

Optical Fiber Micro Cable 48-216F G.652D 200 μ m

Cable Design

Buffer Tube Optical Fiber Cable-Non Armored-Dielectric-Dry Core-G.652D 200 μ m Fiber



- **Central Strain-support Element (CE):** glass fiber reinforced plastic rod (FRP), with PE sheath covering when needed.
- **Buffer Tube:** PBT plastic material, containing 24 200 μ m fibers and filled with a suitable water tightness compound.
- **Filler Elements:** Nature plastic rods, when needed.
- **Stranding:** loose tubes (and fillers), SZ stranded around the CE.
- **Longitudinal Water Tightness:** dry core with water swellable elements.
- **Ripcord(s):** 1 aramid ripcord under sheath.
- **Outer Sheath:** Black HDPE.

Cable Specification

Cable Cores		48	144	192	216
No. of Tubes		2	6	8	9
No. of Fillers		4	0		
Fiber Counts in Fiber		24			
Tube/Filler- ϕ	mm	1.7			
CSM- ϕ	mm	1.8	2.5		2.5
Coated CSM- ϕ	mm	/	2.9		3.4
Thickness of Outer PE Sheath	mm	0,5			
Nominal Cable Diameter	mm	6.0 \pm 0.3		7.2 \pm 0.3	7.5 \pm 0.3
Nominal Cable Weight	Kg/km	35		50	57
Tensile Force	N	350			

Cable Application

Temperature Range		Minimum Bend Radius	
Transportation & Storage	-30 \sim +70 $^{\circ}$ C	Load	20 \times D
Operation	-30 \sim +70 $^{\circ}$ C	Unload	10 \times D

Main Mechanical and Environmental Characteristic

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	Tensile Force, 1 min	$\Delta\alpha$ reversible, fiber strain \leq 0.2%
Crush	IEC 60794-1-2-E3	1000N/10cm, 1 min	$\Delta\alpha$ reversible, no damage
Impact	IEC 60794-1-2-E4	3J, R=300mm	$\Delta\alpha$ reversible, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20D, 25N, 25 cycles	$\Delta\alpha$ reversible, no damage
Bend	IEC 60794-1-2-E11	R=10D, 3 cycles, 4 turns	$\Delta\alpha$ reversible, no damage
Torsion	IEC 60794-1-2-E7	40N, 5 cycles, +/-180 $^{\circ}$	$\Delta\alpha$ reversible, no damage
Temperature Cycling	IEC 60794-1-2-F1	-20 \sim +70 $^{\circ}$ C,	$\Delta\alpha\leq$ 0.10dB/km, after test, no damage
Water Penetration	IEC 60794-1-2-F5	3m sample, 1m height, 24h	No water leakage

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Cabled Fiber Performance (G.652D 200 μ m)

Characteristics		Acceptance Value
Attenuation	@1310nm	≤ 0.35 dB/km
	@1383nm	≤ 0.34 dB/km
	@1550nm	≤ 0.21 dB/km
	@1625nm	≤ 0.23 dB/km
Mode Field Diameter	@1310nm	9.2 ± 0.4 μ m
	@1550nm	10.4 ± 0.5 μ m
Dispersion	@1300 +30/-15nm	≤ 3.5 ps/(nm·km)
	@1550nm	≤ 18 ps/(nm·km)
	@1625nm	≤ 22 ps/(nm·km)
Zero-Dispersion Wavelength		1300nm ~ 1324nm
Zero-Dispersion Slope		≤ 0.092 ps/(nm ² ·km)
Cable cutoff wavelength λ_{cc} (nm)		≤ 1270 nm
Cladding diameter		125 ± 1.0 μ m
Cladding non-circularity		$\leq 0.8\%$
Core/cladding concentricity error		≤ 0.6 μ m
Proof stress		≥ 0.69 GPa(100kpsi)
Dynamic Fatigue		≥ 20

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

* if the color number is more than 12, the fiber color code will be repeated again with black ring.

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, Delivery Length

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

In Accordance with Custom's Requirement

Standard delivery length will be 6km with $\pm 3\%$ tolerance.