

# TRAINING TITLE HIGH VOLTAGE AND LOW VOLTAGE CABLE JOINTER

<u>Training Duration</u> 5 days

#### **Training Venue and Dates**

In any of the 4 or 5-star hotels. The exact venue will be informed later.

#### **Training Fees**

• \$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch

#### Training Certificate

**Define** Management Consultancy & Training Certificate of course completion will be issued to all attendees.

#### TRAINING DESCRIPTION

This course is designed to provide participants with the essential knowledge and practical skills required to work as cable jointers for both high voltage (HV) and low voltage (LV) electrical cables. Participants will gain hands-on experience in the safe and efficient installation, termination, and jointing of electrical cables. The course covers various cable types, jointing techniques, safety protocols, and the correct tools and equipment needed for both HV and LV cable jointing. It is ideal for electrical engineers, technicians, and field workers looking to enhance their skills in cable jointing for different voltage levels.

#### TRAINING OBJECTIVES

#### By the end of this course, participants will be able to:

- Understand the fundamentals of high voltage and low voltage cable systems.
- Learn the types of cables used in HV and LV installations, and their applications.
- Gain knowledge of the key materials, tools, and equipment used in cable jointing.
- Master the procedures for safely terminating and joining both HV and LV cables.
- Understand the importance of safety regulations and precautions when working with electrical cables.
- Develop practical skills in fault finding, troubleshooting, and ensuring the reliability of cable joints.

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• Learn how to maintain and repair HV and LV cable joints.

#### WHO SHOULD ATTEND?

- Electrical engineers and technicians working in the electrical power distribution sector.
- Maintenance personnel involved in electrical cable jointing and installation.
- Field workers and electrical contractors dealing with HV and LV cable systems.
- Anyone interested in gaining hands-on knowledge of cable jointing for high and low voltage systems.

# TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work& Practical Exercises
- 20% Videos& General Discussions

# **COURSE PROGRAM:**

# Day 1: Introduction to Cable Systems and Safety Protocols

- Overview of high voltage (HV) and low voltage (LV) cable systems and their applications.
- Understanding cable types: XLPE, PILC, PVC, and other materials used in HV and LV cables.
- The structure of cables: Conductors, insulation, armoring, and sheathing.
- Introduction to cable jointing and termination processes.
- Key safety regulations and precautions when working with electrical cables (e.g., personal protective equipment, lockout/tagout).
- Overview of electrical hazards and risk assessments.

# Day 2: Tools, Materials, and Equipment for Cable Jointing

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- Overview of tools and equipment used for HV and LV cable jointing (cutting tools, insulation stripping tools, crimping tools, and jointing kits).
- Materials used in cable jointing: Insulation materials, jointing compounds, heat shrink and cold shrink tubing, and sealing kits.
- Cable jointing methods: Mechanical joints vs. heat shrink joints vs. cold shrink joints.
- Preparing cables for jointing: Stripping, cleaning, and preparing cable ends.
- Understanding the role of stress control and insulation in jointing.

# Day 3: High Voltage Cable Jointing and Termination Techniques

- Techniques for HV cable jointing: Preparing, stripping, and cleaning HV cables.
- Step-by-step process for making HV cable joints (mechanical, heat shrink, and cold shrink).
- Termination of HV cables: Installing termination kits, ensuring proper insulation and stress control.
- Testing and verifying HV cable joints for continuity, insulation resistance, and voltage withstand.
- Safety measures and troubleshooting for HV cable jointing.

# Day 4: Low Voltage Cable Jointing and Termination Techniques

- Techniques for LV cable jointing: Preparing, stripping, and cleaning LV cables.
- Step-by-step process for making LV cable joints (mechanical, heat shrink, and cold shrink).
- LV cable terminations: Correct methods for LV cable terminations, including the use of lug connectors and crimping.
- Understanding earthing and grounding requirements in LV jointing.
- Testing LV joints: Continuity testing, insulation testing, and fault finding.

# Day 5: Fault Finding, Maintenance, and Final Inspections

- Identifying common faults in HV and LV cable joints (e.g., insulation breakdown, loose connections).
- Techniques for fault finding in cable joints: Using continuity testers, insulation resistance testers, and high-voltage testing equipment.
- Regular maintenance practices to ensure the reliability of cable joints.
- Inspecting cable joints and terminations for quality and compliance with standards.
- Final testing, commissioning, and documentation of completed jointing work.

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• Review of industry standards and best practices for cable jointing and termination.

NOTE:

<u>Pre-& Post Tests will be conducted.</u> <u>Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments</u> <u>will be carried out.</u>



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