ZUOYEAL

SINGLE-MODE OPTICAL FIBRE CABLE SERIES

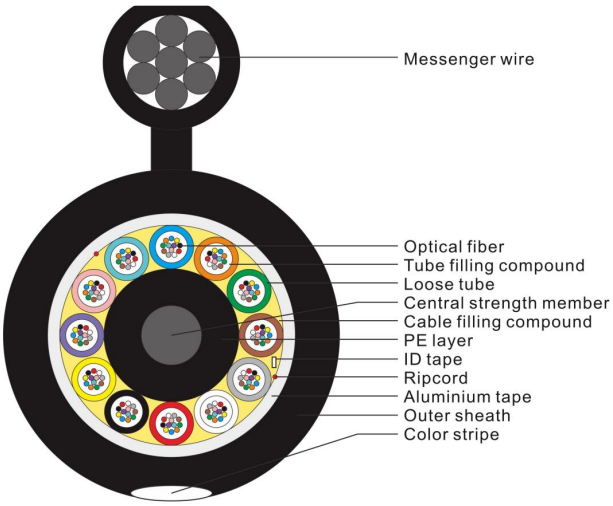
12–288C

FIG-8 AERIAL

MODEL **GYFTC8A**

One self-supporting figure-8 design from 12 to 288 fibres: two to twenty-four PBT loose tubes around a central FRP strength member, sheathed with aluminium tape and black HDPE next to a galvanised steel messenger. G.652D fibre.

FIBRE COUNT	FIBRE TYPE
12 – 288	**G.652D**
WEIGHT	DRUM
201–434 kg/km	**4,000 m**



01 OVERVIEW

Product overview

The GYFTC8A is a series of single-mode optical fibre cables for self-supporting aerial applications, built on one figure-8 body from 12 to 288 fibres. Two to twenty-four PBT loose tubes are stranded around a central FRP strength member; the core is wrapped in aluminium tape and a black HDPE sheath, and the messenger lobe carries a galvanised steel strand.

Tubes and the cable core are filled with water-blocking compound, and the sheath carries a white stripe for identification. Every count in the series is supplied on 4,000 m drums; dimensions, weights and messenger size change with the fibre count — see the series table on page 3.

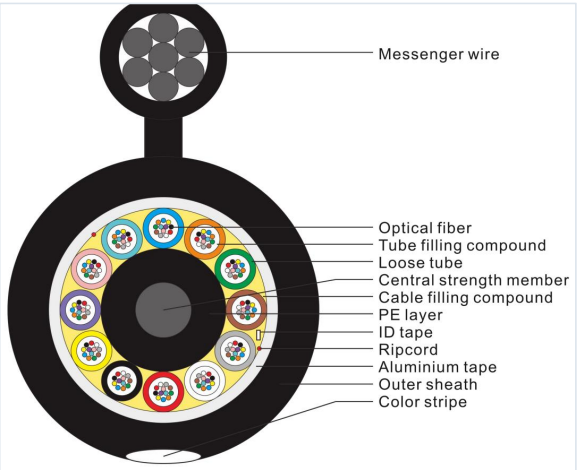


FIG. 01 Figure-8 cross-section

KEY FEATURES

01 One design, 12–288 fibres
Two to twenty-four loose tubes on a common figure-8 body.

02 G.652D fibre
≤ 0.36 dB/km at 1310 nm and ≤ 0.22 dB/km at 1550 nm.

03 Moisture barrier
Jelly-filled tubes, cable filling compound and aluminium tape.

04 Self-supporting
7 × 1.2 or 7 × 1.6 mm messenger; −40 °C to +70 °C.

APPLICATIONS

AERIAL	FEEDER	BACKBONE	RURAL
Self-supporting	Feeder & trunk	Metro backbone	Long rural spans

AT A GLANCE

FIBRE COUNTS	MESSENGER	CABLE DIAMETER	CABLE WEIGHT
12 – 288	**7 × 1.2 / 7 × 1.6 mm**	**12.0 – 18.7 mm**	**201 – 434 kg/km**

02 STANDARDS

Reference standards

STANDARD	SCOPE
ITU-T G.652	Characteristics of a single-mode optical fibre and cable
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

Construction & dimensions

FIBRE COUNT	12	24	48	72	96	144	216	288
Loose tubes	2	4	8	6	8	12	6+12	9+15
Tube diameter (mm)	2.4	2.4	1.9	2.2	2.2	2.2	2.2	2.2
Max. fibres per tube	6	6	6	12	12	12	12	12
Fillers	4	2	0	0	0	0	0	0
CSM diameter (mm)	2.1	2.1	2.8	2.4	2.5	2.4	2.4	2.4
CSM PE layer OD (mm)	2.6	2.6	3.5	–	3.8	6.6	–	4.4
Messenger wire	7×1.2	7×1.2	7×1.2	7×1.2	7×1.6	7×1.6	7×1.6	7×1.6
Cable diameter (mm)	12.9	12.9	12.8	12.0	13.7	16.5	16.5	18.7
Cable height (mm)	20.6	20.6	20.5	20.0	22.6	25.7	25.7	27.9
Cable weight (kg/km)	220	220	220	201	295	365	369	434

COMMON TO ALL COUNTS

TUBES & FILLERS
PBT tube, wall 0.3 mm, filled with thixotropic compound; PP filler rods where a slot is empty.

CORE & BARRIER
FRP central strength member with PE layer, cable filling jelly, ID tape, ripcord and aluminium tape.

SHEATH
Black HDPE, 2.0 ± 0.2 mm, white stripe; web 2.5 × 2.0 mm; messenger sheath 1.0 ± 0.1 mm.

04 IDENTIFICATION

Fibre & tube identification

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

Fibre colour code Fibres are counted 1 to 12 in each tube using the colours above.

LOOSE TUBE (LT) & FILLER ROD (FR) COLOUR CODE

FIBRE COUNT	ELEMENT NO.											
	1	2	3	4	5	6	7	8	9	10	11	12
12	LT	LT	FR	FR	FR	FR						
24	LT	LT	LT	LT	FR	FR						
48	LT	LT	LT	LT	LT	LT	LT	LT				
72	LT	LT	LT	LT	LT	LT						
96	LT	LT	LT	LT	LT	LT	LT	LT				
144	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT
216	LT	LT	LT	LT	LT	LT						
	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT
288	LT	LT	LT	LT	LT	LT	LT	LT	LT			
	LT+BS	LT+BS	LT+BS	LT+BS	LT+BS	LT+BS	LT+BS	LT+YS	LT+BS	LT+BS	LT+BS	LT+BS
	LT	LT	LT									

LT = loose tube, FR = filler rod, BS = black stripe, YS = yellow stripe. Element 1 starts blue, element 2 orange, and so on with the fibre colour code above. Blank positions carry no element.

HOW TO SPECIFY

MODEL	GYFTC8A-<fibres>C — for example GYFTC8A-96C
FIBRE COUNT	12 · 24 · 48 · 72 · 96 · 144 · 216 · 288
DRUM	4,000 m per drum (±2%); other lengths on request

05 OPTICAL

Optical performance

ITEM	SPECIFICATION
Fibre type	Single-mode, ITU-T G.652D
Fibre material	Doped silica
Attenuation @ 1310 nm	≤ 0.36 dB/km
Attenuation @ 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)
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 ± 0.7 μm
Cladding non-circularity	≤ 1.0 %
Primary coating diameter	245 ± 10 μm

06 PERFORMANCE

Cable performance

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

Temperature cycling The mechanical and environmental tests in section 07 are carried out at the extremes above, with the acceptance conditions listed there.

07 TESTING

Mechanical & environmental tests

ITEM	TEST METHOD	ACCEPTANCE
Tensile strength IEC 60794-1-2-E1	7 kN for 12–72F · 11 kN for 96–288F 50 m under load · ≥ 1 min	Δ loss ≤ 0.1 dB @1550 nm No fibre break, no sheath damage
Crush IEC 60794-1-2-E3	1000 N · ≥ 1 min	Δ loss ≤ 0.1 dB @1550 nm No fibre break, no sheath damage
Impact IEC 60794-1-2-E4	5 points · 1 impact each · 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
Repeated bending IEC 60794-1-2-E6	20 × cable diameter · 150 N 3 s/cycle · 25 cycles	Δ loss ≤ 0.1 dB @1550 nm No fibre break, no sheath damage
Torsion IEC 60794-1-2-E7	1 m · 150 N · 1 min/cycle · ±180° 10 cycles	Δ loss ≤ 0.1 dB @1550 nm No fibre break, no sheath damage
Water penetration IEC 60794-1-2-F5B	1 m head · 3 m sample · 24 h	No water at the opposite end
Temperature cycling IEC 60794-1-2-F1	+20 → −40 → +70 → +20 °C 12 h per step · 2 cycles	Δ loss ≤ 0.10 dB/km @1550 nm No fibre break, no sheath damage
Compound flow IEC 60794-1-2-E14	30 cm sample · 70 °C ± 2 °C · 24 h	No compound flow

Test notes Tests are carried out on finished cable to IEC 60794-1-2. Acceptance is the change in attenuation measured at 1550 nm against the pre-test value, together with a visual check for fibre break and sheath damage.

08 PACKING

Packing & drum

DRUM	Each single length is wound on an iron stand-wooden composite or pure wooden drum.
STANDARD LENGTH	2,000 / 3,000 / 4,000 / 5,000 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.

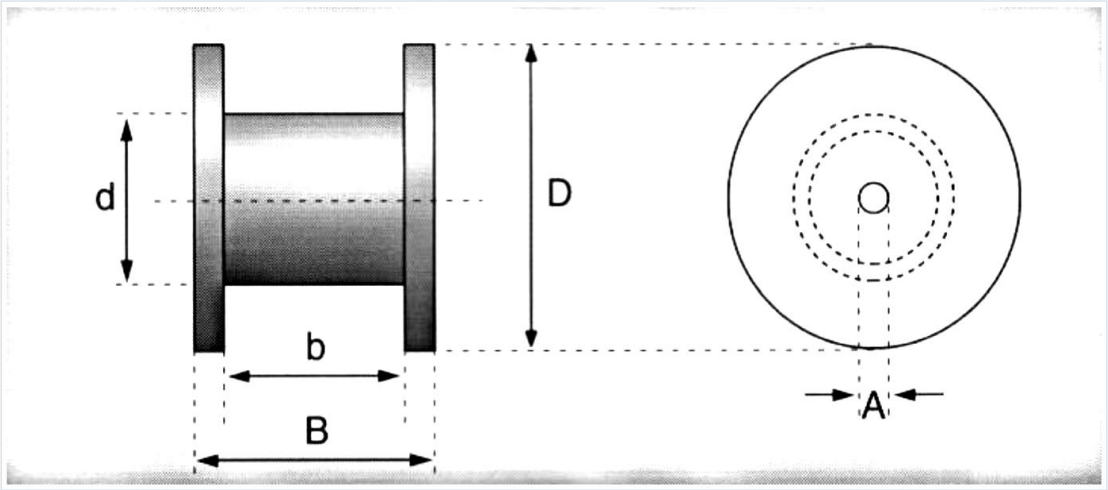


FIG. 02 Drum dimensions — D contains the seal dimension

DRUM DIMENSIONS BY CABLE TYPE

CABLE TYPE	DRUM LENGTH (m)	D (mm)	d (mm)	B (mm)	b (mm)
GYFTC8A 12C	4,000	1,540	700	1,100	980
GYFTC8A 24C	4,000	1,540	700	1,100	980
GYFTC8A 48C	4,000	1,540	700	1,100	980
GYFTC8A 72C	4,000	1,540	700	1,100	980
GYFTC8A 96C	4,000	1,640	700	1,100	940
GYFTC8A 144C	4,000	2,040	1,100	1,100	940
GYFTC8A 216C	4,000	2,038	1,100	1,100	1,000
GYFTC8A 288C	4,000	2,238	1,200	1,100	970

Other fibre counts and drum lengths on request.

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ZUOYEAL TECHNOLOGY

Connecting More, With Fiber

This datasheet describes the GYFTC8A figure-8 aerial cable series at the time of publication. Dimensions, weights and configurations may change without notice; confirm current values with ZUOYEAL before ordering.

12–288C SELF-SUPPORTING AERIAL CABLE

GYFTC8A · G.652D · FIG-8