

Protective Grounding and Bonding

8-Hour Course

OVERVIEW

This course covers the principles of protective grounding and the critical role it plays in electrical safety. Students will gain an understanding of electrical theory as it relates to grounding and how it functions to protect workers from electrical hazards. Additionally, they will see how fault current and clearing time help determine the components of a grounding system. The class explains the different methods of grounding and what parameters determine the method to use. Also covered are practical aspects of testing to confirm equipment grounding systems are functioning properly.

REFERENCES

OSHA 1910.269

MATERIALS

e-Hazard Protective Grounding and Bonding Workbook

1. Introduction

2. Electrical Safety Overview

3. Electrical Theory and Hazards

4. Training and Qualifications

5. Job Planning

6. Components of a Protective Grounding System

- Impact of Fault Current and Clearing Time
- Ground Clamps
- Grounding Cables
- Ferrules
- Inspection and Maintenance

7. Regulations and Policies

- Live Line Tools
- Personal Protective Grounds (PPGs)
- Equipotential Zone
- Prerequisites for Acceptable Grounding

8. Protective Grounding

- Generation Plants
- Substations
- Underground Cables
- Transmission Lines

9. Equipment Grounding and Bonding

- Equipment Grounding
- Ground Grid
- Grounding Mat
- Vehicle Grounding