Low to High Voltage Cable Splicing and Terminations

Course Description

Splices and terminations, which are always a vital part of any cable system, become more susceptible to failure at higher voltages. Whether splicing or terminating is accomplished by the use of hand-applied tapes, a filled or molded device, heat-shrinkable tubing, or a prefabricated device, care should be exercised during the application. Poor workmanship or improper choice of materials could jeopardize the reliability of the entire system.

This Hands-On course covers Distribution underground cable accessories from Low to High Voltage cable from various manufacturers. The course is designed according to the type of cable and cable accessories utilized by your company.

Students Will Learn

- **Overview of Tape Products**
- **Electrical Tape Utilization**
- **Overview of Low Voltage Splicing**
- **How to perform Low Voltage Splicing**
- **Overview of High Voltage Terminations**
- **How to perform a High Voltage Termination**
- **Overview of High Voltage Splicing**
- **How to perform a High Voltage Tape Splice**
- **Overview of High Voltage Premolded Splicing**
- **How to perform a High Voltage Premolded Splice**
- **Low-High-Voltage Cable Types, Components and Design**
- **Safe Use Of Splicing Tools**
- **Proper Cable Preparation, Installation and Handling Techniques**
- **Advanced Testing, Splicing and Termination Procedures**
- **Perform Splicing and Terminating in Lab using Tape, Shrink and Molded Technologies**

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Target Audience

Designed for engineers, electricians, supervisors and cable splicers that are responsible for the installation, maintenance, splicing and terminating of Low-High voltage cable systems.

Prerequisites

General Safety Procedures, Practices, Basic Electrical theory and Familiarity with cable systems is beneficial, but not required. Students must wear safety toe shoes.

Course Outline

Module I. INTRODUCTION

a. Class Introductions
b. Course Overview
c. Documentation Overview
d. Practical Application
e. Jobsheet #1 - Perform an undemonstrated 1KV tape splice
f. Overview of practical application

Module II. Fundamentals of Low Voltage splicing

g. Overview of low voltage splicing methodologies
- Resin
- Tapes
- Heat shrink
- Cold Shrink

l. Overview of low voltage Cold Shrink Technologies
- Cold Shrink Technology definitions
- Cold Shrink applications
- Comparative analysis of cold shrink vs. heat shrink

p. Practical Application
- Jobsheet #2 Perform a 3/Conductor 1KV cable splice

Module III. Fundamentals of High Voltage Termination

r. High Voltage Functional elements
- Cable components
- Electrical characteristics

u. High Voltage Termination Techniques
- Termination Classifications

w. Class 1 Terminations
x. Class 2 Terminations
y. Class 3 Terminations
- Cable Preparation
- Instructors demonstration of a Class 1 Termination procedures

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b. Practical application
- Jobsheet #3 Perform a Class 1 Termination

Module IV. Fundamentals of High voltage Splicing

d. High Voltage Tape splicing Techniques
- Cable components
- Electrical characteristics
- Instructors demonstration of cable preparation

h. Practical application
- Jobsheet #4 Perform a 15KV mono conductor cable tape splice

j. High voltage Premolded splicing Techniques
- Comparative analysis of tape splice vs. premolded splicing
- Cable Components
- Overview of cable splicing

n. Practical Application
- Jobsheet #5 Perform a 15KV mono conductor premolded splice

Module V. Summary

p. Review course outline
q. Questions and Answers

Module VI. Performance Evaluation

Delivery Method

Instructor-Led with numerous Hands-On labs and exercises.

Equipment Requirements

(This apply's to our hands-on courses only)

Client is to provide their specific Splice Kits (1 Splice Kit per student-suggested) and the specific cable for splicing for the Hands-On portion of the training.

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

Course Length

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2 Days

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