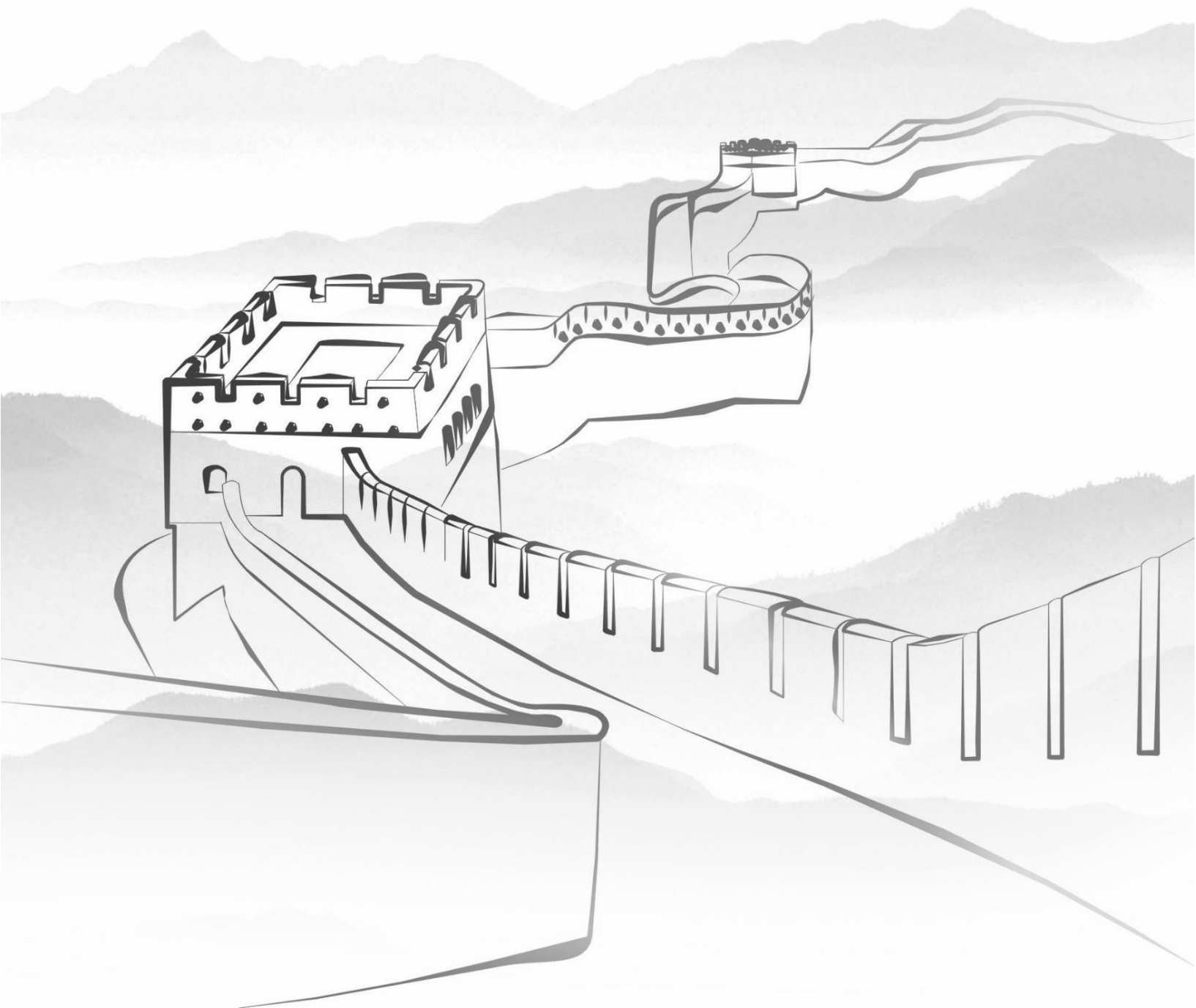


Optical Fiber Cable Specification



SISTEMAS Y SERVICIOS DE COMUNICACION, SA DE CV



Aerial Cable GYFC8Y-24/36/48/72 G652D SPAN 100

Cable Design



- **Central Strength Member (CSM):** Glass fiber reinforced plastic rod (GFRP), with PE sheath covering when needed.
- **Loose Tube:** PBT plastic material, containing 12 fibers and filled with a suitable water tightness jelly.
- **Stranding:** Loose tube & filler SZ stranded around CSM.
- **Longitudinal Water Tightness:** Dry core with water swellable elements.
- **Ripcord:** 2 polyester ripcords under each sheath.
- **Outer Sheath:** Black HDPE.
- **Messenger Wire:** Stranded Galvanized Steel Wire.

Cable Specification

Cable description					
Item	Specified	Measure	Measure	Measure	Measure
Cable Cores		24	36	48	72
No. of Tubes		2	3	4	6
Fiber Counts in Tube		12	12	12	12
No. of Fillers		4	3	2	/
Tube/Filler- Φ	mm	2.2	2.2	2.2	2.2
CSM- Φ	mm	2.3	2.3	2.3	2.3
Thickness of Outer Sheath	mm	1.5	1.5	1.5	1.5
Stranded Galvanized Steel Wire Size	mm	7×1.2	7×1.2	7×1.2	7×1.2
ZINC Content	g/m ²	122	122	122	122
Cable Width	mm	10.1±0.5			
Cable Height	mm	17.2±0.5			
Cable Weight	kg/km	160±15			
Allowable tensile strength (N)(short term)	N	8000			
Allowable crush resistance (N) (short term)	N/10cm	1000			

Aerial Cable GYFC8Y-96 G652D SPAN 100

Cable Design



- **Central Strength Member (CSM):** Glass fiber reinforced plastic rod (GFRP), with PE sheath covering when needed.
- **Loose Tube:** PBT plastic material, containing 12 fibers and filled with a suitable water tightness jelly.
- **Stranding:** Loose tube & filler SZ stranded around CSM.
- **Longitudinal Water Tightness:** Dry core with water swellable elements.
- **Ripcord:** 2 polyester ripcords under each sheath.
- **Outer Sheath:** Black HDPE.
- **Messenger Wire:** Stranded Galvanized Steel Wire.

Cable Specification

Cable description		
Item	Specified	Measure
Cable Cores		96
No. of Tubes		8
Fiber Counts in Tube		12
Tube/Filler- Φ	mm	2.2
Coated CE- Φ	mm	3.8
Thickness of Outer Sheath	mm	1.5
Stranded Galvanized Steel Wire Size	mm	7×1.2
ZINC Content	g/m²	122
Cable Width	mm	11.6±0.5
Cable Height	mm	18.7±0.5
Cable Weight	kg/km	180±15
Allowable tensile strength (N)(short term)	N	8000
Allowable crush resistance (N) (short term)	N/10cm	1000

Color code for fiber and loose tube

Fiber color



Loose tube color(s)



Cable performance

Cable performance		
Test	Specified Value	Acceptance Criteria
Tensile IEC 60794-1-21, E1	8000N	$\Delta\alpha\leq0.05$ dB, no sheath damage
Crush IEC 60794-1-21, E3	1000 N/10cm	$\Delta\alpha\leq0.05$ dB, no sheath damage
Impact IEC 60794-1-21, E4	4.5 J	$\Delta\alpha\leq0.05$ dB, no sheath damage
Repeated Bending IEC 60794-1-21, E6	R=30D, 25 cycles	$\Delta\alpha\leq0.05$ dB, no sheath damage
Torsion IEC 60794-1-21, E7	1m, 10 cycles, $\pm180^\circ$	$\Delta\alpha\leq0.05$ dB, no sheath damage
Temperature Cycling IEC 60794-1-22, F1	2 cycles, -25~+70°C	$\Delta\alpha\leq0.10$ dB/km, no sheath damage
Water Penetration IEC 60794-1-22, F5	3m sample, 1m height, 24 h	No water leakage

Fiber performance

G.652D performance		
Characteristics		Acceptance Value
Attenuation	@1310nm	≤0.36 dB/km
	@1383nm	≤0.35 dB/km
	@1550nm	≤0.22 dB/km
	@1625nm	≤0.24 dB/km
Mode field diameter (MFD)	@1310nm	9.2 ± 0.4 μm
	@1550nm	10.4 ± 0.8 μm
Chromatic dispersion coefficient	1285~1340nm (absolute value)	≤3.0 ps/(nm·km)
	@1550 nm	≤18 ps/(nm·km)
	@1625 nm	≤22 ps/(nm·km)
Zero-dispersion wavelength		1300nm~1324 nm
Zero-dispersion slope		≤0.092 ps/(nm ² ·km)
Cable cut-off wavelength λ_{cc} (nm)		≤1260 nm
Polarization mode dispersion (PMD, for fiber on the reel)		≤0.20 ps/km ^{1/2}
Cladding diameter		125 ± 1.0 μm
Cladding non-circularity		≤1 %
Core/cladding concentricity error		≤0.8 μm
Fiber diameter with coating (uncolored)		245 ± 10 μm