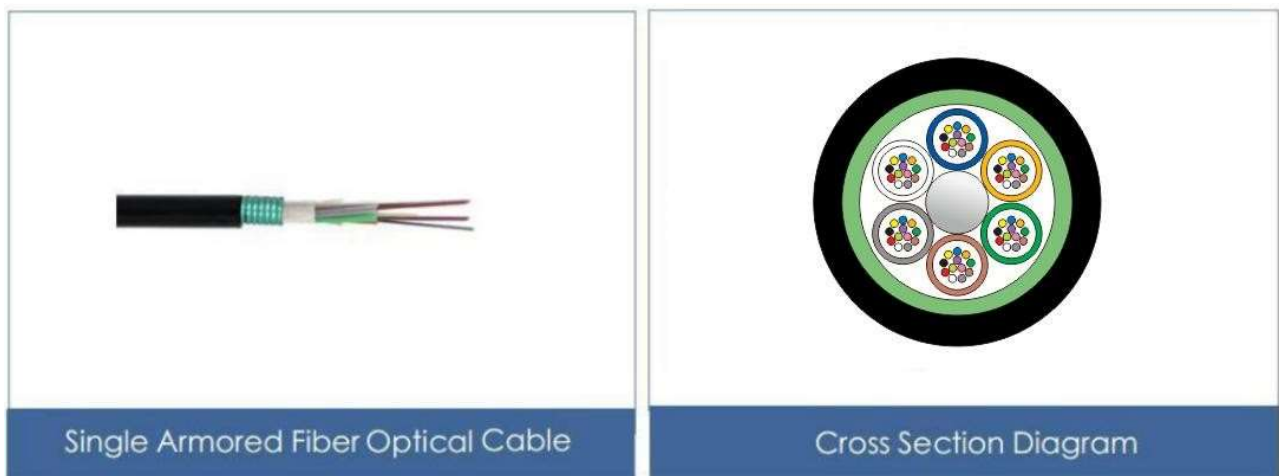


## 72 Fibers Armored Optical Cable SPECS

### 1. Introduction

This type of fiber optic cable is composed of loose tube fiber optic cables with compact structure, and the cable jacket is made of strong Polyethylene. High strength loose tubes have hydrolysis resistants. Cable filling materials ensure high reliability. This cable can be used for LAN and WAN backbones, telecom access lines, fiber to the business and fiber to the building drop connections, as well as fiber to the home drop and access connections.



#### Features

- Good mechanical and temperature performance
- Special design to prevent loose tube shrinking
- Crush resistance, water blocking and flexibility
- PE sheath protects cable from ultraviolet radiation
- High strength loose tube that is hydrolysis resistant

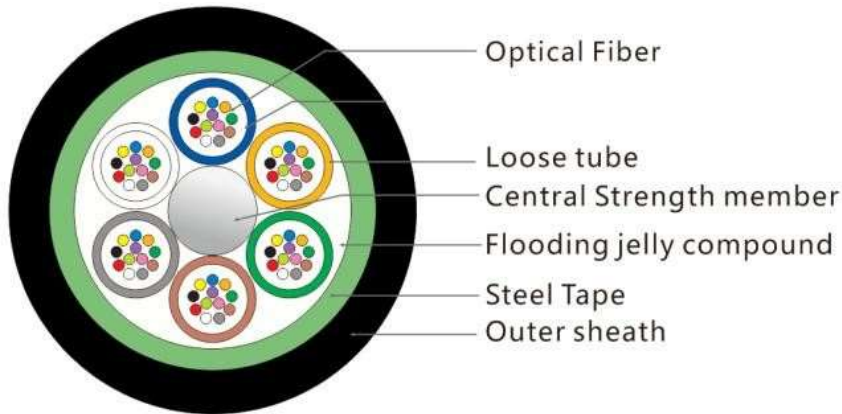
#### Application

- CATV
- Local trunk line
- Rural communication
- Computer networks system
- Aerial & conduit/duct application

## 2. Optical Characteristics







<b>Optical Specifications for G652D single mode fiber</b>		
Attenuation(dB/km)	@1310nm	≤0.36db/km
	@1383nm (after hydrogen aging)	≤0.32db/km
	@1550nm	≤0.22db/km
	@1625nm	≤0.24db/km
Dispersion	@1285nm~1340nm	-3.0~3.0ps/(nm*km)
	@1550nm	≤18ps/(nm*km)
	@1625nm	≤22ps/(nm*km)
Zero-Dispersion wavelength		1300~1324nm
Zero-Dispersion slope		≤0.092ps/(nm <sup>2</sup> *km)
Mode field diameter @ 1310nm		9.2±0.4μm
Mode field diameter @ 1550nm		10.4±0.8μm
PMD	Max. value for fiber on the reel	0.2ps/km 1/2
	Max. Designed value for link	0.08ps/km 1/2
Cable cutoff wavelength, λ <sub>cc</sub>		≤1260nm
Effective group index (N <sub>eff</sub> )@1310nm		1.4675
Effective group index (N <sub>eff</sub> )@1550nm		1.4680
Macro-bend loss (Φ60mm,100 turns) @1550nm		≤0.05db
<b>Back scatter characteristic(@1310nm&amp;1550nm)</b>		
Point discontinuity		≤0.05db
Attenuation uniformity		≤0.05db/km
Attenuation coefficient difference for bi-directional measurement		≤0.05db/km
<b>Geometrical characteristics</b>		
Cladding diameter		125±1μm
Cladding non-circularity		≤1%
Core/cladding concentricity error		≤0.4μm
Fiber diameter with coating(uncolored)		245±5μm
Cladding/coating concentricity error		≤12.0μm
Curl		≥4m
<b>Mechanical characteristic</b>		
Proof test		0.69GPa
Coating strip force (typical value)		1.4N
Dynamic stress corrosion susceptibility parameter (typical value)		≥20
<b>Environmental characteristics(@1310nm&amp;1550nm)</b>		
Temperature induced attenuation (-60~+85°C)		≤0.5dB/km
Dry heat induced attenuation(85±2°C,30days)		≤0.5dB/km
Damp heat induced attenuation (85±2°C, RH85%,30days)		≤0.5dB/km

### 3. Cable Structure



#### 3.1 COLOR IDENTIFICATION OF FIBER

The fibers shall be marked by a colored coating with 12 different colors according to EIA/TIA 598:

Color												
NO of fiber	1	2	3	4	5	6	7	8	9	10	11	12
Color names	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

#### 3.2 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.

Cable Parameter			
Cable Type	Single-Armored Outdoor	Fiber Count	72 Fibers
Construction	Stranded Loose Tube	Fiber Type	Dry core G.652D
Outer Jacket	PE (Black)	Central Strength Member	Steel Wire
Cable Diameter	11.9±0.3mm	Weight	140 kg/km
Armor Layer	corrugated steel armor	Application	Duct Aerial
Tensile Strength (long/short term)	600/1500N	Crush Load (long/short term)	300/1000 (N/100mm)
Bending Radius (long/short term)	10D/20D (mm)	Operating/Storage Temperature	-40 to +60°C

#### 4. 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
<b>Tension</b>	<b><u>IEC 60794-1-2-E1</u></b> 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
<b>Crush</b>	<b><u>IEC 60794-1-2-E3</u></b> Load: According to 3.5 Duration of load: 1min	Additional attenuation: ≤0.1dB after test No damage to outer jacket and inner elements
<b>Impact</b>	<b><u>IEC 60794-1-2-E4</u></b> 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
<b>Repeated bending</b>	<b><u>IEC 60794-1-2-E6</u></b> Bending radius: 20*D Cycles: 25 Load: 150N	Additional attenuation: ≤0.1dB No damage to outer jacket and inner elements
<b>Torsion</b>	<b><u>IEC 60794-1-2-E7</u></b> Cycles:10 Length under test: 1m Turns: □ 180° Load: 100N	Additional attenuation: ≤0.1dB No damage to outer jacket and inner elements
<b>Water Penetration</b>	<b><u>IEC 60794-1-2-F5B</u></b> Time: 24 hours Sample length: 3m Water height: 1m	No water leakage.
<b>Temperature cycling</b>	<b><u>IEC 60794-1-2-F1</u></b> Sample length: at least 1000m Temperature range: -30 °C ~+70 °C Cycles: 2 Temperature cycling test dwell time: 12 hours	The change in attenuation coefficient shall be less than 0.05 dB/km.
<b>Other parameters</b>	According to <b><u>IEC 60794-1</u></b>	

## 5. Packing and Marking

- **Cable Sheath Marking:**
  - Unless otherwise specified, the cable sheath marking shall be black
  - Contents: Year of manufacture, 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: 2/3 km/reel; other lengths are 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

