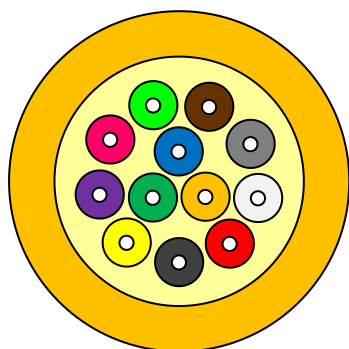


Riser-12 G.657A2

Cable Design

The cable is designed for use in Fiber-To-The-Home (FTTH) application. It is to be installed indoor (within the building), through access, such as trunking, conduit and riser to the nearest access point of the customer or to be installed at the riser (vertical).



- **900um Tight buffered fiber:** LSZH material, containing 1 fiber.
- **Reinforcement member:** Aramid yarns.
- **Outer Sheath:** LSZH, yellow

Cable Specification

| | | |
|------------------------|--------|---------------|
| Fibers core | | 12 |
| Nominal Cable Diameter | mm | 6.5 ± 0.5 |
| Tensile Max | N | 600 |
| Crush Max | N/10cm | 500 |

Cable Application

| Temperature Range | | Minimum Bend Radius | |
|-------------------|----------|---------------------|------|
| Storage | -20~+60℃ | Load | 20×D |
| Operation | -10~+60℃ | Unload | 10×D |

Main Mechanical and Environmental Characteristics

| Test | Test Standard | Specified Value | Acceptance Criteria |
|------------------|-------------------|-------------------------|---|
| Tensile | IEC 60794-1-2-E1 | 600N,5 min | $\Delta\alpha \leq 0.1\text{dB/km}$ after test, no damage |
| Crush | IEC 60794-1-2-E3 | 500N,1min | $\Delta\alpha \leq 0.1\text{dB/km}$ after test, no damage |
| Impact | IEC 60794-1-2-E4 | 1N.m, R=12.5mm, 3points | $\Delta\alpha \leq 0.1\text{dB/km}$ after test, no damage |
| bending | IEC 60794-1-2-E11 | 20D, 6turns, 10cycles | $\Delta\alpha \leq 0.1\text{dB/km}$ after test, no damage |
| Repeated Bending | IEC 60794-1-2-E6 | R=20D, 40N, 25cycles | $\Delta\alpha \leq 0.1\text{dB/km}$ after test, no damage |
| Torsion | IEC 60794-1-2-E7 | 20N, 1m, +/-180° | $\Delta\alpha \leq 0.1\text{dB/km}$ after test, no damage |

Cabled Fiber Performance

| G.657 A2 fiber characteristics | | |
|---|------------------|---|
| Optics specifications | | |
| Attenuation | @1310nm | $\leq 0.340\text{dB/km}$ |
| | @1383nm | $\leq 0.340\text{dB/km}$ |
| | @1550nm | $\leq 0.200\text{dB/km}$ |
| | @1625nm | $\leq 0.240\text{dB/km}$ |
| Attenuation(After cable) | @1310nm | $\leq 0.40\text{dB/km}$ |
| Attenuation(After cable) | @1550nm | $\leq 0.30\text{dB/km}$ |
| Uniformity of attenuation at 1310nm | | $\leq 0.05\text{dB}$ |
| Uniformity of attenuation at 1550nm | | $\leq 0.05\text{dB}$ |
| Cable cut-off wavelength (λ_{cc}) | | $\leq 1260\text{nm}$ |
| Zero-Dispersion wavelength | | 1300nm~1324nm |
| Zero-Dispersion slope | | $\leq 0.092\text{ps}/(\text{nm}^2 \cdot \text{km})$ |
| Absolute value of dispersion at 1288nm~1339nm | | $\leq 3.5\text{ps}/(\text{nm} \cdot \text{km})$ |
| Absolute value of dispersion at 1271nm~1360nm | | $\leq 5.3\text{ps}/(\text{nm} \cdot \text{km})$ |
| Dispersion at 1550nm | | $\leq 18\text{ps}/(\text{nm} \cdot \text{km})$ |
| Dispersion at 1625nm | | $\leq 23\text{ps}/(\text{nm} \cdot \text{km})$ |
| Mode field diameter (MFD) at 1310nm | | $8.60 \pm 0.4\mu\text{m}$ |
| Mode field diameter (MFD) at 1550nm | | 9.4~10.4 μm |
| Polarization mode dispersion (PMD) Fiber | | $\leq 0.125\text{ps}/\text{km}^{1/2}$ |
| Polarization mode dispersion (PMD) Cable | | $\leq 0.200\text{ps}/\text{km}^{1/2}$ |
| PMD coefficient | M | 20 cables |
| | Q | 0.01% |
| | PMD _Q | $\leq 0.20\text{ps}/\text{km}^{1/2}$ |
| Geometrical characteristics | | |
| Cladding diameter | | $125 \pm 0.7\mu\text{m}$ |
| Cladding non-circularity | | $\leq 0.7\%$ |
| Core/cladding concentricity error | | $\leq 0.5\mu\text{m}$ |
| Fiber diameter with coating (uncolored) | | $245 \pm 10\mu\text{m}$ |
| Cladding/coating concentricity error | | $\leq 12.0\mu\text{m}$ |
| Tension test | | 100kpsi or 0.69GPa |
| Mechanical characteristics | | |
| Macrobend loss at 1550nm | R=15mm,10 turns | $\leq 0.03\text{dB}$ |
| | R=10mm,1turn | $\leq 0.10\text{dB}$ |
| | R=7.5mm,1turn | $\leq 0.5\text{dB}$ |
| Macrobend loss at 1625nm | R=15mm,10 turns | $\leq 0.10\text{dB}$ |
| | R=10mm,1turn | $\leq 0.20\text{dB}$ |
| | R=7.5mm,1turn | $\leq 1.0\text{dB}$ |

Fiber & Tube Color

Color Identification of Fiber

| No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------|------|--------|-------|-------|------|-------|-----|-------|--------|--------|------|------|
| Color | Blue | Orange | Green | Brown | Grey | White | Red | Black | Yellow | Violet | Pink | Aqua |

* If the color number is more than 12, the tube color code will be marked black ring and repeated again.

Sheath Marking

The outer sheath is marked in 1 meter intervals as follows:

According to Customer's Requirements

Delivery Lengths

Standard delivery length will be 2km or customer's requirements.