

**Single jacket dielectric fiber optic cable 48core dry core
CABLE FIB OPT SM CFOA-SM-DD-S 48F**

1. Cable Description

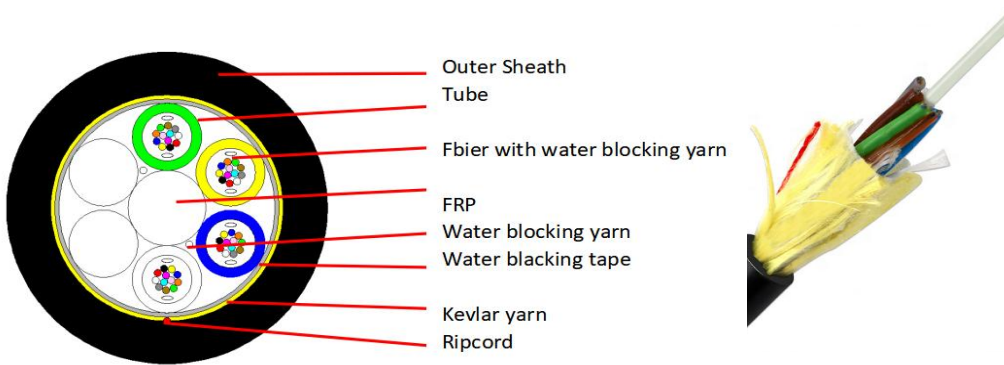
The Ultraviolet curable acrylic coated optical fiber. are positioned in a loose tube made of a high modulus plastic. The tubes are filled with water blocking yarn . The tube is wrapped with a layer of Kevlar yarn . Between the Kevlar yarn and the loose tube water-blocking material is applied to keep the cable compact and watertight. The cable is completed with a polyethylene (PE) sheath.

2.Application

The actual status of overhead power lines ,covers the general requirements of single jacket ADSS dielectric Cable for aerial or duct.

3. Characteristics

- FRP central strength member
- Tube with water blocking yarn
- Loose tube stranded
- PE sheath outdoor cable
- Kevlar yarn make cable more tensile



4.Cable construction details

Number of fiber	48core		
Moisture Barrier	Water blocking system		
Loose tube and Filler elements	material	PBT	
	diameter	Φ2.1mm+/-0.15mm	
Central strength member	material	FRP	
	OD	Φ2.2mm+/-0.15mm	
Strength member	material	Kevlar yarn	
Outer sheath	material	PE	
	Thickiness	1.6±0.2mm	
	OD	10.0±0.5mm	

5. Fiber color

48 core

Number of fiber per tube 12 cores	1	2	3	4	5	6
	Green	Yellow	White	Blue	Red	Violet
	7	8	9	10	11	12
Tube colors	1	2	3	4		
	Green	Yellow	White	Blue		

6.Cable Mechanical characteristic

core	Cable diameter	weight
48core	10.0±0.5mm	85±10kg/km
Min Bending Radius(mm)	Long term	10D
Min BendingRadius(mm)	Short term	20D
Max. Tension N	Long term	1200
Max. Tension N	short term	2500
Max. Allowable Crush Load (N/100mm)	Long term	1500
Max Allowable Crush Load (N/100mm)	short term	3000
Operation temperature (°C)	-40+70	
Installation temperature (°C)	-15+60	
Storage temprature (°C)	-40+70	

7.Fiber characteristic G652D

Characteristic		Condition	Specified values	Units
Attenuation		1310nm	≤0.34 ≤0.36 after cable	[dB/km]
		1550nm	≤0.20 ≤0.25 after cable	[dB/km]
		1383nm(after H ₂ -aging)	≤0.34	[dB/km]
		1625nm	≤0.24	[dB/km]
Attenuation vs.Wavelength Max.α difference		285-1330nm,in reference to 1310nm	≤0.03	[dB/km]
		525-1575nm,in reference to 1550nm	≤0.02	[dB/km]
Dispersion Coefficient		1285-1340nm	-3.5 to 3.5	[ps/(nm.km)]
		1550nm	≤18	[ps/(nm.km)]
		1625nm	≤22	[ps/(nm.km)]
Zero Dispersion Wavelength(λ ₀)		--	1300-1324	[nm]
Zero Dispersion Slope(S ₀)		--	≤0.092	[ps/(nm ² .km)]
Typical Value		--	0.086	[ps/(nm ² .km)]
PMD	Maximum Individual Fibre	--	≤0.1	ps/√km
	Link Design Value	--	≤0.06	ps/√km
	Typical Value	--	0.04	ps/√km
Cable Cutoff Wavelength (λ _{cc})		--	≤1260	[nm]
Mode Field Diameter(MFD)		1310nm	8.7-9.5	[nm]
		1550nm	9.8-10.8	[nm]
Effective Group Index Refraction (N _{eff})		1310nm	1.466	--
		1550nm	1.467	--
Point Discontinuities		1310nm	≤0.05	[dB]
		1550nm	≤0.05	[dB]

Geometrical Characteristics				
Cladding Diameter		--	125.0±0.7	[μm]
Cladding Non-Circularity		--	≤1.0	[%]
Coating Diameter		--	235-250	[μm]
Coating-Cladding Concentricity Error		--	≤12.0	[μm]
Coating Non-Circularity		--	≤6.0	[%]
Core-Cladding Concentricity Error		--	≤0.6	[μm]
Curl(radius)		--	≥4	[m]
Environmental Characteristics		1310nm,1550nm&1625nm		
Temperature Dependence Induced Attenuation		-60℃ to +85℃	≤0.05	[dB/km]
Temperature-Humidity Cycling Induced Attenuation		-10℃ to +85 ℃, 98% RH	≤0.05	[dB/km]
Water Immersion Dependence induced Attenuation		23℃, for 30 days	≤0.05	[dB/km]
Damp Heat Dependence Induced Attenuation		85 ℃ and 85% RH,for 30 days	≤0.05	[dB/km]
Dry Heat Aging		85 ℃ for 30 days	≤0.05	[dB/km]
Mechanical Specifications				
Proof Test		--	≥9.0	[N]
		--	≥1.0	[%]
		--	≥100	[Kpsi]
Macro-bend Induced Loss	100 Turns Around a Mandrel of 30mm Radius	1625nm	≤0.05	[dB]
	100 Turns Around a Mandrel of 25mm Radius	1310nm and 1550nm	≤0.05	[dB]
	1 Turn Around a Mandrel of 16mm Radius	1550nm	≤0.05	[dB]
Coating Strip Force		typical average force	1.5	[N]
		peak force	1.3-8.9	[N]
Dynamic Fatigue Parameter(n_d)		--	≥20	--