

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

1. Cable Description

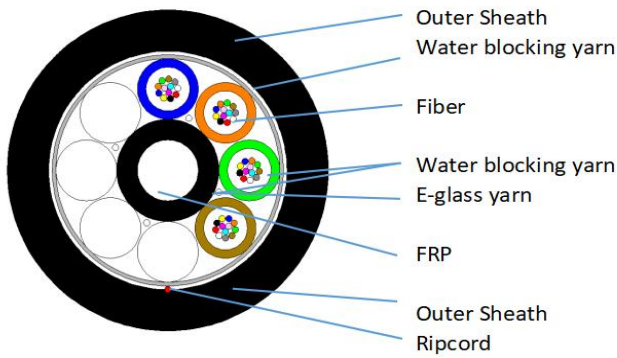
The ultraviolet curable acrylic coated optical fiber. are positioned in a loose tube made of a high modulus plastic. The tubes are filled with water blocking yarn . The tube is wrapped with a layer of E-glass yarn . Between the E-glass yarn and the loose tube water-blocking material is applied to keep 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
- E-glass yarn make cable more tensile and anti rodent



4.Cable construction details

Number of fiber	48core		
Moisture Barrier	Water blocking system		
Loose tube and Filler elements	material	PBT	
	diameter	Φ2.25mm±0.15mm	
Central strength member	material	FRP with PE sheath	
	FRP OD	2.0mm±0.15mm	
	FRP with PE OD	3.9±0.15mm	
Strength member	material	E-glass yarn	
Outer sheath	material	PE	
	Thickiness	1.95±0.1mm	
	OD	12.5±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	Brown	Pink	Black	Grey	Orange	Aqua
	1	2	3	4		
	Green	Yellow	White	Blue		

6.Cable Mechanical characteristic

core	Cable diameter	weight
48core	12.5±0.5mm	117±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 different	1285-1330nm,in reference to 1310nm	≤0.03	[dB/km]
	1525-1575nm,in reference to 1550nm	≤0.02	[dB/km]
Dispersion Coefficient	1285-1340nm	-3.5 to3.5	[ps/(nm ² .km)]
	1550nm	≤18	[ps/(nm ² .km)]
	1625nm	≤22	[ps/(nm ² .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(M=20,Q=0.01%)	--	≤0.06 ps/√km
	Typical Value	--	0.04 ps/√km
Cable Cutoff Wavelength (Acc)	--	≤1260	[nm]
Mode Field Diameter(MFD)	1310nm	8.4-9.2	[nm]
	1550nm	9.3-10.3	[nm]
Effective Group Index Refraction (N _{eff})	1310nm	1.466	--
	1550nm	1.467	--
Point Discontinuities	1310nm	≤0.06	[dB]
	1550nm	≤0.06	[dB]

Geometrical Characteristics

Cladding Diameter	--	125.0±0.7	[μm]
Cladding Non-Circularity	--	≤1.0	[%]
Coating Diameter	--	235-255	[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 Turns 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	--