



Electrical Engineering

Certified HV MV Cable Splicing, Jointing, Termination & Inspection (Workshop)

Course Introduction

The purpose of Power Cables is for the efficient distribution of Electrical Energy, distribution must be done with a high degree of Reliability & Safety over very long periods. The range of voltage and capacity of Power transmitted through cables is showing a steady increase over the years. Environmental concerns, aesthetic issues, lack of transmission corridors, and difficulty in routing overhead lines in crowded human habitats are some of the reasons for the explosive growth of Cable Technology well into the extra high voltage range. Cable terminations and joints form the weakest link in any distribution system.

Also, a failed joint in an underground distribution system is much more difficult to locate and repair compared to any similar problem in overhead distribution systems. This means we should do our utmost to achieve a good joint or termination, which can give years of trouble-free service. Our main objective is to increase the level of knowledge and skills abilities of participants as well as to transfer our knowledge to attendees to be able to use international and nationally recognized experts in the field of power cable jointing and termination.

Target Audience

The course is designed for Power Cable Jointers, Electrical Technicians, Inspectors, and Engineers.

Learning Objectives

- To provide participants with practical techniques and concepts in cable jointing and termination.
- The course aims at providing the participants with key concepts that will enable them to operate with confidence in a highly changing world in all sectors of the industry.

- Participants will have firsthand experience with new concepts.

Course Outline

• DAY 01

(Introduction and Cables types)

- 1.1 Introduction
- 1.2 Need for Cable Joints and Terminations
- 1.3 Types of Cables
- 1.4 Basic construction of Cables.
- 1.5 Types of Insulation Materials
- 1.6 Basic types of Terminations and Joints
- 1.7 Installation aspects
- 1.8 Basics of stress control approach
- 1.9 Joints & Terminations theory.
- 1.10 Prefabricated:
 - Pre-molde (slip-on) & Cold Shrink Joints
- 1.11 Site fabricated: taped and heat-shrinkable joints.

• Day 02

(Jointing & Termination) PRACTICE

- 2.1 Kits for Joints and Terminations
- 2.2 Shelf life issues
- 2.3 Importance of matching diameter of
- 2.4 Insulated conductor with kit specifications in Pre- Fabricated Kits
- 2.5 Preparation of Cable for Termination & Jointing
- 2.6 Continuity and grounding aspects
- 2.7 Healthiness of Joint/ Termination
- 2.8 Installation aspects for Joints: buried Joints and markers for Identification, Joints placed on Cable structures with other Cables-Safety issues, access for repairs

- 2.9 Connectivity for Cable Screen and Armor
- 2.10 Mechanical Protection of Joints & Terminations

• **Day 03**

(Termination to Equipment) PRACTICE

- 3.1 Terminations to indoor Switchgear: need for Coordination with Manufacturer of Switchgear, issues arising from multiple Terminations, design of Switchgear Terminals
- 3.2 Terminations to Electrical Machines
- 3.3 Terminations of outdoor HV installations
- 3.4 Terminations to GIS Installations
- 3.5 Correct orientation of Terminations

• **Day 04**

(Installation of Accessories) PRACTICE

- 4.1 Installation of Pre-molded Joint
- 4.2 Installation of Cold Shrink Joint
- 4.3 Installation of Heat Shrink Joint

• **Day 05**

(Cable Fault Location, Tracing & Standard)

- 5.1 International and National Standards Applicable
- 5.2 Failures Analysis and Failure Prediction
- 5.3 Methods of Cable Fault Location
- 5.4 Cable Tracing and Cable Locator
- 5.5 Acoustic Fault Location
- 5.6 Propagation Time Measurement

- 5.7 Pin Pointing Set
- 5.8 Audio Frequency Twist Method
- 5.9 Cable Test Van
- 5.10 Reasons for Failures
- 5.11 Documentation of Work
- 5.12 Documentation of Failures

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 5, 2025	May 9, 2025	5 days	4250.00 \$	UAE - Dubai
July 7, 2025	July 11, 2025	5 days	4950.00 \$	Spain - Barcelona
Oct. 19, 2025	Oct. 23, 2025	5 days	4250.00 \$	KSA - Riyadh