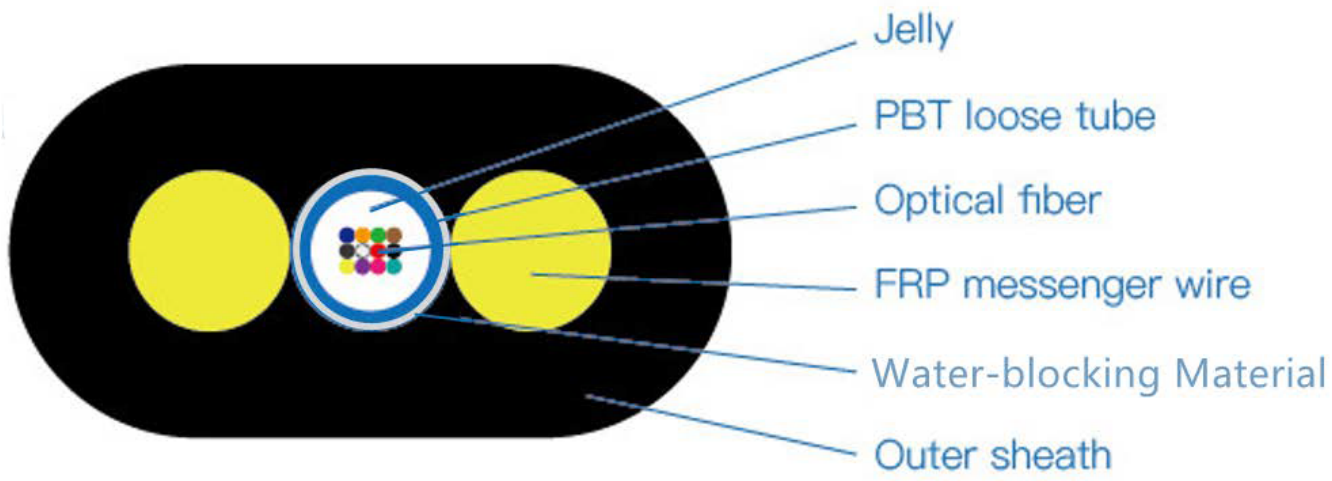
# TECHNICAL DATA SHEET
for
# Single Mode Optical Fiber Cable
# Type: Central Unitube Flat Aerial Drop Cable

## A. Features:

Designed for quick installation and ease in handling, Flat-Span Drop cable serves as the last link for the FTTx networks of today. The design is Uni-Loose Tube containing up to 12 fibers.Two embedded FRP member to provide the mechanical properties of the cable. The finished product, with its compact size, acts as a self-supporting aerial solution for those last mile drops to the customer's home or office.




## B. Laying mode:

Aerial, FTTx

## C. Technical parameter:

| | | | |
|---|---|---|---|
| Fiber count (Core) | | 4-12 | |
| Colored Coating Fiber | Color | Blue, Orange, Green, Brown, Gray, Natural, Red, Black, Yellow, Purple, Pink, Aqua | |
| Loose tube | Dimension | 2.00mm±0.05mm | |
| | Material | PBT | |
| | Color | Natural | |
| Strength Member | Diameter | 1.8mm | |
| | Material | FRP | |
| Outer Jacket | Dimension | 4.2±0.3mm x 8.4mm±0.5mm | |
| | Material | HDPE | |
| | Color | Black | |
| Minimum tensile strength (N) | | Short-term | 2000 |
| | | Long-term | 1000 |
| Crushing (Min) (N/100mm) | | Short-term | 1000 |
| | | Long-term | 300 |
| Bending radius | | Static | 10 times of diameter |
| | | Dynamic | 20 times of diameter |
| Operating temperature range | | -40°C to +70°C | |
| Storage / Transport temperature range | | -50°C to +70°C | |
| Installation temperature range | | -20°C to +60°C | |

**The properties of single mode optical fiber (ITU-T Rec. G.652D)**

| Parameter | Specification |
|---|---|
| Fiber type | Single mode G.652D |
| Fiber material | Doped silica |
| Attenuation coefficient<br>@ 1310 nm<br>@ 1383 nm<br>@ 1550 nm<br>@ 1625 nm | <br>≤ 0.36 dB/km<br>≤ 0.36 dB/km<br>≤ 0.22 dB/km<br>≤ 0.30 dB/km |
| Point discontinuity | ≤ 0.05 dB |
| Cable cut-off wavelength | ≤ 1260 nm |
| Zero-dispersion wavelength | 1300 ~ 1324 nm |
| Zero-dispersion slope | ≤ 0.093 ps/(nm$^2$.km) |
| Chromatic dispersion<br>@ 1288 ~ 1339 nm<br>@ 1271 ~ 1360 nm<br>@ 1550 nm<br>@ 1625 nm | <br>≤3.5 ps/(nm. km)<br>≤5.3 ps/(nm. km)<br>≤18 ps/(nm. km)<br>≤22 ps/(nm. km) |
| $PMD_Q$ (Quadrature average*) | ≤0.2 ps/km$^{1/2}$ |
| Mode field diameter @ 1310 nm | 9.2±0.4 um |
| Core/Clad concentricity error | ≤ 0.5 um |
| Cladding diameter | 125.0 ± 0.7 um |
| Cladding non-circularity | ≤1.0% |
| Primary coating diameter | 245 ± 10 um |
| Proof test level | 100 kpsi (=0.69 Gpa), 1% |
| Temperature dependence 0°C~ +70°C @ 1310 & 1550nm | ≤ 0.1 dB/km |

**Main mechanical & environmental characteristics test**

| NO | Item | Test Method | Acceptance Reqirements |
|---|---|---|---|
| 1 | Tensile Strength<br>IEC 794-1-E1 | - Load: 6, 000 N<br>- Length of cable under load: 50m | - Loss change ≤ 0.1 dB @1550 nm<br>- No fiber break and no sheath damage. |
| 2 | Crush Test<br>IEC 60794-1-E3 | - Load: 1, 000 N/100mm<br>- Load time: ≥1min | - Loss change ≤ 0.1 dB @1550 nm<br>- No fiber break and no sheath damage. |
| 3 | Impact Test<br>IEC 60794-1-E4 | - Points of impact: 5<br>- Times of per point: 5<br>- Impact energy: 4.5Nm<br>- Radius of hammer head: 12.5mm<br>- Impact rate: 2sec/cycle | - Loss change ≤ 0.1 dB @1550 nm<br>- No fiber break and no sheath damage. |
| 4 | Repeated Bending<br>IEC 60794-1-E6 | - Bending Dia.: 20 x OD<br>- Load: 150N<br>- Flexing rate: 3sec/cycle<br>- No. of cycle: 30 | - Loss change ≤ 0.1 dB @1550 nm<br>- No fiber break and no sheath damage. |
| 5 | Torsion<br>IEC 60794-1-E7 | - Length: 1m<br>- Load: 150N<br>- Twist rate: 1min/cycle<br>- Twist angle: ±180°<br>- No. of cycle: 10 | - Loss change ≤ 0.1 dB @1550 nm<br>- No fiber break and no sheath damage. |
| 6 | Water Penetration<br>IEC 60794-1-F5B | - Height of water: 1m<br>- Sample length: 3 m<br>- Time: 24 hour | - No water shall have leaked from the opposite end of cable |
| 7 | Temperature Cycling<br>IEC 60794-1-F1 | - Temperature step:<br>+20°C→-40°C→+60°C →+20°C<br>- Time per each step: 24 hrs<br>- Number of cycle: 2 | - Loss change ≤ 0.1 dB @1550 nm<br>- No fiber break and no sheath damage. |
| 8 | Compound Flow<br>IEC 60794-1-E14 | - Sample length: 30 cm<br>- Temp: 70°C ± 2°C<br>- Time: 24 hours | - No compound flow |
| 9 | Sheath High Voltage Test | - On line test<br>- 9t KV (t-sheath thickness) | - No sheath breakdown |