

Safety

NFPA 70E 2018 – Electrical Safety
and Arc Flash Compliance



Course Number

SAF-SFT11218

Course Purpose

The purpose of this course is to provide the student with an in-depth understanding of the current requirements of NFPA 70E® 2018. A complete presentation of the standard will be provided, along with the examples and exercises covering the tables and calculation methods used in the standard for determining Approach Boundaries and selecting proper Personal Protective Equipment (PPE).

This course will present the following major topics:

- NFPA 70E 2018 Standard for Electrical Safety in the Workplace
- Safe Electrical Work Practices
- Calculating Arc Flash Boundary (Bolted Fault)
- Selecting Appropriate Personnel Protective Equipment
- Calculations based on Bolted Fault Current – Short-circuit Current, Power in the Arc, Arc Flash Boundary, Determining Clearing Time, Incident Energy (Arc in Open Air & Arc in a Cubic Box), Calculation Limitations
- Calculations based on Arcing Current (IEEE 1584) – Arcing Current, Incident Energy (Normalized and Actual), IEEE 1584 Arc Flash Boundary Calculation

COURSE AGENDA

DAY 1

- Arc Flash Ruling
- Arc Flash Hazards
- Protecting the Electrical Worker
 - OSHA 29 CFR 1910.132
 - OSHA 29 CFR 1910.333
 - OSHA 29 CFR 1910.335
- Applicable Standards
 - 2017 NEC Article 110.16 Flash Protection Labeling
 - NFPA 70E 2018 Labeling
- Approach Boundary Terms
- Energized Electrical Work Permit
- Personal Protective Equipment (PPE) Selection
- Use of Article 130 Tables to Select PPE

DAY 2

- Arc Flash Calculations (NFPA 70E)
 - Introduction to IEEE 1584 Methodology
 - IEEE 1584 Arcing Current Calculations
 - IEEE 1584 Incident Energy Calculations
 - IEEE 1584 Curable Burn Distance Calculations
 - PPE Selection Based on Incident Energy Calculations
- Other Topics:
 - Maintenance
 - A Turnkey Solution
 - Arc-Flash Study Benefits
 - Typical Third Party Vendor Arc-Flash Study
 - Mitigation
 - Overcurrent Protective Devices
 - Trip Coordination

WHO SHOULD ATTEND

Individuals or engineers responsible for ensuring compliance with, developing training on, or supervising employees who are required to work in accordance with NFPA 70E 2018 or who will be exposed to work areas designated by the approach boundaries should attend this course.

PREREQUISITES

To successfully complete this course, the following prerequisites are required:

- Familiarity with basic electricity
- Proficiency in student's respective classification

OR

- Enrolled in an up-grader/apprentice program

STUDENT MATERIALS

To enhance and facilitate the students' learning experiences, the following materials are provided as part of the course package:

- Student Manual
 - Includes the key concepts, definitions, examples, and activities presented in this course
- Lab Book
 - Provides learning activities and hands-on practice. Solutions are included after each exercise for immediate feedback.
- NFPA 70E: Standard for Electrical Safety in the Workplace®, 2018 Edition
 - Provides key concepts, definitions and certification requirements

HANDS-ON PRACTICE

Throughout this course, you will have the opportunity to practice the skills you have learned through class interaction and observational exercises. The interactive exercises focus on awareness, safe work practices, maintenance requirements, calculation methods, boundaries, and regulations learned during the lessons.

COURSE LENGTH





This is a two-day course.

TO REGISTER

To register for this or any other Rockwell Automation training course, contact your local authorized Allen-Bradley® Distributor or your local Sales/Support office for a complete listing of courses, descriptions, prices, and schedules.

You can also access course information via the Web at <http://www.rockwellautomation.com/training>

To be respectful of the environment, Rockwell Automation is transitioning some of its training courses to a paperless format. Students are asked to complete downloads and bring personal devices to these classes. A full list of digital/paperless courses is currently available through your local distributor.

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