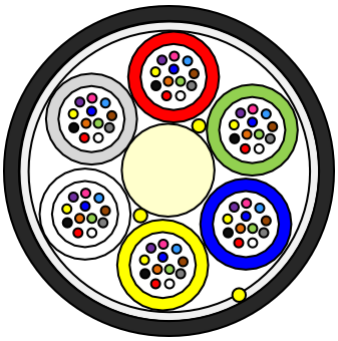
Optical Fiber Micro Cable

Cable Design

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



- **Central Strain-support Element (CE):** glass fiber reinforced plastic rod (FRP), with PE sheath covering when needed.
- **Buffer Tube:** PBT plastic material, containing 12 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		12	24	48	72	96	144
No. of Tubes		1	2	4	6	8	12
No. of Fillers		5	4	2	0		
Fiber Counts in Fiber		12					
Tube/Filler- Ø	mm	1,4					2,5
CE- Ø	mm	1,5				2,3	4,2
Coated CE- Φ	mm						
Thickness of Outer PE	mm	0,5					
Nominal Cable Diameter	mm	5,4				6,3	8,0
Nominal Cable Weight	Kg/km	29				30	45
Tensile Force	N	500				1000	850

Cable Application

Temperature Range		Minimum Bend Radius	
Transportation & Storage	-25~+70℃	Load	20×D
Operation	-25~+60℃	Unload	10×D

Main Mechanical and Environmental Characteristic

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	Tensile Force, 1 min	Δα reversible, fiber strain≤0.6%
Crush	IEC 60794-1-2-E3	1000N/10cm, 1 min	Δα reversible, no damage
Impact	IEC 60794-1-2-E4	10J, R=300mm	Δα reversible, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20D, 40N, 25 cycles	Δα reversible, no damage
Bend	IEC 60794-1-2-E11	R=10D, 3 cycles, 4 turns	Δα reversible, no damage
Torsion	IEC 60794-1-2-E7	40N, 5 cycles, +/-360°	Δα reversible, no damage

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Test	Test Standard	Specified Value	Acceptance Criteria
Temperature Cycling	IEC 60794-1-2-F1	-25~+70°C,	Δα≤0.10dB/km, after test, no damage
Water Penetration	IEC 60794-1-2-F5	3m sample, 1m height, 24h	No water leakage

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. 5μm
Dispersion	@1300 +30/-15nm	≤3.5ps/(nm·km)
	@1550nm	≤18ps/(nm·km)
	@1625nm	≤22ps/(nm·km)
Macro bend loss at 1550nm	Ø50mm 100 turns	≤0.05dB
Macro bend loss at 1525nm	Ø60mm 100 turns	≤0.10dB
Cable cutoff wavelength λ_{cc}(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		≤12μm
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 6km.