

Aero Flat Drop Cable 48

Cable Design

Drop Cable-GFRP Reinforcing-Dielectric-Dry Core-G.652D/G.657A1 Fiber



- **Loose Tube:** PBT plastic material, containing 24 fibers and filled with a suitable water tightness compound.
- **FRP:** additional strength member.
- **Longitudinal Water Tightness:** dry core with water swellable elements.
- **Outer Sheath:** Black HDPE

Cable Specification

Cable Cores		48
FRP		2×2.2mm
Loose Tube Diameter	mm	2.2
Thickness of PE Sheath	mm	1.0
Nominal Cable Diameter	mm	10.8×4.2
Nominal Cable Weight	Kg/km	39

Cable Application

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

Main Mechanical and Environmental Characteristic

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	1600N, 1min	$\Delta\alpha\leq 0.1\text{dB}$, no damage
Crush	IEC 60794-1-2-E3	5000N/10cm, 1min, 3times	$\Delta\alpha\leq 0.1\text{dB}$, no damage
Impact	IEC 60794-1-2-E4	20J, R=300mm, 3impacts	$\Delta\alpha\leq 0.1\text{dB}$, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20D, 20N, 20cycles	$\Delta\alpha\leq 0.1\text{dB}$, no damage
Temperature Cycling	IEC 60794-1-2-F1	-40~+70°C, 2cycles, 8h	$\Delta\alpha\leq 0.1\text{dB/km}$, no damage

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Cabled Fiber Performance (G.652D)

Characteristics		Acceptance Value
Mode Field Diameter	@1550nm	$\leq 0.30\text{dB/km}$
	@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		$1300\text{nm} \sim 1324\text{nm}$
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 (uncoated)		$242\pm 5\mu\text{m}$
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)		≥ 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	$8.8\pm 0.4\mu\text{m}$
	@1550nm	$10.2\pm 0.4\mu\text{m}$
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	$\leq 22\text{ps}/(\text{nm}\cdot\text{km})$
PMD	Individual value	$\leq 0.20\text{ps}/\sqrt{\text{km}}$
	Link value	$\leq 0.15\text{ps}/\sqrt{\text{km}}$
Zero-Dispersion Wavelength		$1300\text{nm} \sim 1324\text{nm}$
Zero-Dispersion Slope		$\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$
Cable Cutoff Wavelength $\lambda_{cc}(\text{nm})$		$\leq 1260\text{nm}$
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 Diameter		$125\pm 0.5\mu\text{m}$
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		≥ 20

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Fiber and 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
No	13	14	15	16	17	18	19	20	21	22	23	24
Color	Red	Green	Yellow	Blue	Brown	White	Grey	Violet	Black	Orange	Aqua	Pink

Color Identification of Tube

No	1	2
Color	Red	Green

Sheath Marking, Delivery Length

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

In Accordance with Custom's Requirement

Standard delivery length will be 2 or 4km.

Drum Marking

Drum marking will comply with custom's requirement.