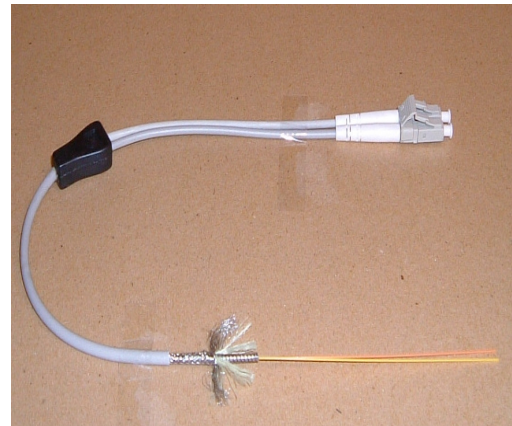


Product Overview

WFT armored patch cord are designed for being used in harsh environment, in which the traditional standard patch-cord can not fit and can not get good performance. The armored patch-cord are with stainless steel armored flexible tube inside the outer jacket, by this way it can protect the cord from damage caused by twist, pressure or rodent bite. WFT such armored patch-cord is as easy as handling of electric cords, the installation procedure and maintenance is also easy. They are ideal choice for people who is looking for fiber optic with additional durability and protection as well as light weight. WFT provides not only high quality Armored Patch-cord , but also OEM/ODM, manufacturing services for fiber applications.

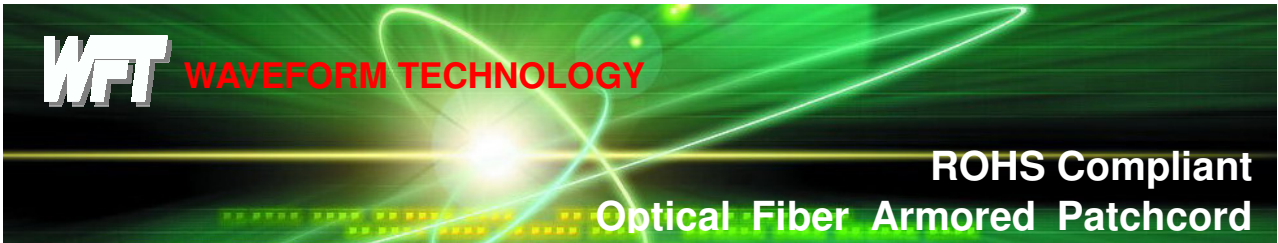


Features

- Steel tube armored inside outer jacket
- Different connector type optional
- Resist damage by improper twist
- Low insertion loss
- Resistance of pressure and rodent bite
- Custom cord length optional
- SC,ST,FC,LC,SC/APC,FC/APC Connector also available

Application

- Optical Communication Systems
- LAN
- Fiber Optic Sensors
- CATV
- Test Instruments
- Optical Monitor System in harsh environment



Armored Patch Cord Specification

1. Introduction

This specification describes the optical and mechanical characteristics of the “ Armored (Optical Fiber) Patch Cord”

Compare with the traditional patch cords , the mechanical characteristics of WFT “ Armored Patch Cords”. are much stronger. And they are as easy to handle as electric cable.

WFT “Armored Patch Cord” is designed with a micro diameter stainless flexible metal tube inside the outer flame-resistance PVC coating to protect this fragile optical fiber. In order to ensure the firmly conjunction, we also offer relative strong connector. This unique design reduce the difficulties of installation and extend the fiber’s life.

WFT “Armored Patch Cord.” can be used as the connection between the ODF (Optical Distribution Frame) and equipments, connection between floor and floor or emergency testing connection, especially they are ideal choice for harsh environment.

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2. Product Specification

2-1 Structure

Fig.1 is the schematic diagram of the simplex armored patch cord, which was constructed of (1)connector, (2)optical fiber (3)stainless metal tube, (4)Kevlar, (5) stainless metal braiding, (6)jacket. .

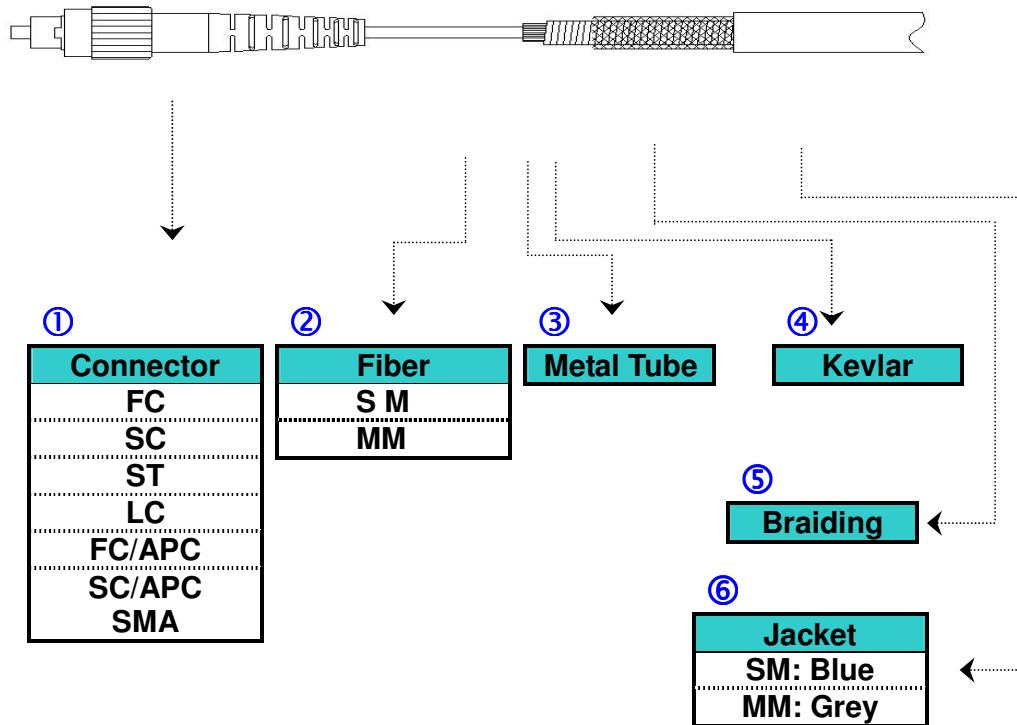


Fig.1

2-2 Structure

The structure of duplex armored cable is shown on Fig.2. It is constructed of (1)Fiber, (2)Stainless metal tube, (3)Kevlar, (4)Stainless metal braiding, (5) jacket. Fig.3. is the schematic diagram of duplex armored patch cord

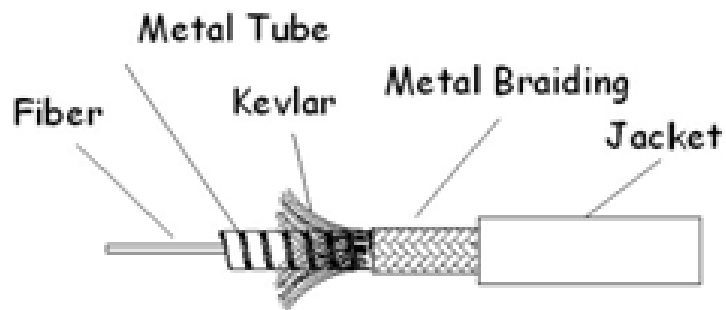


Fig.2

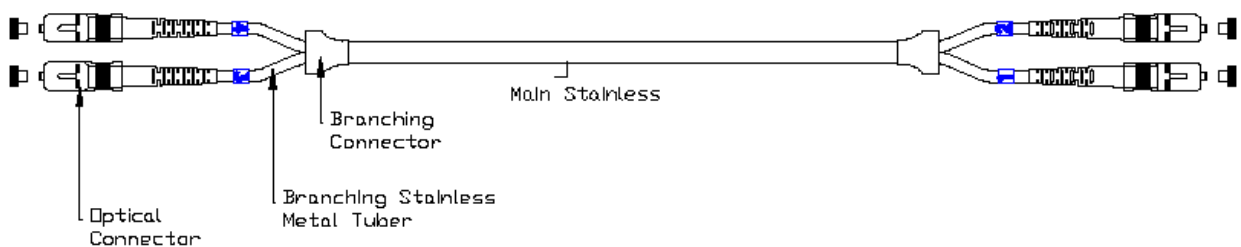


Fig.3

2-3 Optical Fiber

2-3-1 Bare Fiber

Table 1 is the characteristics of optical bare fiber.

Table 1

Item	Single Mode	Multi Mode	
Core/Mode Diameter	9.2±0.4µm @1310nm 10.4±0.8µm @1550nm	50±2.5µm	62.5±2.5µm
Cladding Diameter	125±1µm	125±1µm	125±1µm
Attenuation	≤0.4db/km @1310nm ≤0.3db/km @1550nm	≤3.0dB/km @850nm ≤1.0dB/km @1300nm	≤3.2dB/km @850nm ≤1.0dB/km @1300nm
Bandwidth	---	≥200Mhz-km @850nm ≥400Mhz-km @1300nm	≥160Mhz-km @850nm ≥200Mhz-km @1300nm
Zero –dispersion shift	0.092 ps/ nm ² -km.	0.101 ps/ nm ² -km.	0.097 ps/ nm ² -km.
Cut-off wavelength	λ cutoff ≤ 1260nm	---	---
Numerical Aperture	0.13	0.200±0.015	0.275±0.015
Coating	245±10µm	245±10µm	245±10µm



2-3-2 Coated Fiber

This 250µm bare fiber is coated with 600µm PVC jacket, and this 600µm coated fiber was protected by the stainless flexible metal tube as described in the following sections.

2-4 metal tube with jacket

The material of this tube is 304 stainless metal. Table 2 is the diameters and mechanical characteristics of metal tube with jacket.

Table 2.

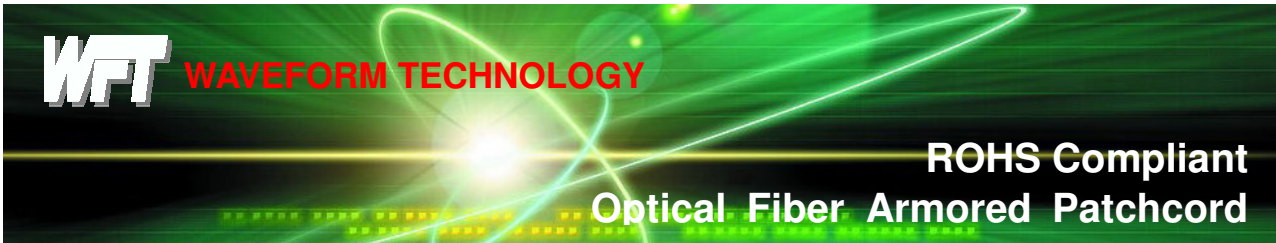
Item	Simplex	Duplex	Unit
Number of fibers	1	2	pcs
Inner Diameter of metal tube (I.D.)	1.2 +/- 0.05	1.5 +/- 0.05	mm
Outer Diameter of metal tube (O.D.)	1.8 +/- 0.05	2.1 +/- 0.05	mm
Overall diameter with jacket	3.0 +/- 0.2	3.3 +/- 0.1	mm
Tensile strength	≥ 20		Kgf
Anti-pressure	≥ 300		Kgf/100mm

In order to increase the tensile strength of this main stainless metal tube, we surround the stainless metal with Kevlar and stainless metal braiding as shown in fig.1. The diameter of this metal braiding wire is 0.07mm and its material is 304 stainless metal.

The Kevlar and stainless metal braiding are in the outside of the stainless metal tube and this increase the anti-tensile strength of this cable. We coat this braiding metal tube with PVC or PE jacket according to the customer's requirements. In the normal situation, we use the PVC material as the metal tube jacket and the jacket color is blue for single mode fiber and grey for multi-mode fiber.

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2-5 Optical connectors

We use the traditional optical connectors as our armored optical connectors. Table 3 is the characteristics of the optical connectors.

Table 3

Fiber type	Single Mode		Multi Mode
Connector Type	SC/FC/ST/LC(PC)	SC/FC (APC)	SC/FC/ST/LC
Insertion Loss (I.L.)	$\leq 0.3\text{dB}$	$\leq 0.3\text{dB}$	$\leq 0.3\text{dB}$
Return Loss (R.L.)	$\geq 50\text{dB}$	$\geq 65\text{dB}$	----
Repeatability	$\leq 0.1\text{dB}$		
Operating Temperature	$-40\sim +85^{\circ}\text{C}$		

3. Reference

- (1)GR-326-CORE : Generic Requirements for Single mode Optical Connectors and Jumper Assemblies.
- (2)GR-409-CORE : Generic Requirements for Premises Fiber Cable.

Notice:

All above specifications may be adjusted according to customer requirements . The manufacturer also reserves the right to make improvements to the products.

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Ordering Information

WP-□ □ □ □ □ □

