FIBER OPTIC CABLE · GYFTY

GYFTY

Stranded Loose Tube Non-Metallic Non-Armored Fiber Optic Cable

G.652D / G.655 · all-dielectric · 2–288 cores

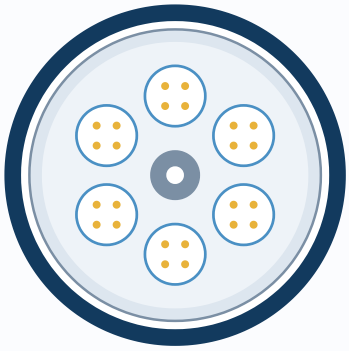
PRODUCT DESCRIPTION

GYFTY is fully dielectric: an FRP central strength member replaces the steel wire, the armour is replaced by aramid yarn, and the cable contains no metal at all. That makes it the first choice for routes on or near high-voltage towers, in lightning-prone regions and anywhere an earth loop or induced current would be a problem. The stranded loose tube core is bound with water-blocking tape and over-sheathed in PE.

KEY FEATURES

- All-dielectric construction — no earthing, no induced current, no lightning path
- FRP central member plus aramid yarn gives 1000/3000 N tensile without metal
- Light weight (119 kg/km at 2–6 cores) reduces tower and pole loading
- Immune to electromagnetic interference from power lines and railways
- Sheath options: PE for outdoor, LSZH for populated or tunnel routes

Other fibre types, core counts and sheath compounds are available on request — see the ordering information on page 2.



Cross-section — schematic, not to scale

Outer sheath
Armour / moisture barrier
Gel-filled loose tube
Central strength member
250 µm fibre

GENERAL SPECIFICATIONS

CABLE TYPE	**GYFTY**
APPLICATION	**Aerial · High-voltage routes · Lightning-prone areas**
STANDARDS	**YD/T 901 · IEC 60794-1**
TEMPERATURE	**-40 °C to +70 °C**
SHEATH OPTIONS	**PE · LSZH**

CABLE CONSTRUCTION

Central strength member	FRP rod, non-metallic
Loose tube	PBT, gel-filled, max. 12 fibres per tube
Core assembly	Tubes and fillers stranded around the FRP rod
Water blocking	Water-blocking tape and compound, fully dielectric
Reinforcement	Aramid yarn, two contra-helical layers
Outer sheath	UV-stabilised MDPE, black

Options: LSZH or flame-retardant sheath · anti-termite and anti-rodent additives · non-metallic strength member · ripcord · customer sheath printing · dry core on request.

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STRUCTURE AND DIMENSIONS

Cable model	Fibre count	Loose tubes	Fillers	Nominal weight (kg/km)
GYFTY-2~6Xn	2~6	1	7	119
GYFTY-8~12Xn	8~12	2	6	119
GYFTY-14~18Xn	14~18	3	5	119
GYFTY-20~24Xn	20~24	4	4	119
GYFTY-26~30Xn	26~30	5	3	119
GYFTY-32~36Xn	32~36	6	2	119
GYFTY-38~42Xn	38~42	7	1	119
GYFTY-44~48Xn	44~48	8	0	119
GYFTY-50~60Xn	50~60	5	3	125
GYFTY-62~72Xn	62~72	6	2	125
GYFTY-74~84Xn	74~84	7	1	125
GYFTY-86~96Xn	86~96	8	0	125
GYFTY-98~108Xn	98~108	9	1	149
GYFTY-110~120Xn	110~120	10	0	149
GYFTY-122~132Xn	122~132	11	1	179
GYFTY-134~144Xn	134~144	12	0	179

TENSILE LOAD L / S	CRUSH RESISTANCE L / S	BEND RADIUS S / D
1000 / 3000	**300 / 1000**	**12.5D / 25D**
N	N/100 mm	× cable OD

OPTICAL CHARACTERISTICS

Fibre type	Attenuation 1310 nm (dB/km) typ. / max	Attenuation 1550 nm (dB/km) typ. / max	Cut-off λcc (nm)	Remark
G.652D	0.36 / 0.50	0.22 / 0.40	≤ 1260	Low water peak, full band 1260–1625 nm
G.655	0.40 / 0.50	0.23 / 0.40	≤ 1450	Non-zero dispersion shifted, for DWDM backbone
G.657A1/A2	0.36 / 0.50	0.22 / 0.40	≤ 1260	Bend insensitive, min. bend radius 10 mm

Attenuation measured at +20 °C on cabled fibre, before splicing. Multimode fibre (OM1–OM4) available on request.

TYPE TESTS

Test	Method	Acceptance
Tensile strength	IEC 60794-1-21 E1	Rated load applied, no fibre strain, Δα ≤ 0.05 dB
Crush	IEC 60794-1-21 E3	Rated load applied, Δα ≤ 0.05 dB after recovery
Impact	IEC 60794-1-21 E4	10 impacts, 4.5 J, R300 mm, Δα ≤ 0.05 dB
Temperature cycling	IEC 60794-1-22 F1	−40 °C to +70 °C, 2 cycles, Δα ≤ 0.05 dB/km
Water penetration	IEC 60794-1-22 F5B	1 m head, 24 h, no water at the far end

ORDERING INFORMATION

Order code: **GYFTY-[cores]Xn-[fibre type]-[sheath].** Example: GYFTY-48Xn-G652D-PE. State the fibre type, sheath compound, drum length and any sheath marking. Standard drum length 2 km or 4 km; other lengths on request.

Three tensile grades are available. 400/1000 N: 86 kg/km (2-36 cores), 109 kg/km (38-72). 600/1500 N: 98 kg/km (2-36), 115 kg/km (38-72). 1000/3000 N: as tabulated above.

Nominal values, subject to normal manufacturing tolerances.

Core counts and fibre types outside the table are built to order — weight, tensile and bending data confirmed on the order drawing.

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