

# Light Armored Round Drop Cable

1 of 7

2F/4F/6F/12F



Rendering for Schematic Purposes Only

## Part Numbers:

- 10-14001.01A - 4F Round Drop, Light Armor Cable
- 10-14006.01A - 6F Round Drop, Light Armor Cable
- 10-14006.03A - 6F Round Drop, Light Armor Cable
- 10-14010.01A - 12F Round Drop, Light Armor Cable

## CONTACT & INFORMATION:

Tel: (920) 328-1020 Email: [sales@raddnetwork.com](mailto:sales@raddnetwork.com) Website: [RaDDNetwork.com](http://RaDDNetwork.com)



## 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
Light Armored Round Drop	Duct installation and aerial installation

## Reference:

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

ITU-TG.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

## Lifetime:

Optical fiber cable 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:**

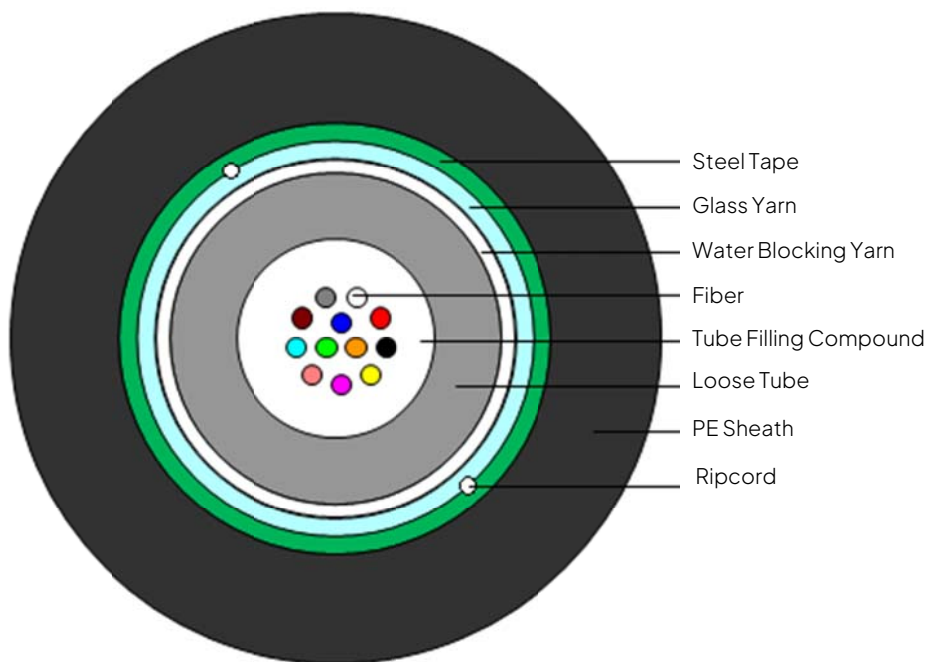
Optical Fibers supplied in this specification meet the requirements of ITU-T G.657A1

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
Core/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 Fiber @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	≤0.1 ps/√ km
Zero-Dispersion Wavelength	1300~1324nm
Zero-Dispersion Slope	≤ 0.092ps/nm <sup>2</sup> km

### Technical Characteristics of Fiber Optic Cable:

- 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:



10-14010.01A - 12F Round Drop, Light Armor Cable  
Schematic for Reference Only

### Fiber & Loose Tube Identification:

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

Fiber 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

### Dimensions & 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
		2~12
Loose tube	Number	1
	Fiber counts/tube	2~12
	Outer diameter (mm)	3.0
Water blocking	Material	WaterBlocking Yarn
Peripheral strength member	Material	Glass yarn
Armor	Material	Steel tape
Sheath	Material	MDPE
	Color	Black
	Thickness (mm)	Nominal: 1.5
Cable diameter (mm) Approx.		8.4
Cable weight (kg/km) Approx.		70

### Main Mechanical Performance:

Item	Tension((N)	Crush (N/100mm)	
		Short term	Long termm
2~12	1500	1500	750

## Mechanical, Physical & Environmental Test:

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: $\leq 0.1$ dB No damage to outer jacket and inner elements
Crush	<u>IEC 60794-1-21-E3</u> Load: According to 3.5 Duration of Load: 1 min	Additional attenuation: $\leq 0.1$ dB 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: $\leq 0.1$ dB No damage to outer jacket and inner elements
Repeated Bending	<u>IEC 60794-1-21-E6</u> Bending radius : $20 \times D$ Cycles: 25 Load: 150N	Additional attenuation: $\leq 0.1$ dB No damage to outer jacket and inner elements
Torsion	<u>IEC 60794-1-21-E7</u> Cycles: 10 Length under test: 1m Turns: $\pm 90^\circ$ Load: 150N	Additional attenuation: $\leq 0.1$ dB 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: $-40^\circ\text{C} \sim +70^\circ\text{C}$ 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>	

## Package & Drum:

### Cable Sheath Marking:

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

Color: White

Contents: RaDD Network Solutions, 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 or 20,000 feet/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.