ZUOYEAL

OPTICAL FIBER CABLE · FIG-8 SELF-SUPPORTING AERIAL

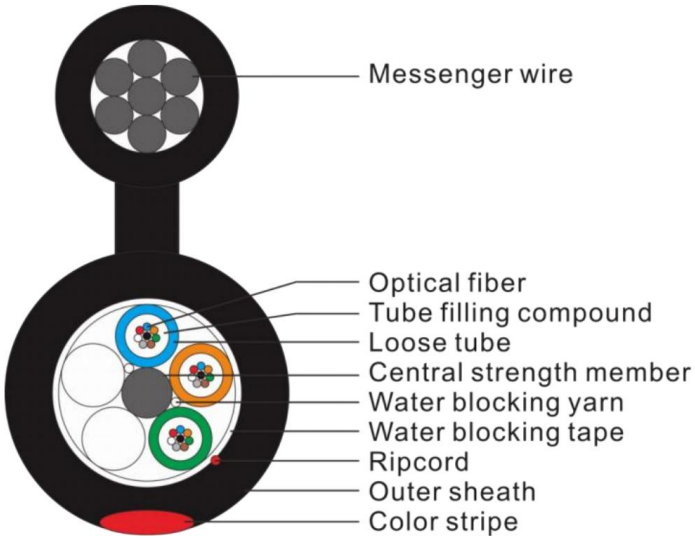
24F

FIG-8 SEMI-DRY

MODEL **GYFHTC8Y**

Single-mode figure-8 self-supporting aerial cable, 24 fibres in a semi-dry loose-tube construction with water-blocking yarn and tape, G.657.A1 fibre.

FIBER COUNT	FIBER TYPE
24	**G.657.A1**
WEIGHT	DRUM
219 kg/km	**4,000 m**



01 STANDARDS

1. Reference

The cable offered by ZUOYEAL is designed, manufactured and tested according to the following standards.

STANDARD	SCOPE
ITU-T G.657	Characteristics of a single-mode optical fibre
IEC 60794-1-1	Optical fibre cables — part 1-1: generic specification, general
IEC 60794-1-2	Optical fibre cables — part 1-2: basic optical cable test procedure
IEC 60794-3	Optical fibre cables — part 3: sectional specification, outdoor cables

02 CROSS-SECTION

2. Cable cross-section

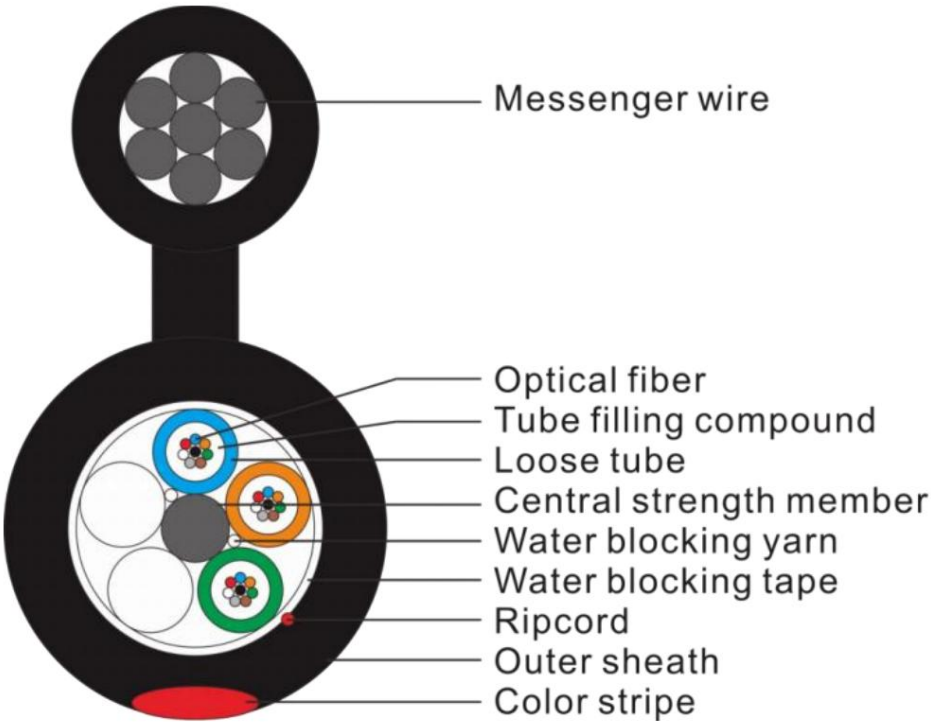


FIG. 1 Cable cross-section (not to scale)

- Optical fibers are housed in semi-dry loose tubes made of high-modulus plastic.
- Water blocking yarn and tape replace filling compound in the cable core.
- FRP is applied as central strength member; loose tubes are SZ stranded around it.
- Galvanised steel wires form the messenger lobe of the figure-8 body.
- Polyethylene sheath is applied as outer sheath, with a red stripe.

03 IDENTIFICATION

3. Cable identification

3.1 FIBER COLOR CODE

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

3.2 LOOSE TUBE (LT) & FILLER ROD (FR) COLOR CODE

FIBRE COUNT	ELEMENT NO.											
	1	2	3	4	5	6	7	8	9	10	11	12
24	LT	LT	LT	FR	FR							

LT = loose tube, FR = filler rod.

04 CONSTRUCTION

4. Cable assembly & dimensions

ITEM	CONTENT	VALUE 24F
Loose tube	Number	3
Loose tube	Outer diameter	3.0 ± 0.1 mm
Loose tube	Thickness	0.35 ± 0.05 mm
Loose tube	Material	PBT
Loose tube	Water blocking	Semi-dry (water blocking yarn & tape)
Filler	Number / material	2 / PP
Max. fiber counts per tube	—	G.657.A1, 8 fibres
Central strength member	Material	FRP
Central strength member	Diameter	2.5 ± 0.1 mm
Central strength member	PE layer diameter	—
Water blocking	Material	Water blocking yarn & tape
Ripcord	Number	1
Messenger wire	Material	Galvanised steel wires
Messenger wire	Nominal diameter	7 × 1.2 - 3.6 mm
Messenger wire	Sheath thickness	Nominal 1.5, minimum 1.2 mm
Web	Height / width	≈2.5 ± 0.5 / ≈2.0 ± 0.3 mm
Stripe	Colour	Red (Pantone 186C)
Outer sheath	Material / colour	PE / black
Outer sheath	Thickness	Nominal 2.0, minimum 1.8 mm
Cable diameter	Approx.	12.9 ± 0.5 mm
Cable height	Approx.	21.6 ± 0.7 mm
Cable weight	Approx.	219 ± 15% kg/km

05 OPTICAL

5. Performance of cabled optical fiber

The performance of cabled optical fiber (ITU-T Rec. G.657.A1).

ITEM	CONDITION	SPECIFICATION
Fiber type		Single mode
Fiber material		Doped silica
Attenuation coefficient	1310 nm	≤ 0.40 dB/km
Attenuation coefficient	1550 nm	≤ 0.22 dB/km
Cable cut-off wavelength		≤ 1260 nm
Zero-dispersion wavelength		1300 - 1322 nm
Zero-dispersion slope		≤ 0.092 ps/(nm²·km)
Chromatic dispersion	1290 - 1330 nm	≤ 2.8 ps/(nm·km)
Chromatic dispersion	1550 nm	≤ 17.5 ps/(nm·km)
PMD		≤ 0.15 ps/√km
Mode field diameter	1310 nm	(8.6 - 9.5) ± 0.4 μm
Core / cladding concentricity error		≤ 0.5 μm
Cladding diameter		124.3 - 125.0 μm
Cladding non-circularity		≤ 1.0 %
Primary coating diameter		242 ± 10 μm

06 PERFORMANCE

6. Performance of optical fiber cable

ITEM	SPECIFICATION
6.1 Bending radius	10 × cable diameter (static) · 20 × cable diameter (dynamic)
6.2 Operating temperature	−40 °C to +70 °C
6.2 Storage / transport temperature	−40 °C to +70 °C
6.2 Installation temperature	−20 °C to +60 °C

6.3 MECHANICAL & ENVIRONMENTAL PERFORMANCE TEST

S/N	ITEM	TEST METHOD	ACCEPTANCE
1	Tensile strength IEC 60794-1-21-E1	2,000 N · 50 m · 1 min	Δ loss ≤ 0.1 dB @1550 nm Strain ≤ 0.33 %
2	Crush test IEC 60794-1-21-E3	800 N/100 mm · ≥ 1 min	Δ loss ≤ 0.1 dB @1550 nm No fibre break, no sheath damage
3	Impact resistance IEC 60794-1-21-E4	25 impacts · 1 per point · 4.5 N·m Hammer radius 12.5 mm · 2 s/cycle	Δ loss ≤ 0.1 dB @1550 nm No fibre break, no sheath damage
4	Repeated bending IEC 60794-1-21-E6	20 × OD · 150 N · 3 s/cycle · 30 cycles	Δ loss ≤ 0.1 dB @1550 nm No fibre break, no sheath damage
5	Torsion IEC 60794-1-21-E7	1 m · 150 N · 1 min/cycle · ±180° · 10 cycles	Δ loss ≤ 0.1 dB @1550 nm No fibre break, no sheath damage
6	Water penetration IEC 60794-1-22-F5B	1 m head · 3 m · 24 h	No water at the opposite end
7	Temperature cycling IEC 60794-1-22-F1	−40 / +70 °C · 12 h per step · 2 cycles	Δ loss ≤ 0.1 dB/km @1550 nm No fibre break, no sheath damage
8	Compound flow IEC 60794-1-21-E14	30 cm · 70 ± 2 °C · 24 h	No compound flow

07 PACKING

7. Packing

DRUM	Each single cable length is wound on an iron stand-wooden composite or pure wooden drum.
STANDARD LENGTH	2,000 / 3,000 / 4,000 m per drum, ±2%.
PROTECTION	Covered by a plastic buffer sheet and sealed with strong wooden battens.
TEST ALLOWANCE	At least 3 m of the cable inner end is reserved for testing.

CABLE TYPE	DRUM LENGTH (m)	D (mm)	d (mm)	B (mm)	b (mm)
GYFHTC8Y 24C	4,000	1,640	700	1,100	970

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This datasheet describes the GYFHTC8Y 24F figure-8 semi-dry aerial cable at the time of publication. Dimensions and configurations may change without notice; confirm current values with ZUOYEAL before ordering.

24F · G.657.A1 · SEMI-DRY

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