

2012 NFPA 79: ELECTRICAL STANDARD FOR INDUSTRIAL MACHINERY

Get an overview of scope of the NFPA 79 and understand its relationship with other codes. Learn how to effectively use the Standard as a guideline for wiring, sizing conductors and overcurrent protection for industrial machines operating form a nominal voltage of 600 volts or less.

Learn preventative maintenance for equipment and systems, electrical, electronic and communication equipment.

Gain essential safety techniques and knowledge from protecting yourself and the equipment from electrical hazards to grounding and more.

CLASS FORMAT:

Classroom

STANDARD CLASS SIZE:

NTT recommends a class of no more than 35 participants to obtain the best results.

NTT PROVIDES:

- 2-day (16 contact hours) of on-site instruction
- Textbooks
- Classroom consumables
- Completion certificates
- Shipping and instructor travel logistics

CLIENT PROVIDES:

- Classroom of 500 square feet or greater
- Projection screen, white board and/or flip chart(s)



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COURSE AGENDA

INTRODUCTION TO NFPA 79

- Machine history
- The need for training and developed standards
- NFPA 79-1 and Article 670

MODERN MACHINE TOOL ELECTRICAL EQUIPMENT

- NFPA 70 compared to NFPA 70, 70B and NEC
- Evolution of machinery and NFPA 79
- Major changes in 2012

DEFINITIONS

- NFPA official definitions
- Determination of ordinarily accepted meaning
- Referencing terms

GENERAL OPERATING CONDITIONS

- Electrical supply voltage
- Continuous allowed variation
- Limits for temperature, humidity, and altitude

INCOMING SUPPLY CIRCUIT CONDUCTOR TERMINATIONS AND DEVICES FOR DISCONNECTING AND REMOVING POWER

- Incoming supply circuit conductor and termination requirements
- Supply circuit disconnecting device requirements
- Handle requirements

PROTECTION FROM ELECTRICAL HAZARDS

- Test finger
- PELV control panels
- Residual voltage

PROTECTION OF EQUIPMENT AND GROUNDING

- Overcurrent protection of control devices and equipment
- Fuse and wire sizing
- Equipment grounding

CONTROL CIRCUITS AND CONTROL FUNCTIONS, OPERATOR INTERFACE AND CONTROL DEVICES

- Control circuit and control function requirements
- Operating device arrangement and color
- Control panel arrangement

CONTROL EQUIPMENT LOCATION, MOUNTING, AND ENCLOSURES

- Enclosure construction compliance
- Subpanel mounting
- Cabinet working space depths and prohibitions

CONDUCTORS, CABLES, AND FLEXIBLE CORDS

- Sizing
- Correction factors
- Protection

WIRING PRACTICES

- Color codes
- Material and sizing of rigid metal conduit

ELECTRIC MOTORS

- Motor Installation
- Motor Protection

LIGHTING AND ACCESSORIES

- Accessory requirements
- Lighting installation and protection

MARKING AND SAFETY SIGNS

- Required Marking
- Safety Sign Placement

TECHNICAL DOCUMENTATION

- Documentation Types
- Required Documentation

TESTING AND VERIFICATION

- Types of testing
- Testing requirements

SERVO DRIVES AND MOTORS

- Protection for Servo Drives and Motors