SINGLE MODE OPTICAL FIBER CABLE · SELF-SUPPORTING AERIAL

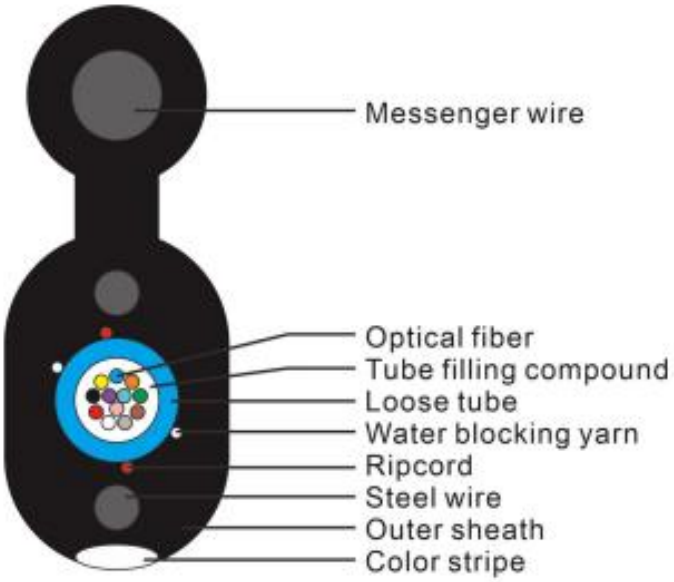
12C

FIG-8 AERIAL

MODEL **GYBXTC8Y**

Single-mode figure-8 self-supporting aerial cable with one 12-fibre loose tube, steel strength wires, water-blocking yarns and a galvanised steel messenger lobe.

FIBRE COUNT	FIBRE TYPE
12	**G.652D**
WEIGHT	**DRUM**
56 kg/km	**2,000 m**



01 OVERVIEW

Product overview

The GYBXTC8Y is a single-mode figure-8 cable for self-supporting aerial installation. A single PBT loose tube carries 12 G.652D fibres; steel strength wires sit above and below the tube, water-blocking yarns run along the core, and the messenger lobe holds a 1.6 mm galvanised steel wire.

The cable is sheathed in black PE with a white stripe, stands 10.0 mm high with a 4.0 × 6.0 mm body, and weighs 56 kg/km. Standard drum length is 2,000 m.

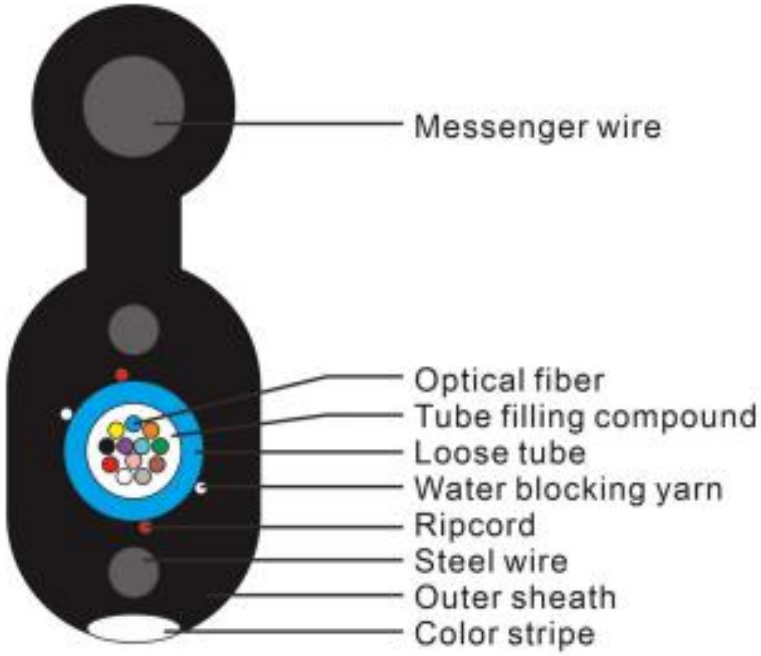


FIG. 1 Cable cross-section (not to scale)

AT A GLANCE

ITEM	VALUE	ITEM	VALUE
Fibre count	12	Loose tubes	1
Cable diameter	4.0 × 6.0 mm	Cable height	10.0 mm
Cable weight	56 kg/km	Operating range	−20 to +70 °C

02 STANDARDS

Reference standards

STANDARD	SCOPE
ITU-T G.652	Characteristics of a 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 CONSTRUCTION

Cable assembly & dimensions

ITEM	CONTENT	VALUE
Fiber	Qty	12
Loose tube	Number	1
Loose tube	Outer diameter	2.2 ± 0.1 mm
Loose tube	Thickness	0.35 ± 0.05 mm
Loose tube	Material	PBT
Loose tube	Water blocking	Tube filling compound
Messenger wire	Material	Galvanised steel wire
Messenger wire	Nominal diameter	1.6 ± 0.1 mm
Water blocking	Material	Water blocking yarns
Strength member	Material	Steel wire
Strength member	Nominal diameter	0.8 ± 0.1 mm
Ripcord	Number	2
Stripe	Colour	White
Outer sheath	Material / colour	PE / black
Cable diameter	Approx.	(4.0 ± 0.4) × (6.0 ± 0.4) mm
Cable height	Approx.	10.0 ± 0.7 mm
Cable weight	Approx.	56 ± 15% kg/km

04 IDENTIFICATION

Cable identification

3.1 FIBER COLOUR 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

Fibres are counted 1 to 12 in the loose tube using the colours above.

3.2 LOOSE TUBE COLOUR CODE

ELEMENT	COLOUR
Loose tube no. 1	Blue

The cable carries a single loose tube, identified by the colour blue.

05 OPTICAL

Performance of cabled optical fibre

ITEM	CONDITION	SPECIFICATION
Fiber type		Single mode, ITU-T G.652D
Fiber material		Doped silica
Attenuation coefficient	1310 nm	≤ 0.36 dB/km
Attenuation coefficient	1550 nm	≤ 0.22 dB/km
Cable cut-off wavelength		≤ 1260 nm
Zero-dispersion wavelength		1300 - 1324 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 / cladding concentricity error		≤ 0.5 μm
Cladding diameter		125.0 ± 1.0 μm
Cladding non-circularity		≤ 1.0 %
Primary coating diameter		245 ± 10 μm

06 PERFORMANCE

Performance of optical fibre cable

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

07 TESTING

Mechanical & environmental performance

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 No fibre break, no sheath damage
2	Crush test IEC 60794-1-21-E3	1,000 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	5 points · 1 impact each · 4.5 N·m Hammer radius 12.5 mm	Δ loss ≤ 0.1 dB @1550 nm No fibre break, no sheath damage
4	Repeated bending IEC 60794-1-21-E6	20 × cable diameter · 25 cycles	Δ loss ≤ 0.1 dB @1550 nm No fibre break, no sheath damage
5	Torsion IEC 60794-1-21-E7	1 m · ±90° · 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	−20 / +70 °C · 12 h per step · 2 cycles	Δ loss ≤ 0.15 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

08 PACKING

Packing & drum

DRUM	Each single cable length is wound on an iron stand-wooden composite or pure wooden drum.
STANDARD LENGTH	2,000 / 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.

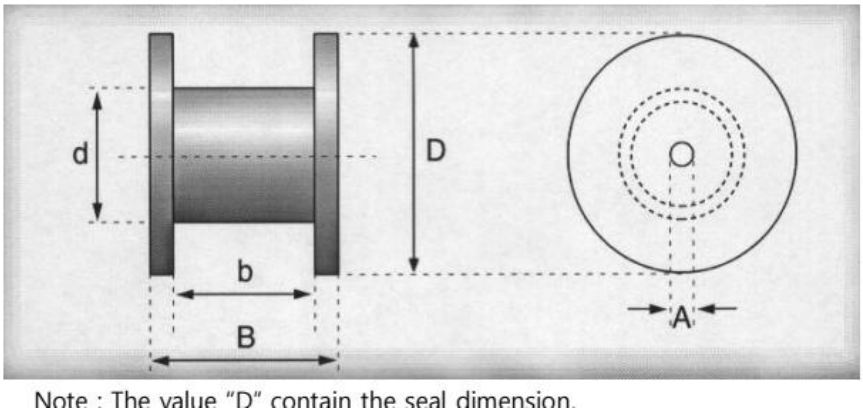


FIG. 2 Drum dimensions — D contains the seal dimension

CABLE TYPE	DRUM LENGTH (m)	D (mm)	d (mm)	B (mm)	b (mm)
GYBXTC8Y 12C	2,000	730	320	550	514

ZUOYEAL

ZUOYEAL TECHNOLOGY

Connecting More, With Fiber

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This datasheet describes the GYBXTC8Y 12C figure-8 aerial cable at the time of publication. Dimensions, weights and configurations may change without notice; confirm current values with ZUOYEAL before ordering.

12C · G.652D · SELF-SUPPORTING

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