

Ribbon SJ/ Dielectric Buffer Tube Cable

288F/432F/576F/864F (Gel Filled)



Rendering for Schematic Purposes Only

Part Number:

10-25016.01A - 864F Ribbon SJ/Dielectric Cable

CONTACT & INFORMATION:

Tel: (920) 328-1020 Email: sales@raddnetwork.com Website: RaDDNetwork.com



General & Scope:

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

Cable type	Application
Ribbon SJ/Dielectric Buffer Tube Cable	Duct installation

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 60794-3-10	Optical fiber cables-part 3-10: Outdoor cables-Family specification for duct and direct buried optical communication cables
IEC 60794-3-11	Optical fiber cables-Part 3-11: Outdoor cables-Detailed specification for duct and directly buried single-mode optical fiber telecommunication 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
Operation temperature	-40 °C~+70 °C
Installation 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:

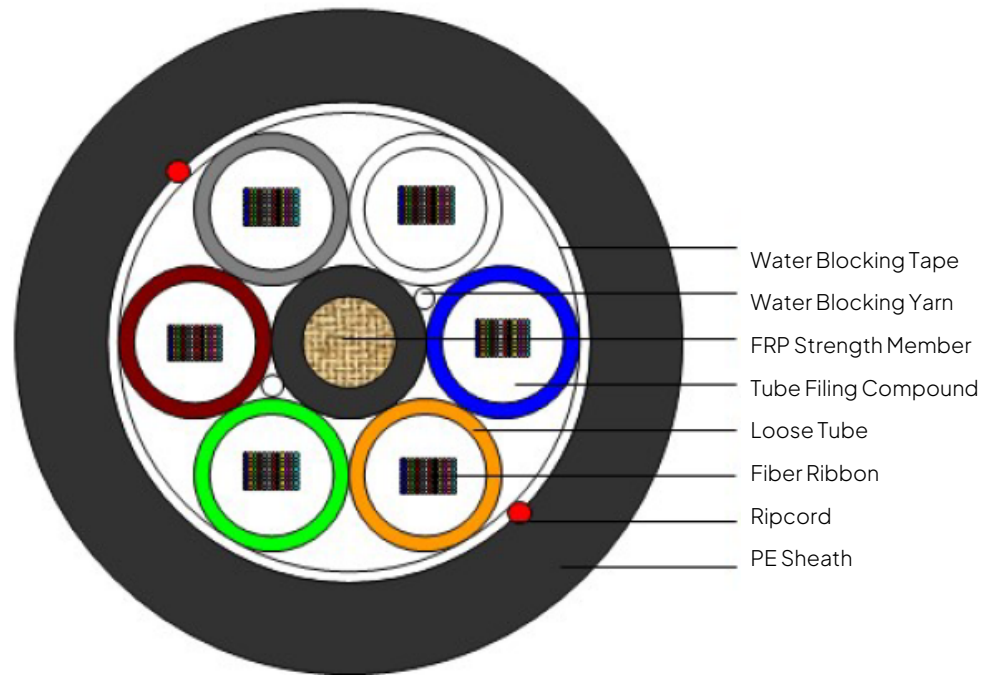
Optical Fibers supplied in this specification meet the requirements of ITU-T G.657A1

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	km√ps/ 1.0≤
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 fiber ribbon with enough space and bending endurance, which ensure good optical property of the fiber ribbon 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:



Ribbon SJ/Dielectric Buffer Tube Cable
Schematic for Reference Only

Fiber and Loose Tube Identification:

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

Fiber Ribbon Color Code	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Grey	White
	7	8	9	10	11	12
	Red	Black	Yellow	Purple	Pink	Aqua

The marking on the surface of fiber ribbon	1	2	3	4	5	6	7	8	9	10	11	12
	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12

Tube Color Code	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Grey	White

Dimensions and Descriptions:

The standard structure of Ribbon SJ/Dielectric Buffer Tube Cable is shown in the following table, other structure and fiber count are also available according to customer requirements.

Item	Contents	Value			
		288	432	576	864
Loose tube	Number	6			
	Outer diameter (mm)	5.2	5.8	6.4	7.6
Max. fiber count per tube	G.652D	12F Ribbon*4	12F Ribbon*6	12F Ribbon*8	12F Ribbon*12
Central strength member	Material	FRP			
	Diameter (mm)	3.7			
	PE layer diameter (mm)	5.4	6.0	6.6	7.8
Water blocking	Material	Water blocking yarn & tape			
Outer sheath	Material	MDPE			
	Color	Black			
	Thickness (mm)	Nominal: 1.8			
Ripcord	Number	2			
	Color	Red			
Cable diameter(mm) Approx.		20.0	21.4	23.4	26.8
Cable weight(kg/km) Approx.		275	300	370	470

Main Mechanical and Environmental Performance:

Item	Tension(N)	Crush(N/100mm)	
		Short term	Long term
288/432/576/864	2700	2000	1000

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: ≤0.1dB 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: ≤0.1dB after test No damage to outer jacket and inner elements
Impact	<u>IEC 60794-1-21-E4</u> Radius: 300 mm Impact energy: 10 J Impact number: 1 Impact points: 3	Additional attenuation: ≤0.1dB 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: ≤0.1dB No damage to outer jacket and inner elements
Torsion	<u>IEC 60794-1-21-E7</u> Cycles:10 Length under test: 1m Turns: ± 180° Load: 150N	Additional attenuation: ≤0.1dB No damage to outer jacket and inner elements
Water Penetration	<u>IEC 60794-1-22-F5B</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℃~+70℃ 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: 1m

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

Reel Length

Default reel length: 10,000 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.