



Electrical Safety for Electrical Vehicles

12-Hour Course (Customized as necessary)

OVERVIEW

This course provides a thorough knowledge of the recommended safe electrical work practices for those who work around electrical hazards specific to electrical vehicles. Attendees gain an understanding of the latest guidelines and regulations from NFPA 70E and OSHA. Electrical workers and safety professionals learn key practical information: best work practices in electrical safety and how to apply them in real-world situations, including maintenance, troubleshooting, and testing activities. Note: This course is customizable at the customer's request.

REFERENCES

Current NFPA 70E Standard, OSHA Regulations (as applicable)

MATERIALS

e-Hazard Low Voltage Qualified Workbook, Current NFPA 70E Standard

1. Electrical Safety Facts/Risks

2. Electrical Related Government Regulations & Standards

- Applicable: NFPA 70E/OSHA
- How Standards Are Used
- Key Definitions/Issues

3. Shock Hazards & Protection Strategies

- Electrical Exposures around EVs
- Understanding AC vs DC Shock
- Variables Impacting Hazard
- Protection Boundaries
- Voltage Rated Gloves and Other Shock PPE
- Rated Insulated Tools and Other Equipment

4. Arc Flash Hazards & Protection Strategies

- Causes/Types
- Arc Blast
- Common Places
- Mitigating Hazard through Engineering Design and Work Methods
- Arc Flash Boundaries
- Practical Application around EVs

5. Arc Rated Personal Protective Equipment

- Overview
- Protecting Head, Hands and Feet
- PPE Programs: Categories, Levels, Systems
- Environmental Considerations
- PPE Guidelines and Maintenance

6. Job Planning

- Elements of Safety Planning
- Job Briefing
- Energized Electrical Work Permit

7. Risk Assessment

- Components of Assessment
- Understanding Arc Flash for DC
- Labeling
- Steps to Determine PPE Required
- Low versus High Voltage

8. Safety Related Work Practices

- Defining "Electrically Safe Work Condition"
- Identifying and Securing Boundaries
- Tools and Equipment
- Lockout/Tagout for EVs
- Training
- Administrative Guidelines