Certified Optical Fibre Installer (COFI) for South Africa

This course is designed for installation and maintenance staff working on a range of fibre optic networks including enterprise & outside plant networks for datacoms and telecoms applications. It provides a broad knowledge of the components and equipment used and highlights good working practices in order to inspire a professional approach to the job role.

Practical sessions build the skills required to install, joint, terminate and test fibre optic cabling links that may contain either multimode or singlemode fibre.

This course may be supplemented by additional training for specialist environments such as harsh environments including mining, industrial or military applications, or FTTx applications with Passive Optical Networks (PONs).

Our intention is to provide the 'very best of class' installation training for customers that require professional staff trained up to meet the standards required to build and maintain quality fibre optic installations in the South African marketplace.

Features

- hands-on practical sessions using a range of equipment
- comprehensive, easy to read, course manual
- pass the assessment to gain Certified Optical Fibre Installer (COFI) status

Key outcomes

- appreciate how optical fibres work and the issues that can affect performance
- identify link components and appreciate why different types are required for different environments
- handle fibre optic cable and components correctly to ensure optimum performance
- appreciate the importance of cleanliness when handling fibre optic connectors
- carry out inspection of fibre optic connectors
- work safely on fibre optic networks
- prepare fibre optic cabling for fitting connectors or splicing
- terminate fibre optic cables by splicing on pre-terminated pigtails or using pre-polished connectors
- joint fibre optic cables by fusion splicing and manage fibres in a splice closure
- test fibre optic links according to relevant standards
- test patch cords correctly
- carry out continuity and insertion loss testing
- use an OTDR correctly for optimum testing of fibre optic links

Optical fibre is very small so good eyesight (or appropriate glasses) and good hand skills are required for this course.

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Certified Optical Fibre Installer (COFI) for South Africa

The syllabus

**BECOMING A COFI**
- Types of fibre networks
- Key skills and tasks

**COMMS and LIGHT**
**LIGHT & WAVELENGTHS**
- Electromagnetic spectrum
- Wavelengths/frequencies
- Speed of light

**COMPONENTS**
**OPTICAL FIBRE FOR COMMS NETWORKS**
- Guiding light
- Fibre characteristics
- Fibre types
- Operational issues

**FIBRE OPTIC CABLES**
- Cable performance issues
- Typical constructions
- Cables for different environments

**CONNECTORS**
- Connector basics
- Connector styles
- Connector performance

**ENTERPRISE SYSTEM COMPONENTS**
- Cabinets, racks & frames
- Patch panels
- Transmitters & Receivers

**TELECOMS SYSTEM COMPONENTS**
- Splice or joint closures
- Termination location components
- Optical Distribution Frames

**INSTALLATION ISSUES**
**CABLE HANDLING**
- Cable handling & management

**SAFETY WITH FIBRE OPTIC TECHNOLOGY**
- Safe working with fibre
- Hazardous substances
- Fibre offcuts
- Optical power
- Laser safety issues
- Good practices checklist

**JOINVING FIBRES**
- Definitions
- Causes of loss
- Performance standards

**INSPECTING & CLEANING CONNECTORS**
- Why do we inspect & clean connectors?
- Inspection standards
- Inspection equipment
- Cleaning equipment
- Connector care

**POLARITY IN BASIC INSTALLATIONS**
- Simplex installations
- Duplex installations

**INSTALLATION TASKS**
**CABLE PREPARATION**
- Overview and tooling
- Fibre coatings
- Cleaning techniques
- Sample procedure

**CLEAVING FIBRES**
- Fibre cleaving
- Potential issues

**TERMINATION PROCEDURE**
- pre-polished connectors

**FUSION SPLICING**
- Procedure
- Splicing parameters
- Potential issues
- Splicer maintenance

**JOINING EXTERNAL CABLES**
- Working outdoors
- Workspace planning
- Preparation
- Splicing the fibres
- Completing the job

**ROUTINE TESTING**
**WHY, HOW & WHEN TO TEST**
- Continuity checking

**USING THE OTDR**
- Step by step guide
- Manipulating the trace
- Measurement parameters

**OTDR ISSUES**
- Poor launch conditions
- Interfacing with bare fibres
- Ghosts
- Fibre mismatches

**ASSESSMENT**
**THEORY ASSESSMENT**
- Multimode fibre: Enterprise system
- Singlemode fibre: Telecoms system

**TEST CONFIGURATIONS**
- Cable on a drum
- Installed cable before termination
- Connectorised systems

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