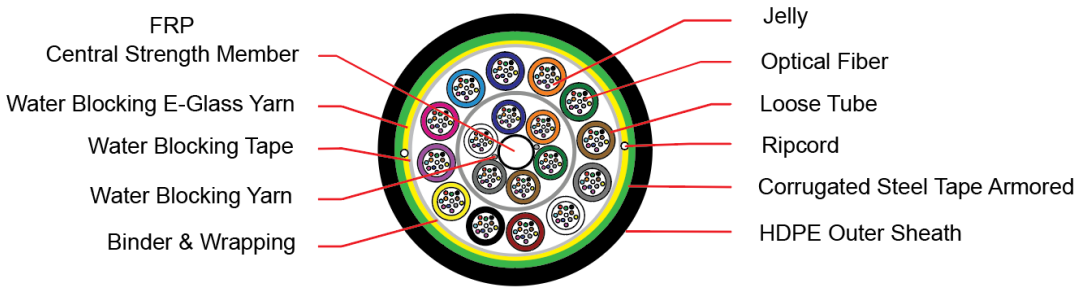


**ARSS, OUTDOOR, MULTI-TUBE, ARMORED, SINGLE JACKET, FIBER OPTIC CABLE**

## 1. APPLICATION

This specification covers the construction and properties of ARSS (Anti-Rodent Self-Support), Outdoor/Multi-tube, Armored, Single Jacket, fiber optic cable for aerial, direct buried and duct installation. LINK fiber optic cable supports application such as 40/100Gbps Ethernet, IEEE802.3ae,10G Ethernet, IEEE802.3z, Gigabit Ethernet, Fast Ethernet, Ethernet,100BASE-F, 52/155/622Mbps and 1.2Gbps ATM, FDDI, Fiber channel and others.

LINK ARSS, Outdoor/Multi-tube, Single Jacket, fiber optic cable. Single mode color coded fibers are housed in multiple color coded plastic buffer tubes which are stranded around a dielectric central strength member. Dry water blocking tapes or yarns, wrapped around the core, provide protection against water ingress. These user friendly elements replace the sticky cable filling gel used in traditional loose tube cable designs. Water blocking E-glass yarn, which provide additional tensile strength, are applied over the cable core. Corrugated steel tape provide for anti-rodent. The cable sheath is high density polyethylene jacket.

### LINK fiber optic cable in accordance with

ANSI/TIA-568.3-D
ANSI/TIA-568-C.3
ANSI/ICEA 640
Telcordia (Bellcore) GR-20-CORE
ITU-T G.652D (Singlemode)
RoHS Compliant

ISO/IEC 11801:2011
ISO/IEC 11801:2017
IEC 60793, IEC 60794-1-2
EN 50173-1
TIS 2166-2548

## 2. ORDER INFORMATION

ARSS, OUTDOOR/MULTI-TUBE, ARMORED, SINGLE JACKET, FIBER OPTIC CABLE

| Descriptions | OS2, SM 9/125 µm |
|---|---|
| 216 Core | UFC97216MA |

## 3. OPTICAL FIBER

| Items | | Specifications |
|---|---|---|
| Fiber Type | | 9/125 µm (OS2) |
| Max. / Typ. Attenuation | 1310 nm | ≤ 0.35 / ≤ 0.33 dB/km |
| | 1383 nm | ≤ 0.35 / ≤ 0.31 dB/km |
| | 1550 nm | ≤ 0.21 / ≤ 0.19 dB/km |
| | 1625 nm | ≤ 0.23 / ≤ 0.20 dB/km |
| Core | Mode Field Diameter | 9.2 ± 0.4 µm @ 1310 nm<br>10.4 ± 0.5 µm @ 1550 nm |
| Cladding Diameter | | 125 ± 0.7µm |
| Coating Diameter, Primary | | 242 ± 5 µm |
| Coating Diameter, Secondary | | 250 ± 5 µm |
| Cladding Non-circularity | | ≤ 0.7 % |
| Core/Cladding Concentricity error | | ≤ 0.5 µm |
| Coating/Cladding Concentricity error | | ≤ 12 µm |
| Attenuation (Homogeneity) | | Max 0.1 dB/km |
| Zero Dispersion Wavelength | | 1300 ~ 1324 nm |
| Zero Dispersion Slope | | ≤ 0.092 ps/(nm$^2$.km) |
| Cut-off Wavelength | λ o (Fiber) | 1150 ~ 1330 nm |
| | λ ∞ (Cable) | ≤1260nm |
| Proof Test Stress | | 100 Kpsi |
| Chromatic Dispersion | λ ; 1285~1340 nm | ≤ 3.5 ps/nm.km |
| | λ = 1550 nm | ≤ 18 ps/nm.km |
| | λ = 1625 nm | ≤ 22 ps/nm.km |
| Polarization mode dispersion (PMD) | | ≤ 0.20 ps/√km |
| Fiber Curl | | ≥ 4M |
| Numerical Aperture | | 0.130 ± 0.010 |
| Group refractive index | 1310 nm | 1.4676 |
| | 1550 nm | 1.4682 |

**Table 1** The Optical, Geometrical Performance of the Single mode Fiber (The specification conforms to the requirement of ISO/IEC11801, ANSI/TIA-568-C.3, IEC 60793-2B1.3, ITU-T G.652D)

## 4. CABLE CONSTRUCTION

The construction of the cable shall be in accordance with Table 2 below.

| Item | | Description |
|---|---|---|
| Number of fibers | | 216 |
| Loose Tube | Material | PBT (Polybutylene Terephthalate) with color coding |
| | Filling Compound | Thixotropic Jelly Compound |
| | Fiber per Tube | 12 |
| | Number | 18 |
| Stranding | Method | Reverse oscillating lay (ROL) technique (SZ Direction) |
| Central Strength Member | Material | FRP (Fiberglass Reinforce with Plastic) |
| | Color | Natural |
| Water Blocking Yarn | Material | Suitable Water Swellable Materials (Dry-Core Technology) |
| Binder & Wrapping | Material | Polyester yarns |
| Water Blocking Tape | Thickness | 0.3 ± 0.05 mm. |
| Ripcord | Material | Plastic thread |
| | Number | 2 |
| Additional Strength Member | Material | Water blocking E-glass yarn (aramid yarn is available on request) |
| Armored | Material | Corrugated chrome steel tape coated with polymer |
| | Thickness | Steel & Polymer coating : 0.25 mm. |
| Outer Sheath | Material | UV-Proof, Black HDPE (with color strip is available on request) |
| | Thickness (Approx.) | 1.6 mm. |
| Cable Diameter (Approx.) | | 15.0 ± 1 mm. |

**Table 2** Construction of ARSS, Outdoor/Multi-tube, Armored, Single Jacket, Fiber optic cable.

## 5. TEMPERATURE RANGE

For the cables covered by this specification, the following temperature ranges apply.

- Operation Temperature : -40°C to +70°C
- Installation Temperature : -40°C to +70°C
- Storage/Shipping Temperature : -40°C to +75°C

## 6. MECHANICAL SPECIFICATION

| Item | | Specification |
|---|---|---|
| Maximum Span Length | Sag 0.5% | 40 m. |
| | Sag 1.0% | 80 m. |
| Maximum Wind Velocity | | 126 km./hr. |
| Max. Tensile load | Installation | 1,800 N. |
| | Operation | 1,000 N. |
| Maximum Crush resistance | | 3,400 N./10 cm. |
| Minimum bending Radius | Installation | 20 x Diameter of Cable |
| | Operation | 10 x Diameter of Cable |

**Table 3** Mechanical Specification of the cable.

## 7. FIBER AND LOOSE TUBE IDENTIFICATION

The color code of the loose tubes and the individual fibers within each loose tube shall be in accordance with Table 4 below TIA/EIA-598-C (Rev. TIA/EIA-598-A) and EIA-359-A Color Code for Fiber and Loose tube Identification.

| No. | Fiber color | Loose Tube color |
|---|---|---|
| 1 | Blue | Blue |
| 2 | Orange | Orange |
| 3 | Green | Green |
| 4 | Brown | Brown |
| 5 | Slate | Slate |
| 6 | White | White |
| 7 | Red | Red |
| 8 | Black | Black |
| 9 | Yellow | Yellow |
| 10 | Violet | Violet |
| 11 | Rose | Rose |
| 12 | Aqua | Aqua |

**Table 4** TIA/EIA-598-C Color Code for Fiber and Loose tube Identification.

## 8. MECHANICAL PERFORMANCE TEST

- Tensile loading Test — TIA/EIA-455-33A and IEC 60794-1-2-E1A
- Compression Test — TIA/EIA-455-41A and IEC 60794-1-2-E3
- Repeated Bending Test — TIA/EIA-455-104A and IEC 60794-1-2-E6
- Impact Test — TIA/EIA-455-25B and IEC 60794-1-2-E4
- Cable Bending Test — IEC 60794-1-2-E11B
- Cable Twist or Torsion Test — TIA/EIA-455-85A and IEC 60794-1-2-E7
- Temperature Cycling Test — TIA/EIA-455-3A and IEC 60794-1-2-F1
- Water Penetration Test — TIA/EIA-455-82B and IEC 60794-1-2-F5