

# ADSS Optical Fiber Cable 80m span

## Cable Design

### Loose Tube Optical Fiber Cable- Non-Armored -Dielectric-Dry Core-G.652D Fiber



- **Central Strength Member (CSM):** glass fiber reinforced plastic rod (FRP), with PE sheath covering when needed.
- **Loose Tube:** PBT plastic material, containing 6/12 fibers and filled with a suitable water tightness jelly.
- **Filler Elements:** PP plastic rods, when needed.
- **Stranding:** loose tube & filler stranded around the CSM.
- **Longitudinal Water Tightness:** dry core with water swellable elements (water blocking tape and yarn).
- **Ripcord:** 2 polyester ripcord under outer sheath.
- **Outer Sheath:** Black HDPE.

## Cable Specification

Cable Cores		24	48	96
No. of Tubes		4	4	8
No. of Fillers		2	2	8
Fiber Counts in Tube		6	12	
Tube/Filler-Φ	mm	2.3	2.4	2.4
CSM-Φ	mm	2.5	2.5	4.2=3.0+PE
Thickness of Outer PE Sheath	mm	1.8		
Max. Allowable Tensile	N	3500		4000
Nominal Cable Diameter	mm	11.3	11.6	13.4
Nom. Cable Weight	Kg/km	97	103	137

## Cable Application

Temperature Range		Minimum Bend Radius	
Transportation & Storage	-25~+70°C	Load	20×D
Operation	-25~+70°C	Unload	10×D

## Main Mechanical and Environmental Characteristic

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	MAT, 10min	$\Delta\alpha \leq 0.05\text{dB}$ , fiber strain $\leq 0.1\%$
Crush	IEC 60794-1-2-E3	3000N/10cm, 5min 3 times	$\Delta\alpha$ reversible, no damage
Impact	IEC 60794-1-2-E4	25J, R=300mm, 3impacts	$\Delta\alpha$ reversible, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20D, 100N, 100cycles	$\Delta\alpha \leq 0.05\text{dB}$ , no damage
Bend	IEC 60794-1-2-E11	R=10D, 3 cycles, 5 turns, -15°C	$\Delta\alpha \leq 0.05\text{dB}$ , no damage
Torsion	IEC 60794-1-2-E7	100N, 5cycles, +/-180°	$\Delta\alpha \leq 0.05\text{dB}$ , no damage
Temperature Cycling	IEC 60794-1-2-F1	-25~+70°C, 1cycles, 6h	$\Delta\alpha \leq 0.05\text{dB/km}$ , no damage
Water Penetration	IEC 60794-1-2-F5	1m cable, 1m water, 24h	No water leakage
Drip	IEC 60794-1-2-E14	60°C 5 sample	No drip
Kink	IEC 60794-1-2-E10	Diameter=10D	No kink
Tube Kink	IEC 60794-1-2-G7	L=70, L1=350. L2=100	No kink

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## Cabled Fiber Performance (G.652D)

Characteristics		Acceptance Value
Attenuation	@1310nm	≤0.35dB/km
	@1383nm	≤0.34dB/km
	@1550nm	≤0.21dB/km
	@1625nm	≤0.23dB/km
Mode Field Diameter	@1310nm	9.2±0.4 μm
	@1550nm	10.4±0.5 μm
Dispersion	@1300 +30/-15nm	≤3.5ps/(nm·km)
	@1550nm	≤18ps/(nm·km)
	@1625nm	≤22ps/(nm·km)
Zero-Dispersion wavelength		1300nm~1324nm
Zero-Dispersion slope		≤0.092ps/(nm <sup>2</sup> ·km)
Cable cutoff wavelength λ <sub>cc</sub> (nm)		≤1270nm
Cladding diameter		125±1.0μm
Cladding non-circularity		≤1.0%
Core/cladding concentricity error		≤0.6μm
Fiber diameter with coating (colored)		245±10μm
Cladding/coating concentricity error		≤12.0μm
Proof stress		≥0.69GPa(100kpsi)
Dynamic stress corrosion susceptibility parameter (typical value)		≥20

## Fiber & Tube Color

### Color Identification of Fiber

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

### Color Identification of Tube

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

## Sheath Marking

The outer sheath is marked in 1 meter intervals as follows:

In Accordance with Custom's Requirement

## Delivery Length

Standard delivery length will be 4 or 6km.