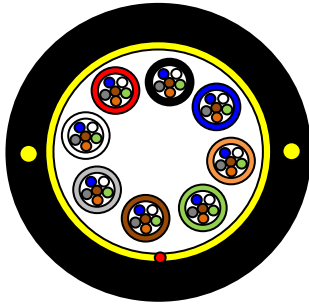


# Aerial Module Optical Fiber Cable 50m span

## Cable Design

*Micro-Module Optical Fiber Cable-Dielectric-Single Sheath-G.652D/G675A1 Fiber*



- **Micro Module:** thermoplastic material, containing 12 fiber.
- **Aramid yarns:** reinforcement members
- **Strength member:** GFRP inside the outer sheath.
- **Outer Sheath:** Black HDPE.

## Cable Specification

Cable Cores		12	48	72	96	144
No. of Module		1	4	6	8	12
Fibers per Module		12	12	12	12	12
Module- $\Phi$	mm	1.2				
GFRP- $\Phi$	mm	1.0	1.4			
Outer sheath	mm	1.8	2.2			
Nominal Cable Diameter	mm	6.5 $\pm$ 0.5	8.5 $\pm$ 0.5	9.5 $\pm$ 0.5	10.5 $\pm$ 0.5	11.5 $\pm$ 0.5
Nominal Cable Weight	Kg/km	65	68	75	90	115

## Cable Application

Temperature Range		Minimum Bend Radius	
Transportation & Storage	-40~+70°C	Load	20xD
Operation	-20~+70°C	Unload	10xD

## Main Mechanical and Environmental Characteristic

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	1000N(12), 5min 2000N(48~144),5min	$\Delta\alpha\leq 0.05\text{dB}$ , fiber strain $\leq 0.6\%$
Crush	IEC 60794-1-2-E3	1000N/10cm, 5min	$\Delta\alpha$ reversible, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20D, 40N, 20cycles	$\Delta\alpha$ reversible, no damage
Impact	IEC 60794-1-2-E4	3J, R=300mm, 3times	$\Delta\alpha$ reversible, no damage
Torsion	IEC 60794-1-2-E7	40N, 10cycles, +/-360°	$\Delta\alpha$ reversible, no damage
Temperature Cycling	IEC 60794-1-2-F1	-20~+60°C, 2cycles	$\Delta\alpha\leq 0.05\text{dB/km}$ , no damage

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## Cabled Fiber Performance (G.652D)

Characteristics		Acceptance Value
	@1310nm	$\leq 0.40\text{dB/km}$
	@1550nm	$\leq 0.30\text{dB/km}$
Mode Field Diameter	@1310nm	$9.2 \pm 0.4\mu\text{m}$
	@1550nm	$10.4 \pm 0.5\mu\text{m}$
Dispersion	@1300 +30/-15nm	$\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$
	@1550nm	$\leq 18.0\text{ps}/(\text{nm}\cdot\text{km})$
	@1625nm	$\leq 22\text{ps}/(\text{nm}\cdot\text{km})$
Zero-Dispersion wavelength		1300nm ~ 1324nm
Zero-Dispersion slope		$\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$
Cable cutoff wavelength $\lambda_{cc}(\text{nm})$		$\leq 1260\text{nm}$
Cladding diameter		$125 \pm 0.7\mu\text{m}$
Cladding non-circularity		$\leq 0.7\%$
Core/cladding concentricity error		$\leq 0.5\mu\text{m}$
Fiber diameter with coating (uncolored)		$242 \pm 5\mu\text{m}$
Cladding/coating concentricity error		$\leq 12.0\mu\text{m}$
Proof stress		$\geq 0.69\text{GPa}(100\text{kpsi})$
Dynamic stress corrosion susceptibility parameter (typical value)		$\geq 20$

## Cabled Fiber Performance (G.657A1)

Characteristics		Acceptance Value
Attenuation	@1310nm	$\leq 0.35\text{dB/km}$
	@1383nm	$\leq 0.34\text{dB/km}$
	@1550nm	$\leq 0.21\text{dB/km}$
	@1625nm	$\leq 0.23\text{dB/km}$
Mode Field Diameter	@1310nm	$8.8 \pm 0.4\mu\text{m}$
Dispersion	@1300 +30/-15nm	$\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$
	@1550nm	$\leq 18\text{ps}/(\text{nm}\cdot\text{km})$
	@1625nm	$\leq 22\text{ps}/(\text{nm}\cdot\text{km})$
Zero-Dispersion Wavelength		1300nm ~ 1324nm
Zero-Dispersion Slope		$\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$
Cable Cutoff Wavelength $\lambda_{cc}(\text{nm})$		$\leq 1260\text{nm}$
Cladding Diameter		$125 \pm 0.7\mu\text{m}$
Macrobend loss	30mm radius, 10 turn, @1550	$\leq 0.25\text{dB}$
	30mm radius, 10 turn, @1625	$\leq 0.10\text{dB}$
	20mm radius, 1 turn, @1550	$\leq 0.75\text{dB}$
	20mm radius, 1 turn, @1625	$\leq 1.5\text{dB}$
Cladding Non-circularity		$\leq 0.7\%$
Core/Cladding Concentricity Error		$\leq 0.5\mu\text{m}$
Proof Test		$\geq 0.69\text{GPa}(100\text{kpsi})$
Dynamic Fatigue		$\geq 20$

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## 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 1 or 2km.