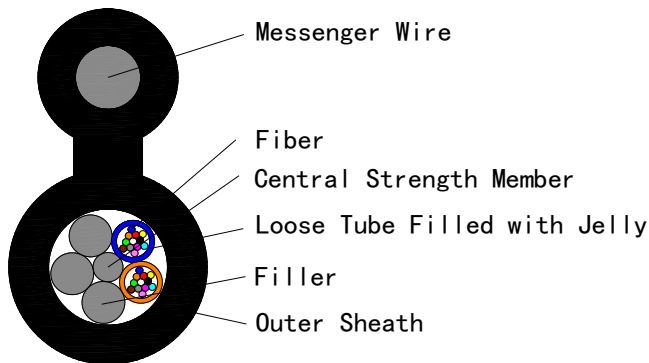


# GYTC8Y

## Cable Design



|                         |                 |
|-------------------------|-----------------|
| No. cable               | 24              |
| Design                  | 2 Tube+3 Filler |
| Fiber type              | G.652D          |
| Messenger Wire          | 2.0             |
| Central Strength Member | Steel wire      |
| Cable Diameter          | 8.3*13.8mm      |
| Outer Sheath            | MDPE            |
| Application             | Aerial          |

## Optical fiber characteristics (G.652D FIBER)

| Category                  | Description                                    |              | Specifications                 |
|---------------------------|------------------------------------------------|--------------|--------------------------------|
|                           |                                                |              | G.652D                         |
| Optical Specifications    | Attenuation                                    | @1310nm      | ≤0.35dB/km                     |
|                           |                                                | @1383nm      | ≤0.35dB/km                     |
|                           |                                                | @1550nm      | ≤0.22dB/km                     |
|                           |                                                | @1625nm      | ≤0.25dB/km                     |
|                           | Attenuation discontinuity                      |              | ≤0.05 dB                       |
|                           | Attenuation vs. Wavelength                     | @1285~1330nm | ≤0.05 dB/km                    |
|                           |                                                | @1525~1575nm | ≤0.05 dB/km                    |
|                           | Zero Dispersion Wavelength                     |              | 1300~1324nm                    |
|                           | Zero Dispersion Slope                          |              | ≤0.092ps/(nm <sup>2</sup> .km) |
|                           | Dispersion                                     | @1310nm      | ≤3.5 ps/nm.km                  |
|                           |                                                | @1550nm      | ≤18 ps/nm.km                   |
|                           | Polarization Mode Dispersion (PMD)             |              | ≤0.2ps/km <sup>1/2</sup>       |
|                           | Cable Cutoff Wavelength(λ <sub>cc</sub> )      |              | ≤1260nm                        |
|                           | Effective Group Index of Refraction            | @1310nm      | 1.4675                         |
|                           |                                                | @1550nm      | 1.4681                         |
|                           | Macro bend loss (30mm radius ,100turns) 1625nm |              | ≤0.1 dB                        |
| Geometric Specifications  | Mode Field Diameter                            | @1310nm      | 9.2±0.6μm                      |
|                           |                                                | @1550nm      | 10.4±0.8μm                     |
|                           | Cladding Diameter                              |              | 125±1μm                        |
|                           | Cladding Non-Circularity                       |              | ≤1.0%                          |
|                           | Coating Diameter                               |              | 245±5μm                        |
|                           | Coating/Cladding Concentricity Error           |              | ≤8μm                           |
| Mechanical Specifications | Core/Cladding Concentricity Error              |              | ≤0.8μm                         |
|                           | Proof Test level                               |              | ≥1.0%                          |
|                           | Fiber Curl Radius                              |              | ≥4.0m                          |
|                           | Peak Coating Strip Force                       |              | 1.3~8.9N                       |

## Technical data

|                                             |                                   |                    |                                 |
|---------------------------------------------|-----------------------------------|--------------------|---------------------------------|
| Messenger Wire                              | Material                          | mm                 | zinc coated steel wire          |
|                                             | Size( $\pm 0.1\text{mm}$ )        |                    | 2.0                             |
| Central Strength Member                     | Material                          | mm                 | Steel wire                      |
|                                             | Diameter ( $\pm 0.05\text{mm}$ )  |                    | 1.5                             |
| Loose Tube                                  | Material                          | mm                 | PBT                             |
|                                             | Diameter ( $\pm 0.05\text{mm}$ )  |                    | 1.9                             |
|                                             | Thickness ( $\pm 0.03\text{mm}$ ) |                    | 0.32                            |
|                                             | MAX.NO. /per                      | /                  | 12                              |
| Outer Sheath                                | Material                          | mm                 | MDPE                            |
|                                             | Thickness                         |                    | 1.5 (nominal)                   |
|                                             | color                             |                    | black.                          |
| Cable Weight( $\pm 10.0\text{kg/km}$ )      |                                   | kg/km              | 100                             |
| Allowable Tensile Strength                  | Short Term                        | N                  | 1500                            |
|                                             | Long Term                         |                    | 600                             |
| Allowable Crush Resistance                  | Short Term                        | N/100              | $\geq 1000$                     |
|                                             | Long Term                         | mm                 | $\geq 300$                      |
| Attenuation                                 | 1310nm                            | dB/km              | $\leq 0.35$                     |
|                                             | 1550nm                            |                    | $\leq 0.21$                     |
| Min. bending radius                         | Without Tension                   | mm                 | $10.0 \times \text{Cable-}\phi$ |
|                                             | Under Maximum Tension             |                    | $20.0 \times \text{Cable-}\phi$ |
| Temperature range<br>( $^{\circ}\text{C}$ ) | Installation                      | $^{\circ}\text{C}$ | -20~+60                         |
|                                             | Transport&Storage                 |                    | -40~+70                         |
|                                             | Operation                         |                    | -40~+70                         |

## Identification

| No.   | 1    | 2      | 3     | 4    | 5    | 6     | 7   | 8     | 9      | 10     | 11   | 12   |
|-------|------|--------|-------|------|------|-------|-----|-------|--------|--------|------|------|
| Color | blue | orange | green | brow | grey | white | red | black | yellow | violet | pink | aqua |

## Loose tube & Filler color

| No.   | 1    | 2      | Filler | Filler | Filler |
|-------|------|--------|--------|--------|--------|
| Color | blue | orange | FR     | FR     | FR     |

## Test

| Parameter           | Test method                                     | Test conditions                                                                                                                                                                                 | Acceptance criteria*                                                       |
|---------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Tensile strength    | IEC 60794-1-2-E1                                | Load: As per cable maximum tensile strength in table above.                                                                                                                                     | Change in Attn <0.05 dB/Km.<br>No damage or rack to cable & no fiber break |
| Crush               | IEC 60794-1-2-E3                                | Short time: 10 min<br>Long time: 120 min<br>Load: As per maximum crush resistance in table above<br>Number of positions: 3 adjacent sections (ensuring one over tube and one over lay reversal) |                                                                            |
| Impact              | IEC 60794-1-2-E4                                | Weight: 1.5 kg<br>Height: 1.0 m<br>Anvil radius: 12.5 mm<br>Impacts: 1                                                                                                                          |                                                                            |
| Torsion             | IEC 60794-1-2-E7                                | Sample length: 1 m<br>Bends: 360° (1turn) clockwise and after measurement (one minute) 720° (2turns) anticlockwise (two minutes)                                                                |                                                                            |
| Bend                | IEC 60794-1-2-E11                               | Mandrel diameter: 180 mm<br>Bend: 360° (1turn)                                                                                                                                                  |                                                                            |
| Bend under tension  | Concurrent to tensile test<br>IEC 60794-1-2-E18 | Mandrel diameter: 360 mm<br>Bend: 360° (1turn)                                                                                                                                                  |                                                                            |
| Temperature cycling | IEC 60794-1-2-F1                                | Sample length: 1000 m (minimum)<br>Temperature range: From -10°C to +70°C                                                                                                                       |                                                                            |
| Compound Flow Test  | IEC 60794-1-2                                   | Sample length: 300mm in an air oven(24Hour) Temperature of 50 °C<br>No Dripping                                                                                                                 |                                                                            |
| Water penetration   | IEC 60794-1-2-F5B                               | Sample length=3m, Water height=1m                                                                                                                                                               | No water leakage after 24 hours                                            |

## Marking:

The color of marking is white, but if the remarking is necessary, the **white color** marking shall be printed newly on a different position.

An occasional unclear of length marking is permitted if both of the neighboring markings are clear.

The both cable ends are sealed with heat shrinkable end caps to prevent water ingress