SINGLE-MODE OPTICAL FIBRE CABLE SERIES

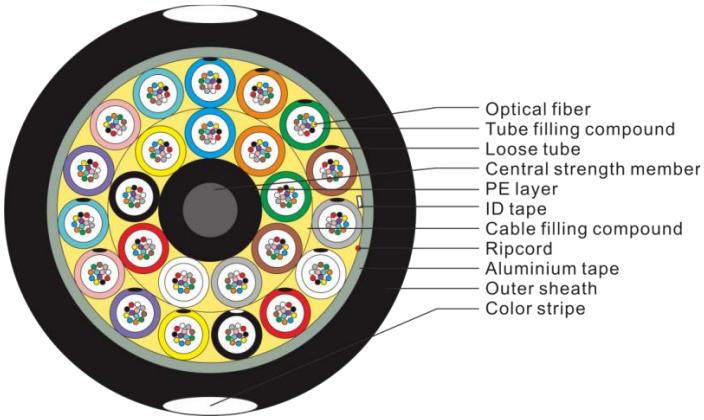
12-288C

ARMORED CABLE

MODEL **GYFTA**

One stranded loose-tube design from 12 to 288 fibres: PBT tubes around a central FRP strength member, aluminium tape and a black PE sheath. G.652D fibre.

FIBRE COUNT	LOOSE TUBES
12-288	**2-24**
ARMOUR	JACKET
AL TAPE	**PE**



01 OVERVIEW

Product overview

The GYFTA is a single-mode optical fibre cable for aerial and duct installation, built on one stranded loose-tube core 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 PE sheath.

Tubes and the cable core are filled with water-blocking compound, two white stripes run along the sheath, and every count is supplied on 4,000 m drums. Dimensions and weights change with the fibre count — see the series table on page 3.

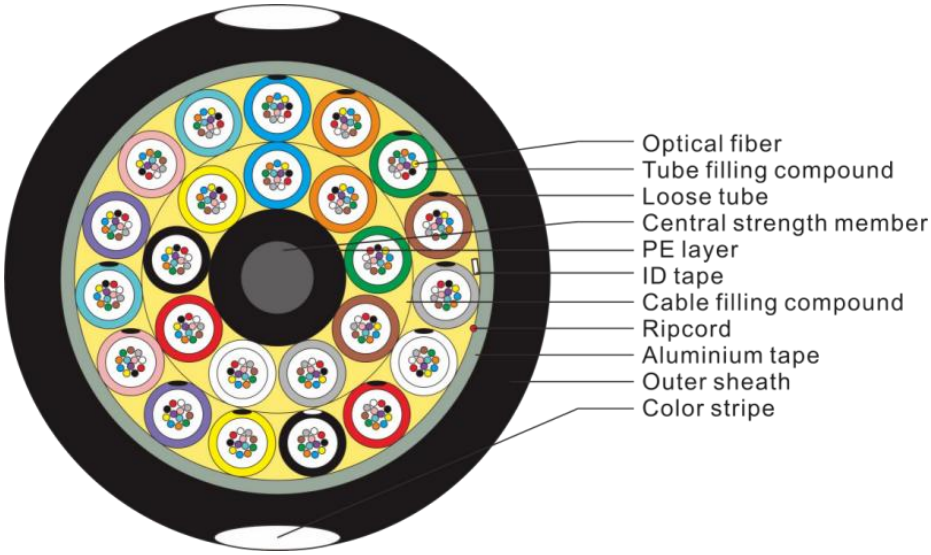


FIG. 1 Cable cross-section (not to scale)

KEY FEATURES

- Eight stock counts from 12 to 288 fibres on one design
- G.652D fibre: ≤ 0.35 dB/km at 1310 nm and ≤ 0.21 dB/km at 1550 nm
- Moisture barrier: jelly-filled tubes, filling compound and aluminium tape
- 112-316 kg/km, operating range −40 °C to +60 °C

APPLICATIONS

AERIAL	DUCT	BACKBONE	FTTH
Self-supporting spans	In-duct	Metro trunk	Access networks

AT A GLANCE

ITEM	VALUE	ITEM	VALUE
Fibre counts	12 · 24 · 48 · 72 · 96 · 144 · 216 · 288	Cable diameter	11.8 - 19.5 mm
Cable weight	112 - 316 kg/km	Operating range	−40 to +60 °C

02 STANDARDS

Reference standards

STANDARD	SCOPE
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)	2.2	2.2	2.0	2.4	2.4	2.4	2.4	2.4
Tube wall (mm)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Max. fibres per tube	6	6	6	12	12	12	12	12
Fillers	4	2	0	0	0	0	0	0
CSM diameter (mm)	2.4	2.4	2.4	2.6	2.6	2.6	2.6	2.6
CSM PE layer OD (mm)	–	–	3.5	–	4.2	7.3	–	4.9
Cable diameter (mm)	11.8	11.8	12.5	12.4	14.0	17.1	17.2	19.5
Cable weight (kg/km)	113	112	127	127	161	239	244	316

Common to all counts: PBT loose tube, wall 0.3 ± 0.05 mm, filled with thixotropic compound; PP filler rods where a slot is empty; FRP central strength member with PE layer; cable filling compound; one ripcord; aluminium tape; black PE sheath, nominal 2.0 mm (minimum 1.8 mm), two white stripes.

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						
72	LT	LT	LT	LT	LT	LT						
48/96	LT	LT	LT	LT	LT	LT	LT	LT				
144	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 colour code above.

HOW TO SPECIFY

MODEL	GYFTA-<fibres>C — for example GYFTA-144C
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	≤ 0.35 dB/km
Attenuation @ 1550 nm	≤ 0.21 dB/km
Cable cut-off wavelength	≤ 1260 nm
Zero-dispersion wavelength	1300 - 1324 nm
Zero-dispersion slope	≤ 0.093 ps/(nm²·km)
Chromatic dispersion @ 1288-1339 nm	≤ 3.5 ps/(nm·km)
Chromatic dispersion @ 1271-1360 nm	≤ 5.3 ps/(nm·km)
Chromatic dispersion @ 1550 nm	≤ 18 ps/(nm·km)
Chromatic dispersion @ 1625 nm	≤ 22 ps/(nm·km)
PMD	≤ 0.2 ps/√km
Mode field diameter @ 1310 nm	9.2 ± 0.4 μm
Core / cladding concentricity error	≤ 0.6 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 +60 °C
Storage / transport temperature	−40 °C to +70 °C
Installation temperature	−20 °C to +60 °C

07 TESTING

Mechanical & environmental tests

S/N	ITEM	TEST METHOD	ACCEPTANCE
1	Tensile strength IEC 60794-1-2-E1	2,000 N for 12/24/72/96C · 1,800 N for 48/144/216/288C 50 m · 1 min	Δ loss ≤ 0.1 dB @1550 nm Fibre strain ≤ 0.33 %
2	Crush IEC 60794-1-2-E3	1,000 N/100 mm · 1 min	Δ loss ≤ 0.1 dB @1550 nm No fibre break
3	Impact IEC 60794-1-2-E4	10 points · 2 impacts each · 450 g × 1 m	Δ loss ≤ 0.1 dB @1550 nm No fibre break
4	Repeated bending IEC 60794-1-2-E6	20 × cable diameter · 3 s/cycle · 30 cycles	Δ loss ≤ 0.1 dB @1550 nm No fibre break
5	Torsion IEC 60794-1-2-E7	1 m · ±180° · 10 cycles	Δ loss ≤ 0.1 dB @1550 nm No fibre break
6	Water penetration IEC 60794-1-2-F5B	1 m head · 3 m sample · 24 h	No water at the opposite end
7	Temperature cycling IEC 60794-1-2-F1	+20 → −40 → +70 → +20 °C 12 h per step · 2 cycles	Δ loss ≤ 0.1 dB/km @1550 nm No fibre break
8	Compound flow IEC 60794-1-2-E14	30 cm sample · 70 ± 2 °C · 24 h	No compound flow

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 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.

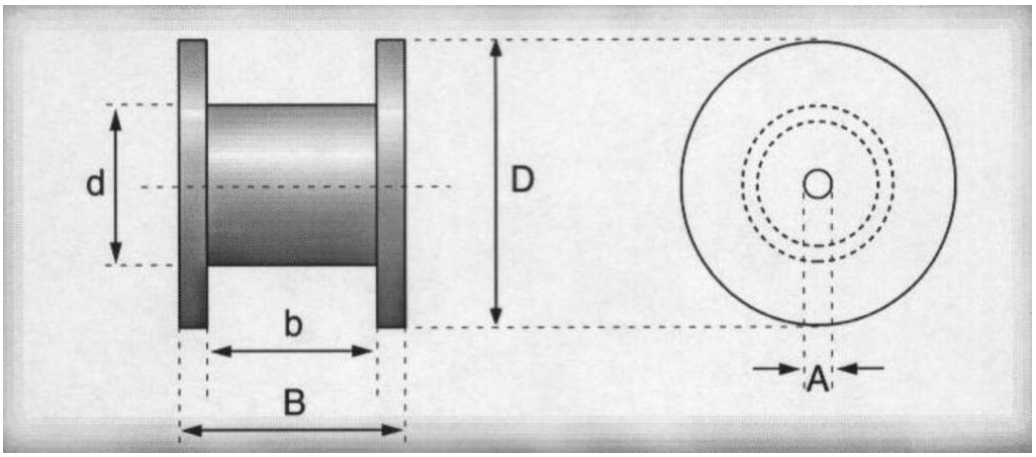


FIG. 2 Drum dimensions — D contains the seal dimension

CABLE TYPE	DRUM LENGTH (m)	D (mm)	d (mm)	B (mm)	b (mm)
GYFTA 12/24C	4,000	1,286	500	710	660
GYFTA 48/72C	4,000	1,288	580	1,100	1,000
GYFTA 96C	4,000	1,438	700	1,100	1,000
GYFTA 144/216C	4,000	1,638	700	1,100	970
GYFTA 288C	4,000	1,838	900	1,100	970

Other fibre counts and drum lengths on request.

ZUOYEAL

ZUOYEAL TECHNOLOGY

Connecting More, With Fiber

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

12–288 F · G.652D · AERIAL / DUCT

Connecting More, With Fiber