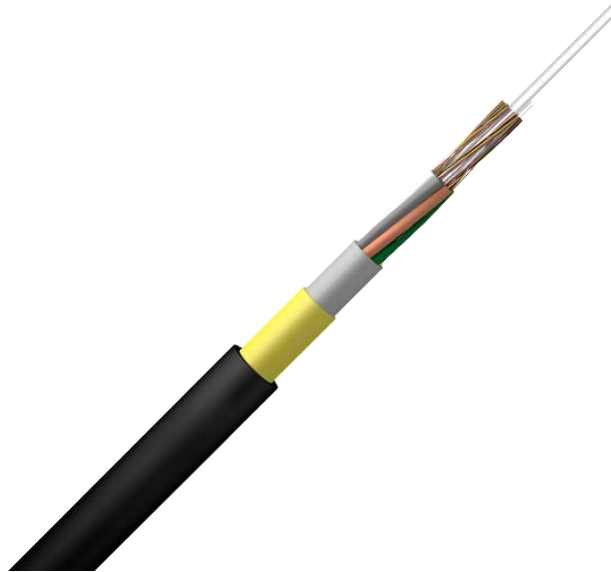


ADSS Single Jacket Dielectric Cable

12F, 24F, 36F, 48F, 60F, 72F, 96F, 144F, 288F



Schematic for reference only

Part Numbers:

- 10-31031.02A - 12F 500ft ADSS SJ/Dielectric Cable
- 10-31001.02A - 24F 500ft ADSS SJ/Dielectric Cable
- 10-31007.03A - 48F 500ft ADSS SJ/Dielectric Cable
- 10-31016.02A - 96F 500ft ADSS SJ/Dielectric Cable

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General/Scope

This Specification covers the design requirements and performance standard for the supply of optical fiber cable in the industry. RaDD ensures a stable quality control system for our cable products through several programs including ISO 9001, ISO 14001 and OHS.

Cable type	Application
ADSS Single Jacket Dielectric Cable - 500ft	Self-supporting aerial installation 500ft represents the span

Reference

The cable offered by RaDD are designed, manufactured and tested according to the standards as follows:

ITU-T G.657	Characteristics of a single-mode optical fiber
IEC 60794-1-1	Optical fiber cables-part 1-1: Generic specification-General
IEC 60794-1-21	Optical fiber cables- part1-2-Generic specification-Basic optical cable test procedure-Mechanical test methods
IEC 60794-1-22	Optical fiber cables- part1-2-Generic specification-Basic optical cable test procedure-Environmental test methods
IEC 60794-3	Optical fiber cables-part 3: Sectional specification-Outdoor cables
IEC 60794-4-20	Aerial optical cables along electrical power lines – Family specification for ADSS (All Dielectric Self Supported) optical cables

Life Time

Optical fiber cables supplied in compliance with this specifications is capable to withstand the typical service condition for a period of twenty-five (25) years without detriment to the operation characteristics of the cable.

Application

Item	Value
Max. pole distance	500ft
Operation temperature	-40 °C~+70 °C
Storage temperature	-40 °C~+70 °C
Static bending radius	10 times the cable diameter
Dynamic bending radius	20 times the cable diameter

Optical Fiber

Optical fibers supplied in this specification meet the requirements of ITU-T G.657A1

Parameter	Specification
MFD (1310nm)	8.4~9.2um
Cladding diameter	125±0.7um
Fiber diameter	235~255um, with UV coating, and colored to : 250±15um
Core/cladding concentricity error	≤ 0.5um
Coating/cladding concentricity error	≤ 12.0um
Cladding non circularity	≤ 0.7%
Cut off wavelength	$\lambda_{cc} \leq 1260\text{nm}$
Attenuation coefficient	1310nm: 0.36dB/km max after cabling 1550nm: 0.22dB/km max after cabling
Bending-loss performance of optical fibers @1550nm	≤0.25dB (10 turns around a mandrel of 30mm diameter)
Polarization mode dispersion maximum individual fiber	≤0.2ps/√ km
Polarization mode dispersion link value	≤ 0.1ps/√km
Zero-dispersion wavelength	1300~1324nm
Zero-dispersion slope	≤0.092ps/nm ² .km

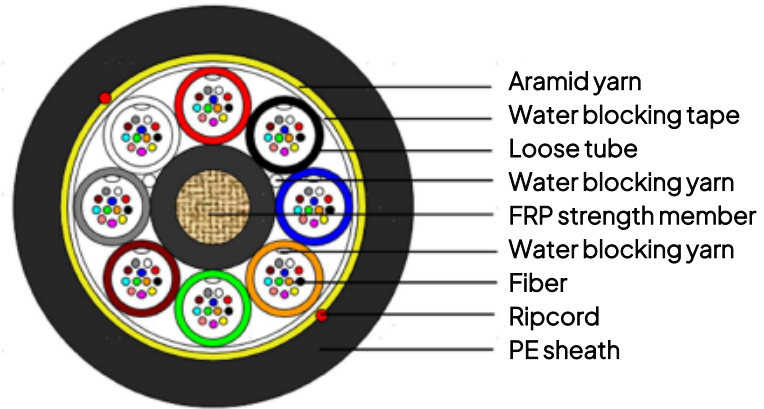
Optical Cable

Technical Characteristics

- The unique second coating and stranding technology provide the fibers with enough space and bending endurance, which ensure good optical property of the fibers in the cable
- Accurate process control ensures good mechanical and temperature performance
- High quality raw material guarantees the long service life of cable

Cross Section of Cable

Schematic for reference only



10-31016.02A - 96F 500ft ADSS SJ/Dielectric Cable

Structure of other fiber counts refer to 3.4

Fiber and Loose Tube Identification

The color code of fibers and loose tube will be identification in accordance with the following color sequence, other sequence also is available

Fiber Color Code	Blue	Orange	Green	Brown	Grey	White
	7	8	9	10	11	12
	Red	Black	Yellow	Purple	Pink	Aqua

Tube Color Code						
12~144F	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Grey	White
	7	8	9	10	11	12
	Red	Black	Yellow	Purple	Pink	Aqua
288F	Inner1	Inner2	Inner3	Inner4	Inner5	Inner6
	Blue	Orange	Green	Brown	Grey	White
	Inner7	Inner8	Inner9	Outer1	Outer2	Outer3
	Red	Black	Yellow	Purple	Pink	Aqua
	Outer4	Outer5	Outer6	Outer7	Outer8	Outer9
	Blue with black stripe	Orange with black stripe	Green with black stripe	Brown with black stripe	Grey with black stripe	White with black stripe
	Outer10	Outer11	Outer12	Outer13	Outer14	Outer15
	Red with black stripe	Black with white stripe	Yellow with black stripe	Purple with black stripe	Pink with black stripe	Aqua with black stripe

The color of the fillers will be natural.

Dimensions and Descriptions

The standard optical cable structure is shown in the following table, other structure and fiber count are also available according to customer requirements.

Item	Contents	Value			
		12/24/36/48/60/72	96	144	288
Structure	Type	1+6	1+8	1+12	1+9+15
Loose tube	Fiber counts/tube	12			
	Outer diameter (mm)	2.5			
Central strength member	Material	FRP			
	Diameter (mm)	2.8	3.0	3.5	3.5
	PE layer diameter (mm)	/	4.2	7.4	4.8
Water blocking	Material	Water blocking tape and yarn			
Peripheral strength member	Material	Aramid yarn			
Outer sheath	Material	MDPE			
	Color	Black			
	Thickness (mm)	Nominal: 1.5			Minimum: 1.5
Ripcord	Number	2			
	Color	Red			
Cable diameter (mm) Approx.		11.2	12.8	16.4	19.0
Cable weight (kg/km) Approx.		80	105	175	220

Main Mechanical and Environmental Performance

Main mechanical performance

Item	Max allowable tension (N)	Crush (N/100mm)
12/24/36/48/60/72	2800	1500
96	3700	
144	5600	
288	6400	

Environmental and installation condition

Max. wind speed	Max. ice thickness	Initial Installation sag	Temperature
24.7 m/s	0	1.0%	-40 °C~+70 °C

Mechanical, Physical and Environmental Test Characteristics

The mechanical and environmental performance of the cable are in accordance with the following table. Unless otherwise specified, all attenuation measurements required in this section shall be performed at 1550nm.

Items	Test Method	Requirements
Tension	<u>IEC 60794-1-21-E1</u> Load: According to 3.5 Sample length: Not less than 50m. Duration time: 1min.	Additional attenuation: ≤ 0.05 dB after test No damage to outer jacket and inner elements
Crush	<u>IEC 60794-1-21-E3A</u> Load: According to 3.5 Duration of load: 1min	Additional attenuation: ≤ 0.05 dB after test No damage to outer jacket and inner elements
Impact	<u>IEC 60794-1-21-E4</u> Radius: 300 mm Impact energy: 10J Impact number: 1 Impact points: 3	Additional attenuation: ≤ 0.1 dB No damage to outer jacket and inner elements
Repeated bending	<u>IEC 60794-1-21-E6</u> Bending radius: 20*D Cycles: 25 Load: 150N	Additional attenuation: ≤ 0.05 dB No damage to outer jacket and inner elements
Torsion	<u>IEC 60794-1-21-E7</u> Cycles: 10 Length under test: 1m Turns: $\pm 180^\circ$ Load: 150N	Additional attenuation: ≤ 0.1 dB No damage to outer jacket and inner elements
Water Penetration	<u>IEC 60794-1-22-F5</u> Time : 24 hours Sample length : 3m Water height : 1m	No water leakage.
Temperature cycling	<u>IEC 60794-1-22-F1</u> Sample length: at least 1000m Temperature range: $-40^\circ\text{C} \sim +70^\circ\text{C}$ Cycles: 2 Temperature cycling test dwell time: 12 hours	The change in attenuation coefficient shall be less than 0.05 dB/km.
Other parameters	According to <u>IEC 60794-1</u>	

Packaging and Drum

Cable Sheath Marking

Unless otherwise specified, the cable sheath marking shall be as follows:

Color: white

Contents: RaDD, the year of manufacture, the type of cable, cable number, length marking

Interval: 1 m

Outer sheath marking legend can be changed according to user's requests.

Reel Length

Standard reel length: 10,000 & 20,000 ft/reel, other length is also available.

Cable Drum

The cables are packed in fumigated wooden drums.

Cable Packing

Both ends of the cable will be sealed with suitable plastic caps to prevent the entry of moisture during shipping, handling and storage. The inner end is available for testing.