SELF-SUPPORTING FIG-8 AERIAL CABLE · 12 FIBRES

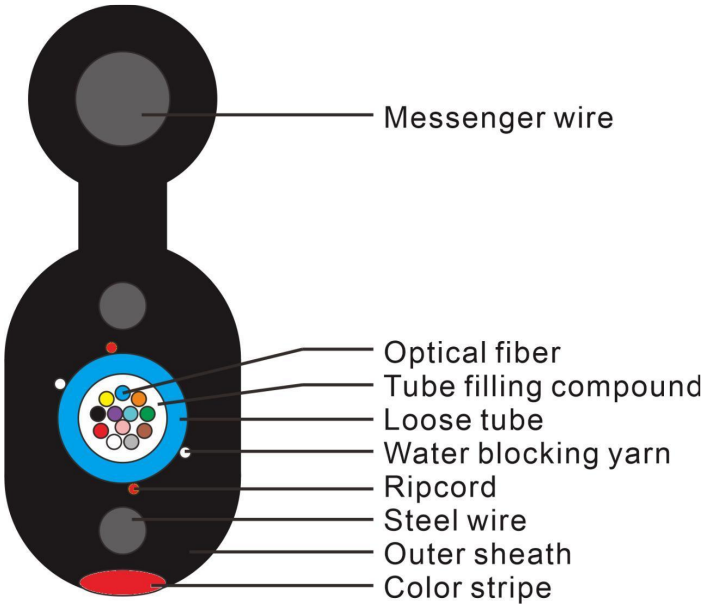
12 F

GYBXTC8H

MODEL **SM G.657A1**

Self-supporting figure-8 aerial cable, 12 single-mode fibres, galvanized steel messenger wire, black LSZH sheath.

FIBRES	TYPE
12	**FIG-8 AERIAL**
SHEATH	WEIGHT
LSZH	**51 kg/km**



01 OVERVIEW

Scope & cable cross-section

The GYBXTC8H is a self-supporting figure-8 aerial optical fibre cable with 12 single-mode fibres in one loose tube, a galvanized steel messenger wire and two steel strength members under a black LSZH sheath. The figure-8 section allows direct suspension on poles without a separate messenger strand, which shortens installation time on aerial distribution routes.

CONSTRUCTION

- Optical fibre inside a PBT loose tube filled with tube filling compound.
- Water blocking yarns and two ripcords (red stripe) around the loose tube.
- Two steel wires 0.8 mm as strength members in the cable body.
- Galvanized steel messenger wire 1.2 mm forms the upper lobe of the figure-8.
- Black LSZH outer sheath over the whole figure-8 section.

CROSS-SECTION

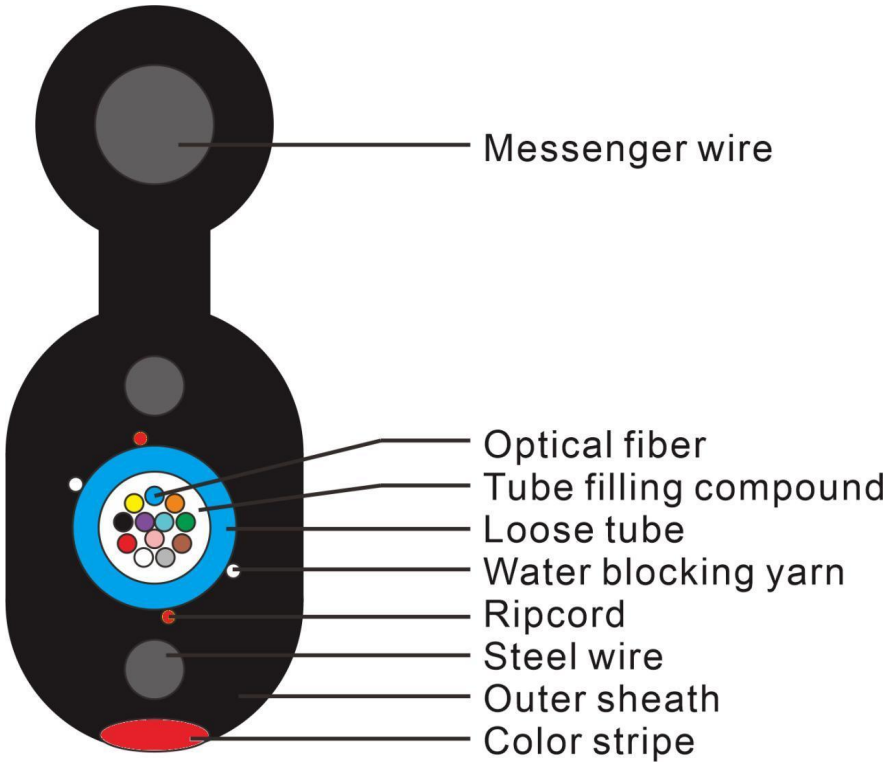


FIG. 1 GYBXTC8H cable cross-section

02 STANDARDS

Design & test references

STANDARD	TITLE
ITU-T G.657	Bending-loss insensitive single-mode optical fibre
IEC 60794-1-1	Optical fibre cables — generic specification
IEC 60794-1-2	Optical fibre cables — basic optical cable test procedures
IEC 60794-3	Optical fibre cables — sectional specification, outdoor cables

03 CABLE IDENTIFICATION

3.1 Fibre colour code

No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Violet	Pink	Aqua

3.2 LOOSE TUBE COLOUR CODE

Loose tube colour: blue (1 tube).

04 CONSTRUCTION & DIMENSIONS

COMPONENT	ITEM	VALUE
Loose tube	Outer diameter	2.2 ± 0.1 mm
Loose tube	Wall thickness	0.35 ± 0.05 mm
Loose tube	Material	PBT
Loose tube	Water blocking	Tube filling compound
Messenger wire	Material	Galvanized steel wire
Messenger wire	Nominal diameter	1.2 ± 0.1 mm
Messenger wire	Water blocking	Water blocking yarns
Strength member	Material	Steel wire
Strength member	Nominal diameter	0.8 ± 0.1 mm
Strength member	Number	2
Ripcord	Number / stripe colour	2 pcs, red stripe
Outer sheath	Material / colour	LSZH, black
Cable	Cable diameter	Approx. (4.0 ± 0.4) × (6.0 ± 0.4) mm
Cable	Height / weight	Approx. 10.0 ± 0.7 mm / 51 ± 15 % kg/km

05 FIBRE PERFORMANCE

Cabled fibre, ITU-T G.657A1

ITEM	SPECIFICATION
Fiber type	Single mode
Fiber material	Doped silica
Attenuation @ 1310 nm	≤ 0.38 dB/km
Attenuation @ 1550 nm	≤ 0.25 dB/km
Cable cut-off wavelength	≤ 1260 nm
Zero-dispersion wavelength	1300 - 1322 nm
Zero-dispersion slope	≤ 0.092 ps/(nm²·km)
PMD	≤ 0.2 ps/√km
Mode field diameter @ 1310 nm	9.2 ± 0.4 μm
Core / clad concentricity error	≤ 0.5 μm
Coating / cladding concentricity error	≤ 12 μm
Cladding diameter	125.0 ± 1.0 μm
Cladding non-circularity	≤ 1.0 %
Primary coating diameter	245 ± 10 μm

06 CABLE PERFORMANCE

Bend radius & temperature

ITEM	SPECIFICATION
Cable bending radius	10 × cable height (static) / 20 × cable height (dynamic)
Operating temperature	−20 °C to +70 °C
Storage / transport temperature	−20 °C to +70 °C
Installation temperature	−20 °C to +60 °C

07 MECHANICAL & ENVIRONMENTAL TESTS

Test methods & criteria

S/N	TEST ITEM	METHOD	ACCEPTANCE CRITERIA
1	Tensile strength	IEC 60794-1-21-E1	Load 1500 N; length under load 50 m; ≥ 1 min; Δα ≤ 0.1 dB @ 1550 nm; no fibre break, no sheath damage.
2	Crush	IEC 60794-1-21-E3	Load 1000 N/100 mm; ≥ 1 min; Δα ≤ 0.1 dB @ 1550 nm; no fibre break, no sheath damage.
3	Impact resistance	IEC 60794-1-21-E4	3 points × 1 impact; 4.5 N·m; hammer head radius 12.5 mm; Δα ≤ 0.1 dB @ 1550 nm.
4	Repeated bending	IEC 60794-1-21-E6	Bending radius 20 × OD; 25 cycles; Δα ≤ 0.1 dB @ 1550 nm; no fibre break, no sheath damage.
5	Torsion	IEC 60794-1-21-E7	Length 1 m; ± 90°; 10 cycles; Δα ≤ 0.1 dB @ 1550 nm; no fibre break, no sheath damage.
6	Water penetration	IEC 60794-1-22-F5B	Water height 1 m; sample 3 m; 24 h; no water at the opposite end.
7	Temperature cycling	IEC 60794-1-22-F1	−20 °C / +70 °C; dwell 12 h; 2 cycles; Δα ≤ 0.15 dB/km @ 1550 nm; no sheath damage.
8	Compound flow	IEC 60794-1-21-E14	Sample 30 cm; 70 ± 2 °C; 24 h; no compound flow.

08 PACKING

Drum length & dimensions

- Each cable length is wound on an iron-stand wooden composite or pure wooden drum.
- Standard drum length 2,000 / 3,000 / 4,000 / 5,000 m with ± 2 %.
- Covered by a plastic buffer sheet.
- Sealed by strong wooden battens or cartons.
- At least 3 m of the cable inner end is reserved for testing.

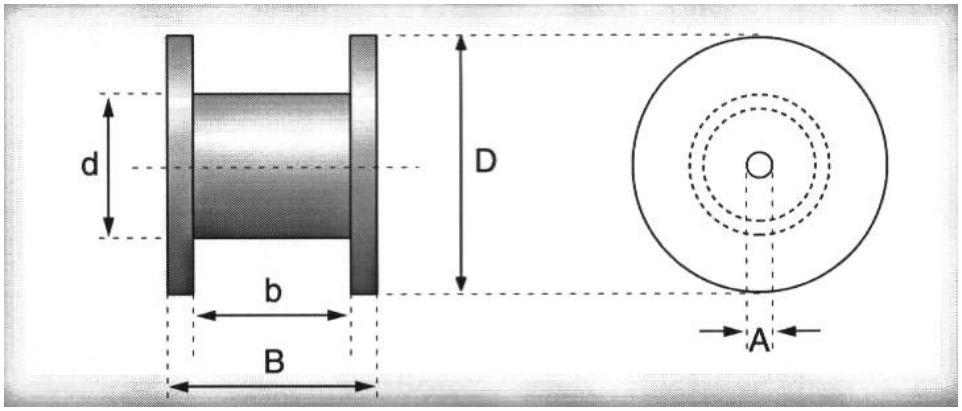


FIG. 2 Drum dimensions — D includes the seal dimension

STANDARD DRUM LENGTH & DIMENSIONS

CABLE TYPE	DRUM LENGTH (m)	D (mm)	d (mm)	B (mm)	b (mm)
GYBXTC8H 12C	2,000	730	320	550	514

D (-2, +12) mm, d (±10) mm, B (-5, 0) mm.

ZUOYEAL

ZUOYEAL TECHNOLOGY

Connecting More, With Fiber

www.zuoyealoptic.com · trade@zuoyeal.com

This datasheet describes the GYBXTC8H self-supporting figure-8 aerial cable at the time of publication. Dimensions and configurations may change without notice; confirm current values with ZUOYEAL before ordering.

12F · LSZH · 51kg/km

Connecting More, With Fiber