

## 26 05 53 – Identification

### 1. Introduction

- A. Identification is utilized to accurately identify equipment and other electrical infrastructures throughout facilities for purposes of safety and troubleshooting.

### 2. References

- A. NFPA 70 National Electrical Code
- B. 260576– Arc-Flash Studies

### 3. Design Standards

#### A. General

1. Signs shall be engraving stock melamine plastic laminate punched for mechanical fastening except where adhesive mounting is necessary because of substrate. Thickness shall be a minimum of 1/16 in. for signs up to 20 sq. in. and 1/8 in. for larger sizes. Fasteners shall be self-tapping screws, except where screws cannot or should not penetrate substrate.
2. Text shall be 1/4 in. in height. Sign shall provide 1/2 in. border around all text.
3. Label / Signs Colors:
  - a. Blue Surface / White Core: 120/208V
  - b. Black Surface / White Core: 277/480V
  - c. Red Surface / White Core: Generator Fed / Fire Alarm
4. Accessible Conduit Colors:
  - a. Red: Fire Alarm
  - b. Blue: Controls
5. Junction Box Colors:
  - a. Red: Fire Alarm
  - b. Blue & White: Controls

## B. Equipment/System

1. Provide engraved plastic laminate sign on each major unit of electrical equipment within the facility. Sign shall include the Equipment Name, Amperage Rating, MCB or MLO, Voltage, Phase/Wire Quantity, Source Name, Source Location, Alternate Source (if applicable), and Alternate Source Location (if applicable). Provide sign that indicates each sub-feed load and location for all switchboards and panelboards 800A and greater. For voltages > 600V, provide “DANGER – HIGH VOLTAGE” sign.
  - a. Switchboards
  - b. Panelboards
  - c. Transfer Switches
  - d. Disconnect Switches
  - e. Multi-Throw Switches
  - f. Enclosed Circuit Breakers
  - g. Transformers
  - h. Motor Control Centers
  - i. Motor Starters
  - j. Contactors
  - k. Variable Frequency Drives
  - l. Uninterruptible Power Supplies
  - m. Battery Racks
  - n. Power Generators
  - o. Dimming Control / Switching Panels
  - p. Inverters
  - q. Fire Alarm Control Panel / Annunciators
  - r. Bus Duct

## C. Panel Schedules

1. Provide typed panelboard directory. Hand written directories are not permitted. Each directory line item shall include the “Load Name” and “Load Location”. When

circuiting within an existing panelboard is changed, a new typed circuit directory shall be provided.

D. Wiring Devices

1. Provide self-adhesive label on device faceplate that indicates the source panel and circuit serving the device.

E. Access Panels / Wireways / Troughs / Gutters / Junction Boxes

1. For voltages > 50V & < 600V, mark with indelible marker or self-adhesive label that indicates the circuit(s) located within.
2. For voltages > 600V, provide "DANGER – HIGH VOLTAGE" sign and self-adhesive label that indicates the circuit(s) located within.

F. Conduit / Armored Cable

1. Provide snap-around label or band, with diameter to suit, to each conduit or cable served from switchboard or panelboard to indicate circuit(s) located within.

G. Conductors

1. Provide self-adhesive label with circuit number on each phase and neutral conductor in all electrical equipment, wireways, troughs, gutters, and junction boxes.

H. Operational Instructions / Warnings

1. Provide underground warning tape, buried six inches (6") below finished grade, directly above all underground power, lighting, communications lines.
2. Where detailed instructions or explanations are needed, provide plasticized sheet with clearly typed instructions.

4. Documentation and Review Requirements

- A. Provide schedule / list of all signs and labels to be applied to all equipment and systems for review by Engineer of Record and Duke University.
- B. Provide sample of labels to be applied to all access panels, wireways, troughs, gutters, junction boxes, devices, conduits, cables, and conductors for review by Engineer of Record and Duke University.

5. Installation and Performance Requirements

- A. Verify identity of each item prior to the installation of the identification product.
- B. Provide and apply labels. Prior to the application of the labels, clean the area to which the labels will be applied.