

Application Note:

## FTTx Installation Tips

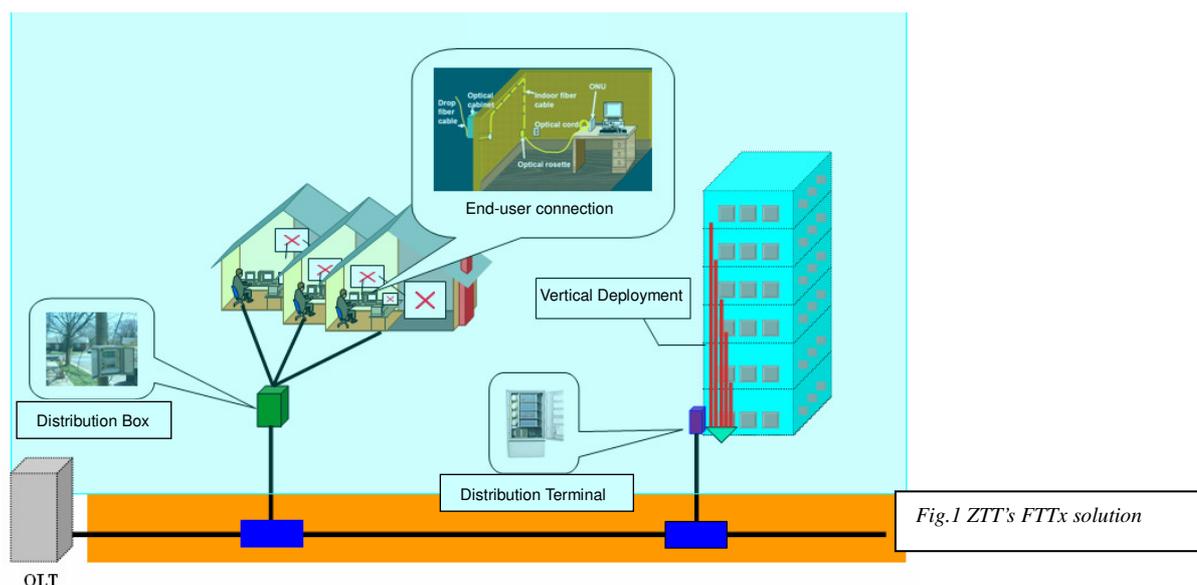


Issued: Oct, 2008

Document: FTT- A001

## Introduction

Rapid growth of high-bandwidth internet applications and home entertainment applications in the past decade accelerated the deployment of next generation network infrastructure. Fiber-to-the-x (FTTx) is widely known by the telecommunication field as the best way to meet end user demand on ultra-high speed data communication.



Accompanied by the increasing penetration of FTTx service, safety and reliable installation is a key concern for the network provider, constructor and also the end user when adopting into this new, ultra-high speed network generation. Following was some basic understandings and tips on handling fiber optic cable, which can apply to all type of FTTx installation:

### Do Not Exceed Cable Bending Limit

To avoid damaging optical fiber, bending ratio of the cable was limited by the **minimum bending radius**. According to the company's cable standard, the value of **minimum bending radius** is 10times of the cable diameter (10D) in operation, and become 20D during cable wiring process (e.g. pulling cable from in-wall duct).



Fig.2 Cable with small bending radius provide flexible network deployment

## Do Not Exceed Cable Pulling Limit

The maximum pulling force acting on the cable, which usually occur in the process of wiring, should never exceed 80% of **Rated Tensile Strength (RTS)** stated on cable's factory specification.

Never let the optical fiber twisted or pulled, the force should only act on the sheath or strength member of the cable.

## Connect to network:

Patch cord is applied to connect fiber optic cable, which deployed from optical terminal to the junction box, with user network device (ONU). It provides a flexible mechanism to lay the cable with different indoor environment.

Patch cord usually connected network devices within 30 meters from nearest junction box. Cable sheath should fabricated by fire retardant material (e.g. LSZH) to ensure user's safety.



Fig.3 FC patch cord adaptor

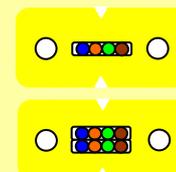
## Spare excess length:

Optical fiber was fabricated by glass and silica, which are highly brittle materials. It was usually well-protected by sheath and strength member, but the exposed cable's end was easy to break. Since the damaged optical fiber will malfunction and being cut-off. To ensure cable's length is enough after splicing, excess length of 5~10meters is recommended in each installation.

Further technical support on FTTx installation is available form our [technical department](#).

To cope with the rapid development of FTTx, we offer wide range of cables and components that suit for different deployment method and network usage. Here are our feature products.

**FTTx Flat Drop Cable:** Excellent performance on tensile strength and bending characteristic. Easy-to-slit design. Suitable for high-dense premise fiber network deployment.



**TIGER-I: Super Flexi-Bend Patch cord:** Dedicated design for FTTx indoor network applications. Bending insensitive, kink-free, compactable... A perfect solution for FTTx user.



For more product details or tailor-made solution, please [contact us](#).