



## Bonding and Grounding 16 Hours

### Description

Test and evaluate ground systems in this two day, hands-on training course. Students will learn the principles of grounding and it's importance. The requirements for bonding and grounding are covered in detail, as well as the safety aspects of grounding and ground systems. Newer technologies in ground testing will be discussed, including the differences between fall-of-potential testing, primary (current) injection and clamp-on ground resistance testing will be discussed, as well as proper ground test procedures.

Designed for electrical maintenance personnel and field technicians, this course provides the information needed to understand and test ground systems. It is also an excellent course for electrical supervisors and inspectors on new construction and "up-grade" projects.

### Outline

#### I. Introduction

- A. Safety
- B. Definitions

#### II. Ground systems

- A. Typical system
  - 1. Single-phase
  - 2. Three-phase
- B. Separately-derived systems
- C. Grounding conductor connections
  - 1. Service-supplied systems
  - 2. Bonding & grounding at service equipment
  - 3. 2 or more buildings supplied from a common source
  - 4. Service raceways and enclosures
  - 5. Hazardous locations
- D. Bonding

- E. Ground conductor materials
- F. Sizing equipment grounding conductors
- G. Ground system evaluation
  - 1. Grounding electrodes
  - 2. Ground resistance
  - 3. Earth resistivity
- H. Maintenance of ground systems

#### III. Grounding Safety

- A. Touch potential
- B. Step potential
- C. Personal protective grounds
- D. Equipotential zones

#### IV. Ground testing

- A. Two-point
- B. Three-point
- C. Current injection
- D. New technologies

### ***TDSTI***

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