm) | Sub-unit Diameter (mm) | Cable Diameter (mm) | Approx. Cable Weight (kg/km) | Min. Bending Radius (mm) | Tensile Load | |
|-----------------|----------------------------|-----------------------------|---------------------|------------------------------|--------------------------|------------------|---------------|
| | | | | | | Installation (N) | Operation (N) |
| 2 | 600 ± 50 or 900 ± 50 | 1.6, 2.0, 2.4, 3.0 | 6.5 | 43 | 90 | 400 | 200 |
| 4 | | | 7.2 | 50 | 100 | 700 | 400 |
| 6 | | | 8.2 | 72 | 120 | 900 | 600 |
| 8 | | | 10.0 | 95 | 150 | 1500 | 700 |
| 12 | | | 12.0 | 150 | 170 | 1500 | 900 |
| 16 | | | 13.0 | 170 | 200 | 1400 | 800 |
| 24 | | | 16.0 | 190 | 240 | 1500 | 1000 |

Note 1. This table is calculated with 2.0mm sub-unit.

FTTH Cables



Description

- Available Single-mode and Multi-mode fibers
- Flame retardant tight buffer or bare fiber

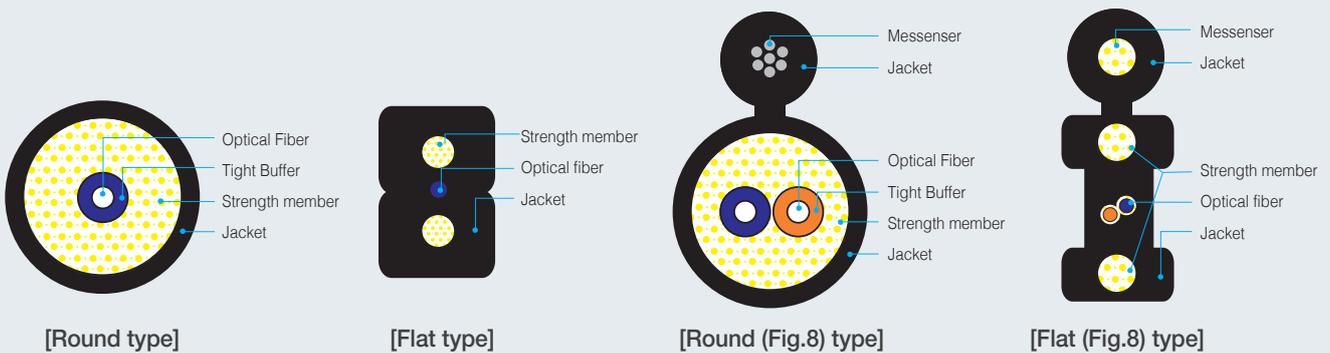
Application

- For Indoor/outdoor use

Features

- Excellent mechanical and environmental characteristics
- RoHS compliance
- Light weight and compact size and easy handling

Cable Cross Section



Standard Cable Information

| Type | Number of Fiber | Buffer Diameter (μm) | Sheath Material | Strength member Material | Messenger member Material |
|----------------|-----------------|----------------------|-----------------|---------------------------------|---------------------------------|
| Round, | 1 | 600 ± 50 | LSZH | Steel wire or Aramid yarn | Steel wire or Aramid yarn |
| Round (Fig.8), | | | | | |
| Flat, | 2 | 650 ± 50 | or TPU | Glass yarn or FRP | Glass yarn or FRP |
| Flat (Fig.8) | | | | | |
| | 4 | 900 ± 50 | | | |

Note. Cable construction and performance available on customer request.

MDU Drop Cables



Description

- Bend insensitive single-mode fiber with Tight buffered cable
- Selection design for Compact or Rugged type
- Easy compatible usual fiber optic connector

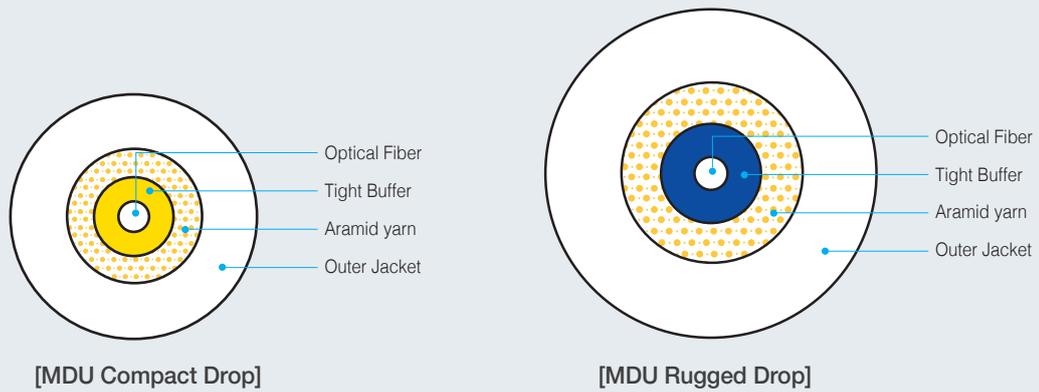
Application

- Drop cable for use indoor or indoor/outdoor
- For universal Drop or Patch cord
- Applicable FTTH or MDU(multi-dwelling unit)

Features

- Excellent bending characteristic
- Flame retardant
- RoHS compliance
- UL Listed OFNR and OFNP

Cable Cross Section

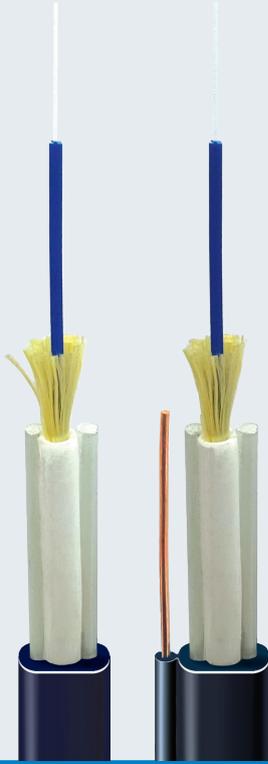


Standard Cable Information

| Type | Number of Fiber | Tight buffer (μm) | Cable Diameter (mm) | Tensile Load | | Min. Bending Radius | |
|--------------|-----------------|-------------------|---------------------|------------------|---------------|---------------------|-------------|
| | | | | Installation (N) | Operating (N) | Unloaded (mm) | Loaded (mm) |
| Compact Drop | 1C | 900±50 | 2.9 | 220 | 66 | 29 | 58 |
| Rugged Drop | 1C | 900±50 | 4.8 | 440 | 132 | 48 | 96 |

Note. Cable construction and performance available on customer request.

SS-Flat Drop Cables (TB type)



Description

- Bend insensitive Single-mode fibers with Tight buffered cable
- Selection design for Dielectric or Toning cable
- Compact drop cable construction
- Suitable indoor for 2.9mm inside riser cable
- Good weather resistance outside cable
- Compatible with usual slitter for sheath removal

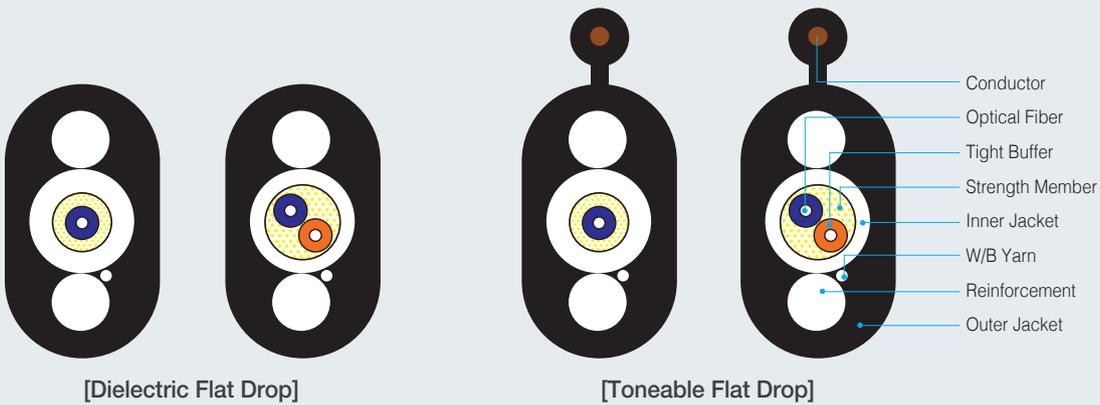
Application

- Universal drop cable indoor or outdoor use
- Aerial mid-span access, Duct, Direct buried

Features

- Excellent mechanical and environmental characteristics
- RoHS compliance

Cable Cross Section

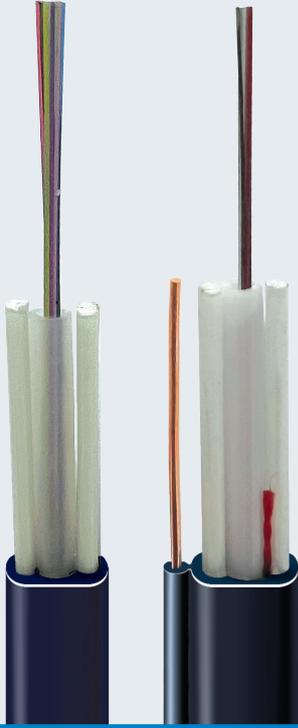


Standard Cable Information

| Type | Number of Fiber | Cable Diameter (mm) | Tensile Load | | Crush resistance (N/100mm) | Min. Bending Radius | |
|------------------------|-----------------|---------------------|------------------|---------------|----------------------------|---------------------|-------------|
| | | | Installation (N) | Operating (N) | | Unloaded (mm) | Loaded (mm) |
| Flat Drop (Dielectric) | 1C | 4.5*8.0 | 1350 | 405 | 1000N | 80 | 160 |
| | 2C | 4.5*8.0 | 1350 | 405 | 1000N | 80 | 160 |
| Flat Drop (Toneable) | 1C | 4.5*10.0 | 1350 | 405 | 1000N | 100 | 200 |
| | 2C | 4.5*10.0 | 1350 | 405 | 1000N | 100 | 200 |

Note. Cable construction and performance available on customer request.

SS-Flat Drop Cables (LT type)



Description

- Single-mode fibers with Gel-filled Loose tube cable
- Selection design for Dielectric or Toning cable
- Compact and durable uni-tube cable construction
- Good weather resistance and Suitable outdoor cable
- Compatible with usual slitter for sheath removal

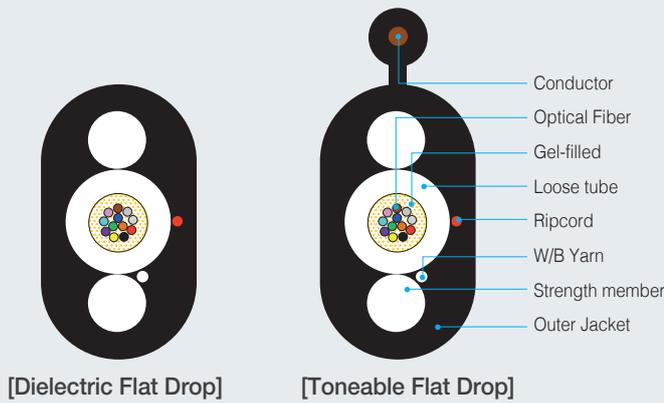
Application

- Universal drop cable indoor or outdoor use
- Aerial mid-span access, Duct, Direct buried

Features

- Excellent mechanical and environmental characteristics
- RoHS compliance

Cable Cross Section

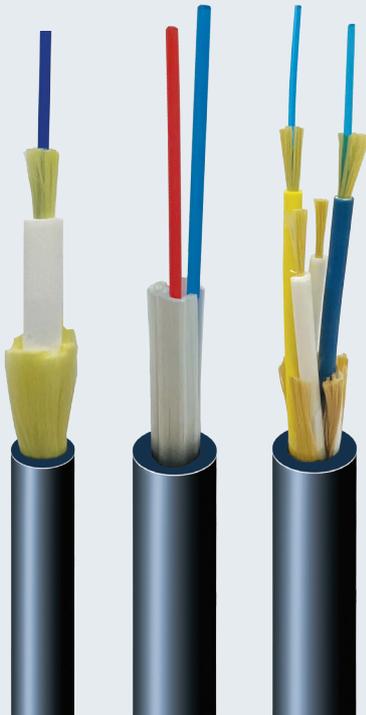


Standard Cable Information

| Type | Number of Fiber | Cable Diameter (mm) | Tensile Load | | Crush resistance (N/100mm) | Min. Bending Radius | |
|------------------------|-----------------|---------------------|------------------|---------------|----------------------------|---------------------|-------------|
| | | | Installation (N) | Operating (N) | | Unloaded (mm) | Loaded (mm) |
| Flat Drop (Dielectric) | 2C to 12C | 4.5*8.0 | 1350 | 405 | 1000N | 80 | 160 |
| Flat Drop (Toneable) | 2C to 12C | 4.5*10.0 | 1350 | 405 | 1000N | 100 | 200 |

Note. Cable construction and performance available on customer request.

Hardened Connector Cables



Description

- Hardened connector assembly cables
- Available all customized design.
- Preferable and easy compatible Tight buffered type applied
- Designed for cable focusing on severe environmental condition well resist weather to cold and heat

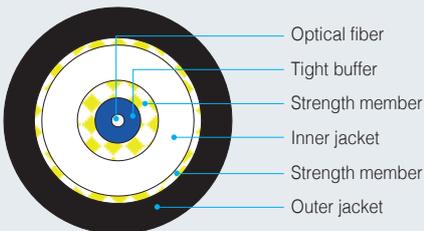
Application

- Indoor/Outdoor drop
- FTTA or FTTx Networks

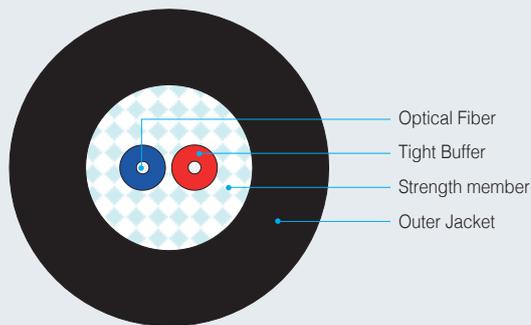
Features

- Excellent bend performance
- Non-Flammable and LSHF
- Appropriate CPR
- UL listed OFNR

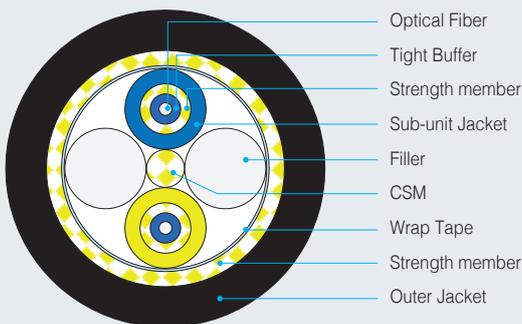
Cable Cross Section



- Optical fiber
- Tight buffer
- Strength member
- Inner jacket
- Strength member
- Outer jacket



- Optical Fiber
- Tight Buffer
- Strength member
- Outer Jacket



- Optical Fiber
- Tight Buffer
- Strength member
- Sub-unit Jacket
- Filler
- CSM
- Wrap Tape
- Strength member
- Outer Jacket

Composition Cables



Optical Cable

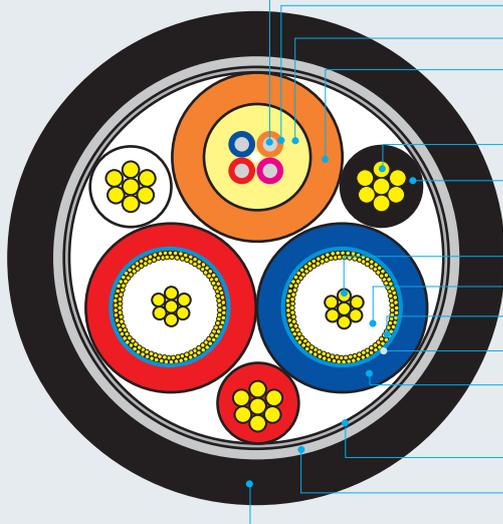
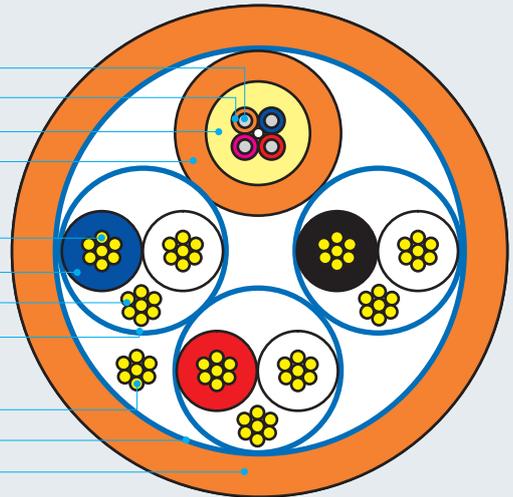
- ① Optical Fiber
- ② Buffer
- ③ Aramid yarn
- ④ Jacket

STP Cable

- ① Tinned Conductor 24AWG(0.203/7)
- ② Insulation(1.0mm)
- ③ Drain Wires 0.203/7 24AWG
- ④ Screen Shield

Cabled

- ① Drain Wires 0.203/7 24AWG
- ② Screen Shield
- ③ Outer Jacket



Optical Cable

- ① Optical Fiber
- ② Buffer
- ③ Aramid yarn
- ④ Jacket

Power Cable

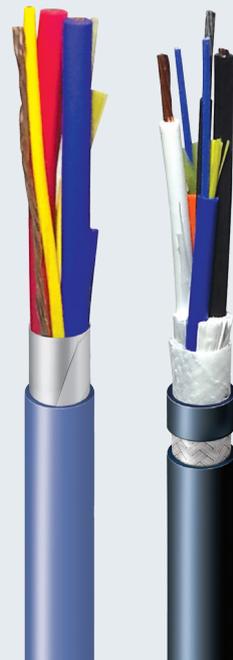
- ① Tinned Conductor Copper(0.20/7)
- ② Jacket

CATV Cable

- ① Tinned Conductor Copper(0.127/7)
- ② Polyethylen Expanded Form
- ③ Shield Wires Copper
- ④ Screen Shield
- ⑤ Jacket

Cabled

- ① Core Wrapping
- ② Tinned Copper Wire Braid
- ③ Outer Jacket



Hybrid Fanout Cables (Optic & Copper)



Description

- Available all customized design
- Basic composition of Loose tube cable up to 72 Fiber core, Single-mode and Multimode
- And up to 8Core of insulated conductor, Type THHN/THWN-2 or THHW, XHHW
- Suitable Cable Type TC-OF or Type RHC in accordance with UL 1277 or UL 2882
- Flame retardant, UV resistance

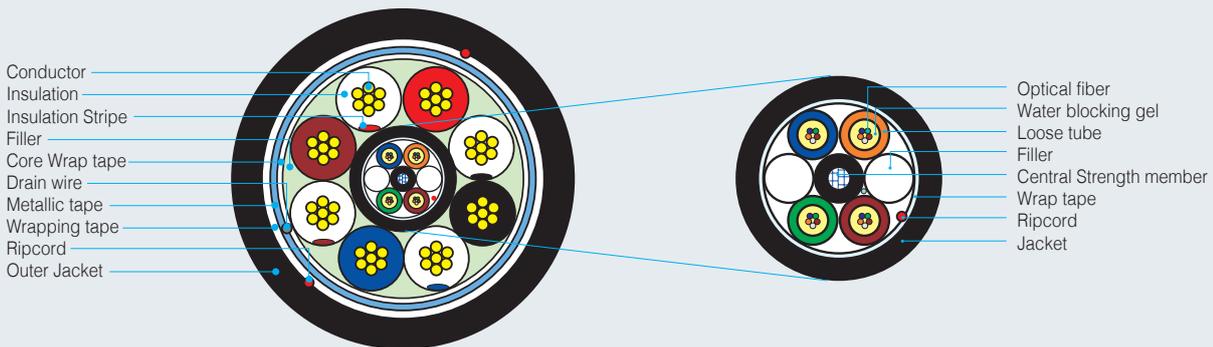
Application

- Indoor/Outdoor application, Flame retardant
- Feeder for electric power and Optical signal in one cable
- Use of Wireless infrastructure or Remote Radio Head cable
- Antenna system (FTTA, PTTA, HTTA etc.,)

Features

- Excellent mechanical and environmental characteristics
- RoHS compliance
- UL listed

Cable Cross Section



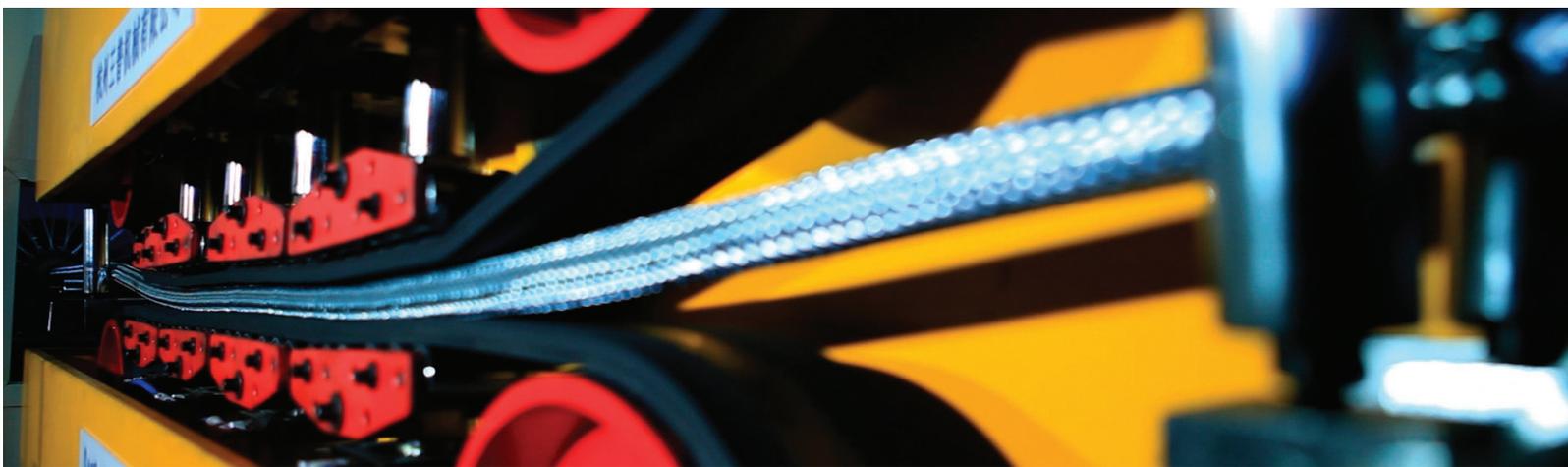
Standard Cable Information

| No. | Cable Type | Cable Diameter (mm) | Approx. Cable Weight (kg/km) | Conductor Resistance (Ω/km) |
|-----|--|---------------------|------------------------------|-----------------------------|
| 1 | 10AWGx2C + 12AWGx6C + Optical fiber x 20F | 25 | 786 | 12AWG : 5.35 |
| 2 | 8AWGx2C + 10AWGx6C + Optical Fiber x 20F | 27 | 1,010 | 10AWG : 3.36 |
| 3 | 6AWGx2C + 8AWGx2C+10AWGx4C + Optical Fiber x 20F | 30 | 1,230 | 8AWG : 2.12 |
| 4 | 6AWGx2C + 8AWGx6C + Optical Fiber x 20F | 30 | 1,400 | 6AWG : 1.33 |
| 5 | 4AWGx2C + 6AWGx2C+8AWGx4C + Optical Fiber x 20F | 32 | 1,720 | 4AWG : 0.84 |

Note. Cable construction and performance available on customer request



Armored Fiber optic Cable & Fiber optic Cable for **Marine and Ship**



| | |
|--|----|
| AICI (B-type) for Marine Fiber Optic Cable | 18 |
| AICI (D-type) for Marine Fiber Optic Cable | 20 |
| QFCI for Marine Fiber Optic Cable | 21 |
| QFCU for Marine Fiber Optic Cable | 22 |
| Certifications | 23 |



Flame retardant

AICI (B-type) for Marine Fiber Optic Cable



Description

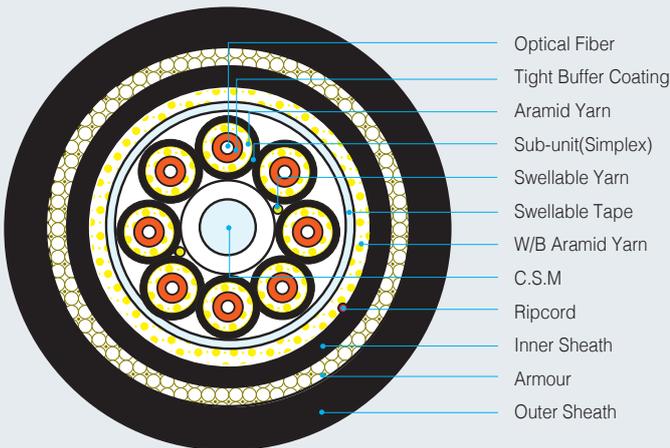
- Cable Designation in accordance with NEK TS 606
- : AICI (GSWB, Galvanized steel wire Braid)
- : AIBI (BWB, Bronze wire Braid)
- : AIOI (TCWB, Tinned copper braid)
- Basis of cable construction
- : Breakout(B-type) cable
- : Tight buffered, Low-smoke Halogen free
- : 2 to 24 fiber cores of Single-mode or Multimode optical fiber

Application

- Marine vessels, offshore platforms, oil platform, oil rigs, FPSOs, drill ship and others

Features

- Type Approval Certification for ship : ABS, DNV
- Flame retardant : IEC 60332-1-2 & IEC 60332-3-22 (CAT.A)
- Sheath material : IEC 60092-360 (SHF1, Thermoplastic)
- Operating Temperature : -40 to +70°C



Cable properties

| | |
|--------------------------------------|--------------------|
| Tensile strength (IEC 60794-1-21-E1) | |
| Installation | 1000 N |
| operation | 500 N |
| Crush (IEC 60794-1-21-E3) | 1000N/5min. |
| Impact (IEC 60794-1-21-E4) | 20 J |
| Torsion (IEC 60794-1-21-E7) | ±180°, 1m, 20cycle |
| Cable bend (IEC 60794-1-2-E11) | x10D |
| Cold bend (CSA 22.2 No.2556) | -40°C |
| Temperature | |
| installation | -10°C ~ +60°C |
| operation | -40°C ~ +70°C |
| Flame characteristic | |
| IEC 60332-1-2 & 60332-3-22 | Flame retardant |
| Smoke density | |
| IEC 61034-2 | ≥ 60% |
| Halogen contents | |
| IEC 60754-1 | ≤ 0.5% |

Flame retardant

Fire resistance

AICI(B-type) for Marine Fiber Optic Cable



Description

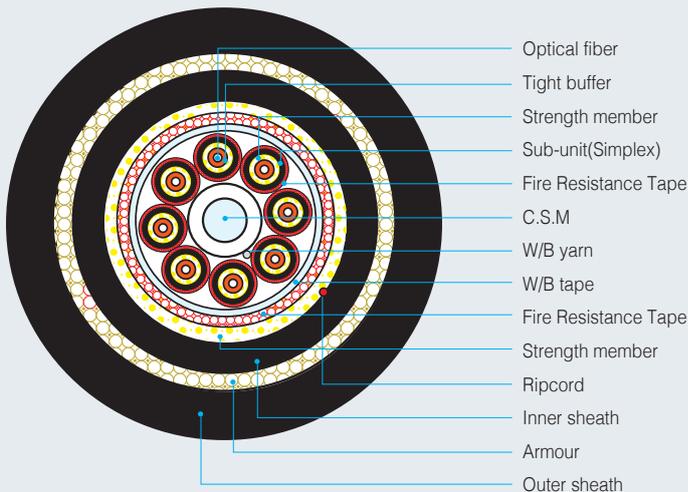
- Cable Designation in accordance with NEK TS 606
 - : AICI (GSWB, Galvanized steel wire Braid)
 - : AIBI (BWB, Bronze wire Braid)
 - : AIOI (TCWB, Tinned copper braid)
- Basis of cable construction
 - : Breakout(B-type) cable
 - : Tight buffered, Low-smoke Halogen free, Fire resistance
 - : 2 to 24 fiber cores of Single-mode or Multimode optical fiber

Application

- Armored Indoor/Outdoor and Fire resistance
- Marine vessels, Onshore/offshore platforms, Oil platform, FPSO, Rigs

Features

- Flame retardant : IEC 60332-1-2 & IEC 60332-3-22 (CAT.A)
- Fire resistance : IEC 60331-25
- Sheath material : IEC 60092-360 (SHF1, Thermoplastic)
- Operating Temperature : -40 to +70°C



Cable properties

| | |
|--------------------------------------|--------------------|
| Tensile strength (IEC 60794-1-21-E1) | |
| installation | 1000 N |
| operation | 500 N |
| Crush (IEC 60794-1-21-E3) | 1000N/5min. |
| Impact (IEC 60794-1-21-E4) | 20 J |
| Torsion (IEC 60794-1-21-E7) | ±180°, 1m, 20cycle |
| Cable bend (IEC 60794-1-2-E11) | x10D |
| Cold bend (CSA 22.2 No.2556) | -40°C |
| Temperature | |
| installation | -10°C ~ +60°C |
| operation | -40°C ~ +70°C |
| Flame Characteristics | |
| IEC 60332-1-2 & 60332-3-22 | Flame retardant |
| IEC 60331-25 | Fire resistance |
| Smoke density | |
| IEC 61034-2 | ≥ 60% |
| Halogen contents | |
| IEC 60754-1 | ≤ 0.5% |

Flame retardant

AICI (D-type) for Marine Fiber Optic Cable



Description

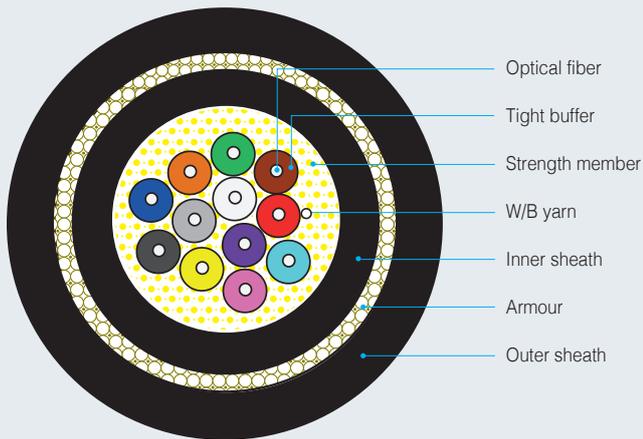
- Cable Designation in accordance with NEK TS 606
- : AICI (GSWB, Galvanized steel wire Braid)
- : AIBI (BWB, Bronze wire Braid)
- : AIOI (TCWB, Tinned copper braid)
- Basis of cable construction
- : Distribution(D-type) single-unit cable
- : Tight buffered, Low-smoke Halogen free
- : 2 to 24 fiber cores of Single-mode or Multimode optical fiber

Application

- Armored Indoor/Outdoor Distribution Cable for use general purpose
- Light duty than B-type
- Marine vessels, Onshore/offshore platforms, Oil platforms, FPSO, Rigs.

Features

- Flame retardant : IEC 60332-1-2 & IEC 60332-3-22 (CAT.A)
- Sheath material : IEC 60092-360 (SHF1, Thermoplastic)
- Operating Temperature : -40 to +70°C

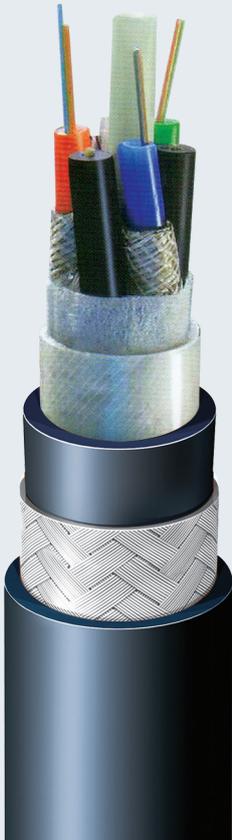


| Cable properties | |
|--------------------------------------|--------------------|
| Tensile strength (IEC 60794-1-21-E1) | |
| Installation | 1000 N |
| operation | 500 N |
| Crush (IEC 60794-1-21-E3) | 1000N/5min. |
| Impact (IEC 60794-1-21-E4) | 20 J |
| Torsion (IEC 60794-1-21-E7) | ±180°, 1m, 20cycle |
| Cable bend (IEC 60794-1-2-E11) | x10D |
| Cold bend (CSA 22.2 No.2556) | -40°C |
| Temperature | |
| installation | -10°C ~ +60°C |
| operation | -40°C ~ +70°C |
| Flame characteristic | |
| IEC 60332-1-2 & 60332-3-22 | Flame retardant |
| Smoke density | |
| IEC 61034-2 | ≥ 60% |
| Halogen contents | |
| IEC 60754-1 | ≤ 0.5% |

Flame retardant

Fire resistance

QFCI for Marine Fiber Optic Cable



Description

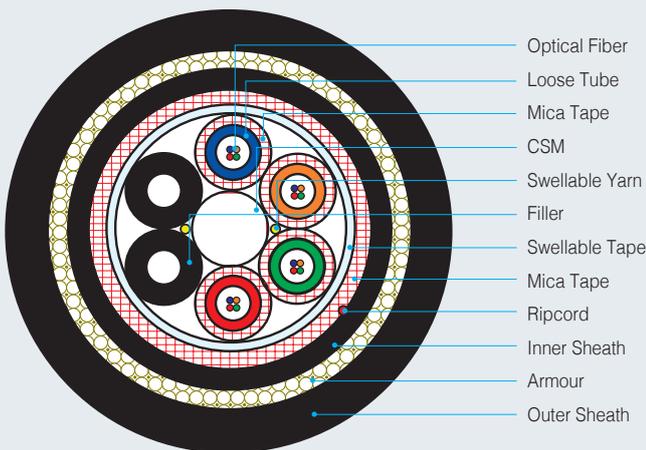
- Cable Designation in accordance with NEK TS 606
 - : QFCI (GSWB, Galvanized steel wire Braid)
 - : QFBI (BWB, Bronze wire Braid)
 - : QFOI (TCWB, Tinned copper braid)
- Basis of cable construction
 - : S/Z stranded Loose tube Fiber optic cable
 - : Low-smoke Halogen free, Fire resistance
 - : 2 to 72 fiber cores of Single-mode or Multimode optical fiber

Application

- Marine vessels, offshore platforms, oil platform, oil rigs, FPSOs, drill ship and others

Features

- Type Approval Certification for ship : ABS, DNV, LR
- Flame retardant : IEC 60332-1-2 & IEC 60332-3-22 (CAT.A)
- Fire resistance : IEC 60331-25 & BS EN 50200 Annex E
- Sheath material : IEC 60092-360 (SHF1, Thermoplastic)
- Operating Temperature : -40 to +70°C



| Cable properties | |
|-------------------------------------|-----------------|
| Tensile strength (IEC 60794-1-2 E1) | |
| installation | 1500 N |
| operation | 500 N |
| Crush (IEC 60794-1-2 E3) | 3000 N/10cm |
| Impact (IEC 60794-1-2 E4) | 30 J |
| Torsion (IEC 60794-1-2 E7) | ±1turn/1m |
| Cable bend (IEC 60794-1-2 E11) | x10D |
| Cold bend | -40°C |
| Temperature | |
| installation | -10°C ~ +60°C |
| operation | -40°C ~ +70°C |
| Flame and fire characteristics | |
| IEC 60331-25 1000°C 180min. | ≤ 1.5dB |
| IEC 60332-1&3 | Flame retardant |
| Smoke density | |
| IEC 61034 | ≥ 60% |
| Halogen contents | |
| IEC 60754-1&2 | ≤ 0.5% |

Flame retardant

Fire resistance

Mud resistance

QFCU for Marine Fiber Optic Cable



Description

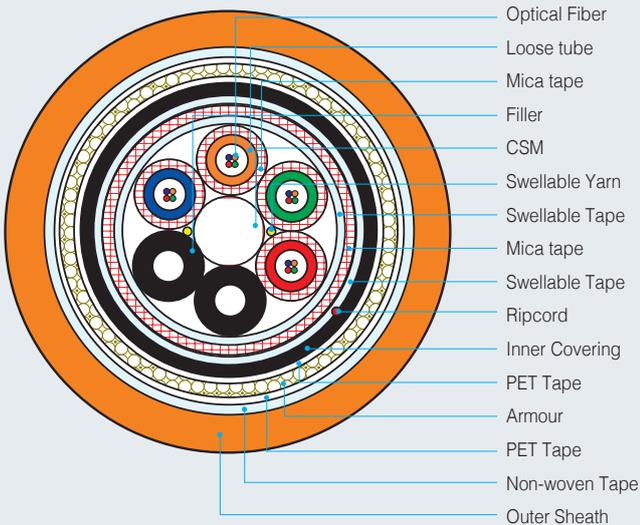
- Cable Designation in accordance with NEK TS 606
 - : QFCU (GSWB, Galvanized steel wire Braid)
 - : QFBU (BWB, Bronze wire Braid)
 - : QFOU (TCWB, Tinned copper braid)
- Basis of cable construction
 - : S/Z stranded Loose tube Fiber optic cable
 - : Low-smoke Halogen free, Fire resistance+Mud resistance
 - : 2 to 72 fiber cores of Single-mode or Multimode optical fiber

Application

- Marine vessels, offshore platforms, oil platform, oil rigs, FPSOs, drill ship and others

Features

- Type Approval Certification for ship : ABS, DNV
- Flame retardant : IEC 60332-1-2 & IEC 60332-3-22 (CAT.A)
- Fire resistance : IEC 60331-25 & BS EN 50200 Annex E
- Oil and Mud resistance : NEK TS 606 (CAT.b, c, d)
- Sheath material : IEC 60092-360 (SHF2, Thermoset)
- Operating Temperature : -40 to +70°C



Cable properties

| | |
|-------------------------------------|-----------------|
| Tensile strength (IEC 60794-1-2 E1) | |
| installation | 1500 N |
| operation | 500 N |
| Crush (IEC 60794-1-2 E3) | 3000 N/10cm |
| Impact (IEC 60794-1-2 E4) | 30 J |
| Torsion (IEC 60794-1-2 E7) | ±1turn/1m |
| Cable bend (IEC 60794-1-2 E11) | x10D |
| Cold bend | -40°C |
| Temperature | |
| installation | -10°C ~ +60°C |
| operation | -40°C ~ +70°C |
| Mud resistance | |
| Diesel IRM 903 | 100°C 7days |
| Calsium Bromide Brine | 70°C 56days |
| Carbo Sea | 70°C 56days |
| Flame and fire characteristics | |
| IEC 60331-25 1000°C 180min. | ≤ 1.5dB |
| IEC 60332-1&3 | Flame retardant |
| Smoke density | |
| IEC 61034 | ≥ 60% |
| Halogen contents | |
| IEC 60754-1&2 | ≤ 0.5% |

Certifications



Cert. of ISO 9001



Cert. of ISO 14001

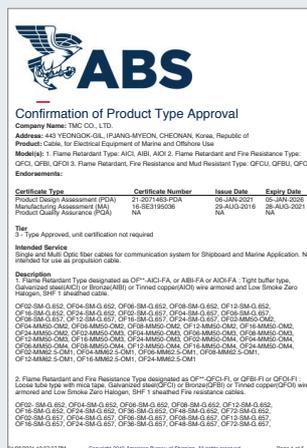


Cert. of ISO 45001

Class Type Approval



DNV



ABS



LR



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www.tmc-cable.com

Head Office / Ipjang Factory

443, Yeongok-gil, Ipjang-myeon, Seobuk-gu, Cheonan-si, Chungcheongnam-do, Korea
Tel. +82-41-589-6500 Fax. +82-41-589-6400

Bukmyeon Factory

5, Myungduk 1-gil, Buk-myeon, Dongnam-gu, Cheonan-si, Chungcheongnam-do, Korea
Tel. +82-41-560-7300 Fax. +82-41-553-7166

Sales Office

Songhyun Tower 136, Unjung-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea
Tel. +82-31-8038-9900 Fax. +82-31-8038-9905

Geoje Office

1F. Hyosung Bldg, 107-3 Yongso 1-gil Geoje-si, Gyeongsangnam-do, Korea
Tel. +82-55-688-5261 Fax. +82-55-688-5262

Dalian Office (China)

Room B 8F, AnHe Building, No.87 Renmin Road, Zongshan District, Dalian, China
Tel. +86-411-8198-1506 Fax. +86-411-8198-1506