PRODUCT SPECIFICATION · NON-METALLIC STRANDED LOOSE-TUBE DUCT AND AERIAL CABLE

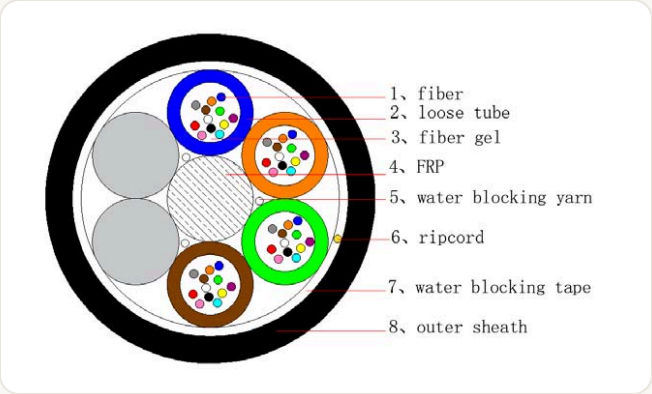
GYFTY-48

48 single-mode G.652.D fibers in four icky-pick-filled PBT loose tubes stranded around an FRP central strength member, with water blocking yarn and tape under a black HDPE sheath. All-dielectric, for duct and lashed aerial installs.

48F · G.652.D · Duct / aerial · All-dielectric · HDPE

CABLE OD	WEIGHT	TENSILE, LONG / SHORT TERM	CRUSH, SHORT TERM	PER DRUM
0.43 ± 0.020 in (10.8 ± 0.5 mm)	62 lb/kft ± 20% (92 kg/km ± 20%)	202 lbf (900 N) / 607 lbf (2,700 N)	57 lbf/in (1,000 N/100 mm)	9,843 ft (3 km)

Cross-section



Fiber color code

1 Blue	2 Orange	3 Green	4 Brown
5 Slate (Gray)	6 White	7 Red	8 Black
9 Yellow	10 Violet	11 Rose (Pink)	12 Aqua

Fixed sequence for fibers 1–12. Fibers 13–24 repeat the same colors with a black tracer stripe.

Loose tube color code

1 Blue	2 Orange	3 Green	4 Brown
5 Slate (Gray)	6 White	7 Red	8 Black
9 Yellow	10 Violet	11 Rose (Pink)	12 Aqua

Fiber and loose tube colors follow the same sequence. Fillers are natural color.

Cable construction

ITEM	PROPERTY	VALUE
Fiber	Type / count	G.652.D single-mode / 48
Loose tube	Material	PBT
Loose tube	Diameter	0.098 in (2.5 mm)
Loose tube	Filling compound	Icky pick
Loose tube	Number	4
Filler	Material / number	PP / 2
Fibers per tube	Max.	12
Central strength member	Material	FRP
Water blocking	Material	Water blocking yarns and tape
Ripcord	Number	1
Outer sheath	Material / color	HDPE / black
Cable	Diameter*	0.43 ± 0.020 in (10.8 ± 0.5 mm)
Cable	Weight	62 lb/kft ± 20% (92 kg/km ± 20%)

* Outside diameter is for reference; the actual OD after production governs.

Mechanical and environmental performance

Tensile, long term	202 lbf (900 N)
Tensile, short term	607 lbf (2,700 N)
Crush, short term	57 lbf/in (1,000 N/100 mm)
Min. bend radius, static	12.5 × OD = 5.3 in (135 mm)
Min. bend radius, dynamic	25 × OD = 10.6 in (270 mm)

OD = cable outside diameter. Static radius applies after installation; dynamic radius applies while pulling.

Type tests

TEST	METHOD	REQUIREMENT
Tensile performance IEC 60794-1-21-E1	Tensile load held 1 min on not less than 164 ft (50 m) of cable; transfer speed 0.39 in/min (10 mm/min).	Short term: attenuation increase ≤ 0.1 dB and fiber strain ≤ 0.6%. Long term: fiber strain ≤ 0.2% and no change in attenuation. No attenuation increase after test at 1550 nm. Under visual examination without magnification, no damage to the sheath or cable elements.
Crush IEC 60794-1-21-E3	Short-term load 57 lbf/in (1,000 N/100 mm) for 1 min; 3 tests spaced 19.7 in (500 mm) apart.	Attenuation increase < 0.1 dB at 1550 nm after the test. Under visual examination without magnification, no damage to the sheath or cable elements. The imprint of the striking surface on the sheath is not considered mechanical damage.
Impact IEC 60794-1-21-E4	Impact energy 3.3 ft·lbf (4.5 J), striking surface radius 11.8 in (300 mm); 1 impact at each of 3 places at least 19.7 in (500 mm) apart.	No change in attenuation after test at 1550 nm. Under visual examination without magnification, no damage to the sheath or cable elements. The imprint of the striking surface on the sheath is not considered mechanical damage.
Repeated bending IEC 60794-1-21-E6	Bend radius 20 × cable OD; 25 cycles; load 34 lbf (150 N); about 2 s per cycle.	No change in attenuation at 1550 nm after test. Under visual examination without magnification, no damage to the sheath or cable elements.
Torsion IEC 60794-1-21-E7	10 cycles; length under test 3.3 ft (1 m); turns ±180°; load 34 lbf (150 N).	Attenuation variation ≤ 0.10 dB per fiber at 1550 nm during the test, and no permanent change after. Under visual examination without magnification, no damage to the sheath or cable elements.
Temperature cycling IEC 60794-1-22-F1	Sample at least 3,281 ft (1,000 m); range -40 °F to +158 °F (-40 °C to +70 °C); 2 cycles; 12 h dwell.	Change in attenuation coefficient < 0.16 dB/mi (< 0.1 dB/km) at 1550 nm.
Water penetration IEC 60794-1-22-F5B	24 h; sample 9.8 ft (3 m); water height 3.3 ft (1 m).	No water at the unsealed end of the sample during or after the test.
Compound flow IEC 60794-1-22-F16	158 °F (70 °C); 5 samples, 7.87 ± 0.20 in (200 ± 5 mm) long with 3.94 ± 0.098 in (100 ± 2.5 mm) stripped; 24 h.	No filling compound drips.

"No change in attenuation" means a change of ≤ 0.05 dB. Other parameters per IEC 60794.

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Optical fiber · ITU-T G.652.D, after cabling

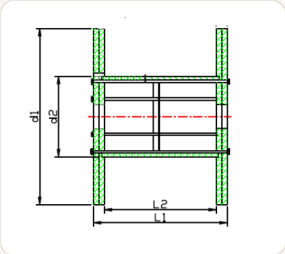
Mode field diameter @ 1310 nm	9.2 ± 0.4 µm
Mode field diameter @ 1550 nm	10.4 ± 0.5 µm
Cladding diameter	125.0 ± 1 µm
Core concentricity error	≤ 0.6 µm
Cladding non-circularity	≤ 0.8%
Coating diameter (before coloring)	245 ± 10 µm
Coating diameter (colored)	250 ± 15 µm
Coating/cladding concentricity error	≤ 12 µm
Cable cutoff wavelength	≤ 1260 nm
Point discontinuity	≤ 0.05 dB
Attenuation @ 1310 nm	≤ 0.56 dB/mi (≤ 0.35 dB/km)
Attenuation @ 1383 nm	≤ 0.56 dB/mi (≤ 0.35 dB/km)
Attenuation @ 1550 nm	≤ 0.4 dB/mi (≤ 0.25 dB/km)
Attenuation @ 1625 nm	≤ 0.4 dB/mi (≤ 0.25 dB/km)
Macro-bend loss, 100 turns on 1.18 in (30 mm) radius @ 1550/1625 nm	≤ 0.05 dB
PMD, max. individual fiber	≤ 0.2 ps/√km
PMDQ (link design value)	≤ 0.1 ps/√km
Zero-dispersion wavelength	1300 to 1324 nm
Zero-dispersion slope	≤ 0.092 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)
Proof test level	100 kpsi (0.69 GPa), 1% strain
Coating strip force (peak)	0.3 to 2.0 lbf (1.3 to 8.9 N)
Fiber curl radius	13.1 ft (4 m)

Fiber geometry and optical values use the industry-standard units (µm, nm, ps) for US and international specifications alike. Attenuation is shown per mile with the per-kilometer value in brackets.

Sheath marking

White marking every 3.3 ft (1 m) unless otherwise specified: PHOSLINC, cable type, year of manufacture and length marking.

Reel (drum) dimensions · 9,843 ft *(3 km)* per drum



FIBERS	D1	D2	L2	L1	EMPTY DRUM	DRUM WITH CABLE
48F	43.3 in (1,100 mm)	15.7 in (400 mm)	25.6 in (650 mm)	29.5 in (750 mm)	101 lb (46 kg)	776 lb (352 kg)

d1 outer flange diameter · d2 barrel (inner) diameter · L1 outer width · L2 inside width