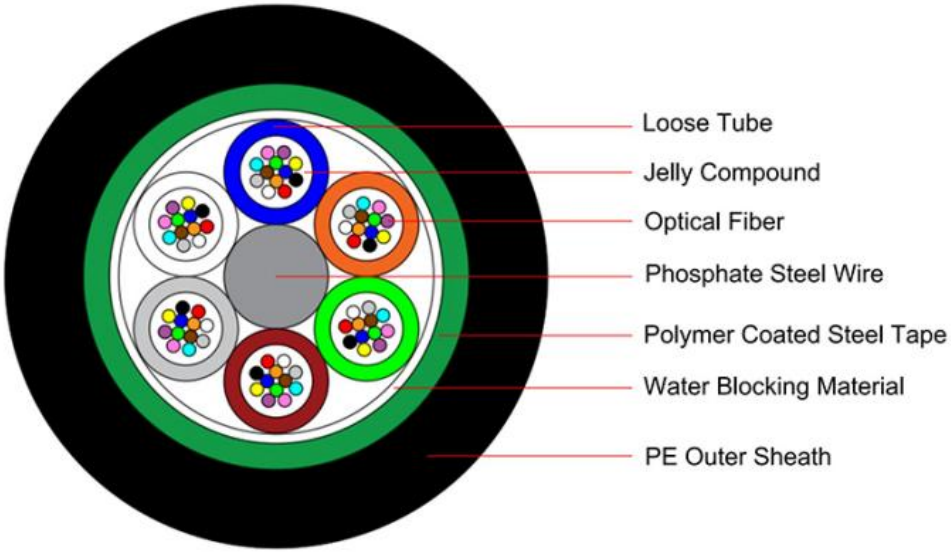
Pipeline and non-self-supporting aerial optical Cable GYTS



Technical data

Fibers of cable		2-30	32-60	62-72	74-84	86-96
Fiber Model		G.652D	G.652D	G.652D	G.652D	G.652D
Design(StrengthMember+Tube)		1+5	1+5	1+6	1+7	1+8
Central Strength Member	Material	Steel Wire	Steel Wire	Steel Wire	Steel Wire	Steel Wire
	Diameter（±0.05）mm	1.4	1.4	2.0	2.0+0.7	2.0+1.2
Loose Tube	Material	PBT	PBT	PBT	PBT	PBT
	Diameter（±0.1）mm	1.65	1.9	1.9	1.9	1.9
	Thickness（±0.05）mm	0.25	0.3	0.3	0.3	0.3
Water Blocking layer（Material）		Flooding Compound	Flooding Compound	Flooding Compound	Flooding Compound	Flooding Compound
Armoring	Material	Steel Tape	Steel Tape	Steel Tape	Steel Tape	Steel Tape
	Thickness（±0.02）mm	0.20	0.20	0.20	0.20	0.20
Outer Sheath	Material	MDPE	MDPE	MDPE	MDPE	MDPE
	Thickness（±0.1）mm	1.6	1.6	1.6	1.6	1.6
Cable Diameter（±0.2）mm		8.9	9.4	10	10.7	11.2
Cable Wetght（±10.0）kg/km		84	92	114	126	136

Fibers of cable		98-108	110-120	122-132	134-144	146-216	218-300
Fiber Model		G.652D	G.652D	G.652D	G.652D	G.652D	G.652D
Design(StrengthMember+Tube)		1+9	1+10	1+11	1+12	1+6+12	1+9+15
Central Strength Member	Material	Steel Wire	Steel Wire	Steel Wire	Steel Wire	Steel Wire	Steel Wire
	Diameter（±0.05）mm	2.0+1.8	2.0+2.5	2.0+3.1	2.0+3.7	2.0	2.0+1.8
Loose Tube	Material	PBT	PBT	PBT	PBT	PBT	PBT
	Diameter（±0.1）mm	1.9	1.9	1.9	1.9	1.9	1.9
	Thickness（±0.05）mm	0.3	0.3	0.3	0.3	0.3	0.3
Water Blocking layer（Material）		Flooding Compound	Flooding Compound	Flooding Compound	Flooding Compound	Flooding Compound	Flooding Compound
Armoring	Material	Steel Tape	Steel Tape	Steel Tape	Steel Tape	Steel Tape	Steel Tape
	Thickness（±0.02）mm	0.20	0.20	0.20	0.20	0.20	0.20
Outer Sheath	Material	MDPE	MDPE	MDPE	MDPE	MDPE	MDPE
	Thickness（±0.1）mm	1.6	1.6	1.6	1.6	1.6	1.6
Cable Diameter（±0.2）mm		11.8	12.5	13.1	13.7	13.8	15.6
Cable Wetght（±10.0）kg/km		151	166	180	192	195	242

Fibre Color

No.	1	2	3	4	5	6
Color	Blue	Orange	Green	Brown	Gray	White
No.	7	8	9	10	11	12
Color	Red	Black	Yellow	Violet	Pink	Aqua

Loose Tube Color

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Violet	Pink	Aqua
No.	13	14	15	16	17	18	19	20	21	22	23	24
Color	Blue	Orang	Green	Brow	Gray	White	Red	Black	Yello	Violet	Pink	Aqua

The properties of single mode optical fiber (ITU-T Rec. G.652.D)

Item	Specification
Fiber type	Single mode
Fiber material	Doped silica
Attenuation coefficient @ 1310 nm @ 1383 nm @ 1550 nm @ 1625 nm	 ≤ 0.35 dB/km ≤ 0.32 dB/km ≤ 0.21 dB/km ≤ 0.30 dB/km
Point discontinuity	≤ 0.05 dB
Cable cut-off wavelength	≤ 1260 nm
Zero-dispersion wavelength	1300 ~ 1324 nm
Zero-dispersion slope	≤ 0.092 ps/(nm^2.km)
Chromatic dispersion @ 1288 ~ 1339 nm @ 1271 ~ 1360 nm @ 1550 nm @ 1625 nm	 ≤3.5 ps/(nm. km) ≤5.3 ps/(nm. km) ≤18 ps/(nm. km) ≤22 ps/(nm. km)
PMD_Q (Quadrature average*)	≤0.2 ps/km$^{1/2}$
Mode field diameter @ 1310 nm	9.2±0.4 um
Core / Clad concentricity error	≤ 0.5 um
Cladding diameter	125.0 ± 0.7 um
Cladding non-circularity	≤1.0%
Primary coating diameter	245 ± 10 um
Proof test level	100 kpsi (=0.69 Gpa), 1%
Temperature dependence 0℃~ +70℃@ 1310 & 1550nm	≤ 0.1 dB/km

Main mechanical & environmental performance test

Item	Test Method	Acceptance Condition
Tensile Strength IEC60794-1-2-E1	- Load: 1500N - Length of cable: about 50m	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
Crush Test IEC 60794-1-2-E3	- Load: 1000N/100mm - Load time: 1min	- Loss change ≤ 0.1dB@1550nm - No fiber break and no sheath damage.

Impact Test IEC 60794-1-2-E4	- Points of impact: 3 - Times of per point: 1 - Impact energy: 5J	- Loss change ≤ 0.1dB@1550nm - No fiber break and no sheath damage.
Temperature Cycling Test IEC 60794-1-22-F1	- Temperature step: +20°C→-40°C→+70°C →+20°C - Time per each step: 12 hrs - Number of cycle: 2	- Loss change ≤ 0.1 dB/km@1550 nm - No fiber break and no sheath damage.

Sheath marking

The optical fiber drop cable shall have sequentially numbered length marking at intervals of approximately 1 meter. The starting number of ordering length for any coil shall begin whit zero meter. The accuracy of the measurement of lenth marking shall be held within the limits of ±1%.

a) Manufacturer's name
b) Type of wire
c) Year and month of manufacture
d) Length marking each meter along the wire