

## SECTION 16195

### ELECTRICAL IDENTIFICATION

#### PART 1 - GENERAL

##### 1.01 RELATED DOCUMENTS

- A. The general provisions of the contract including General and Special Conditions and General Requirements shall apply to all work under this Section.

##### 1.02 DESCRIPTION OF WORK

- A. Provide identification on all equipment, raceways, boxes and conductors.

##### 1.03 RELATED WORK IN OTHER SECTIONS

- A. Related work in other sections:
  - 1. Electrical General Provisions                      Section 16010
  - 2. Raceways and Boxes                                Section 16110
  - 3. Wire and Cable                                        Section 16120
  - 4. Wiring Devices                                        Section 16140

#### PART 2 - PRODUCTS

##### 2.01 Nameplates

- A. Unless otherwise noted, nameplates shall be black lamacoid plates with white engraved upper case letters enclosed by white border on beveled edge.
- B. Nameplates for equipment, supplied by the emergency system, shall be red lamacoid with white lettering.
- C. All nameplates shall be engraved and must be secured with rivets, brass or cadmium plate screws. The use of Dymo tape or the like is unacceptable.
- D. Nameplate inscriptions shall bear the name and number of equipment to which they are attached as indicated on the Drawings. The engineer reserves the right to make modifications in the inscriptions as necessary.

##### 2.02 Cable tags and wire identification labels.

- A. Cable tags shall be flameproof secured with nylon ties.
- B. Wire markers shall be preprinted cloth tape type or approved equivalent.

##### 2.03 Identification Labels

- 1. Acceptable Manufacturers
  - a) W.H. Brady Company (Style A)
  - b) Thomas & Betts Company (T&B), Style A.
- 2. Plasticized Cloth
  - a) Non-conductive.
  - b) Waterproof.
  - c) Capable of withstanding continuous temperatures of 235 degrees F and intermittent temperatures to 300 degrees F.

- d) Overcoating for protection against oil, solvents, chemicals, moisture, abrasion and dirt.
3. Heavy, thermo-resistant industrial grade adhesive, for adhesion of label to any surface without curling, peeling or falling off.
4. Label Designations, Nominal System Voltages Applied to the covers of all medium and low voltage pull, splice and junction boxes.
5. Machine printed.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION**

#### **A. Switchboards.**

1. Furnish and install a master nameplate for each switchboard, engraved with the equipment identification indicated on the Drawings. Mount at top of incoming section.
2. Provide on each main switch an identifying nameplate. Where multiple mains are employed each switch shall be numbered. Inscription shall be "main switch" or "main switch no. 1" et al.

#### **B. Panelboards and Load Centers.**

1. Furnish and install a nameplate for each panelboard and load center engraved with the identification indicated on the Drawings. Mount at top of panel.
2. After installations are complete, provide and mount under sturdy transparent shield in the directory frame of each panel door, a neat, accurate, and carefully typed directory properly identifying the lighting, receptacles, outlets, and equipment each overcurrent device controls.
3. Include on directory the panel or load center identification, the cable and raceway size of panel feeder, and the feeder origination point.

#### **C. Disconnect Switches.**

1. Furnish and install a nameplate for each disconnect switch engraved with the equipment designation which the disconnect serves.

#### **D. Motor Controllers.**

1. Furnish and install a nameplate for each motor controller or combination motor controller for both individual motor controllers and those in a motor control center. Engraving must indicate the motor served and the type of service (e.g., AC-8 - 1st floor supply, EF-2 electric closet exhaust.)

#### **E. Feeder Switches.**

1. Furnish and install for each feeder switch including, but not limited to those in switchboards, switch and fuse panelboards, take-offs at bus ducts, motor control centers, multiple meter centers, etc., two (2) nameplates as follows:
  - a) The first nameplate must be white background with red lettering. Engrave with the words "REPLACE ONLY WITH \_\_\_\_\_ FUSE." Engrave with proper fuse trade name and ampere rating (i.e. Bussman LPS-R 100).
  - b) The second nameplate shall indicate the load served, the size and type of cable and raceway example:
    - i) LP-4, LP-5, LP-6
    - ii) 4#500 KCMILS-THW-CU-3-1/2"C

#### **F. Remote Smoke Detector Lamps and Test Stations.**

1. Furnish and install a nameplate on each remote smoke detector lamp and/or test station.

2. Engraving must indicate the location of the device to which the lamp is connected, as approved by the Engineer.
- G. Switches.
1. Furnish and install an engraved nameplate for each switch, controlling loads that are not local to the switch. Engraving shall be as directed by the Engineer.
- H. Pullboxes, Enclosures, and Cable Terminations.
1. Circuits rated over 40 Amp and all cables over 600V:
    - a) Provide identification label with circuit numbers on enclosure cover.
    - b) Furnish and install cable tags on each cable that enters a pullbox, enclosure, switchboard, and at terminations. Mark tags with type written inscription noting the load served, type and size of cable, and the overcurrent device protecting the cable.
  2. Branch circuits:
    - a) Provide identification label with panel and circuit numbers on enclosure cover.
    - b) Identify each circuit with wire markers when enclosure label and wire colors do not provide enough information to identify each circuit without tracing.
    - c) 4 square box covers hidden above lay-in ceilings may be marked with indelible ink marker in lieu of using printed labels.
- I. Fire Alarm Terminal Cabinets.
1. Furnish and install an approved nameplate on each fire alarm terminal cabinet.
  2. Nameplates shall indicate floor and where multiple terminal cabinets are installed a prime designation for each cabinet (e.g. FATC-1A, FATC-1B).
  3. Terminals shall be permanently identified in an approved manner.
  4. Label all wiring.
- J. Telecommunications System.
1. Each horizontal cable from a termination block or patch panel to a telecommunications outlet shall be labeled at both ends. Tags shall be consecutively numbered so that no two (2) cables have the same identification. In addition cable tag shall note the room number in which the data transmission outlet is located.
  2. Each backbone cable shall have a flameproof tag attached at both ends of the tag. Tags shall be consecutively numbered so that no two (2) cables have the same identification. Additional inscriptions shall be provided as directed by the Owner.
  3. Patch panel ports shall be consecutively numbered so that no two (2) ports have the same number.
- K. Generator Control Panel.
1. Furnish and install a red nameplate for each generator control panel. Engraving shall indicate the generator controlled by the panel.
- L. UPS & Computer Power Centers.
1. Furnish and install a black with lettering nameplate for each unit.
- M. Provide identification labels for all low voltage and medium voltage pull, splice and junction boxes in main feeder and subfeeder runs, indicating nominal system voltage.
1. Apply labels after painting of boxes, conduits, and surrounding areas have been completed.
  2. Clean surfaces before applying labels; clean aluminum surfaces with solvent wipe.

3. Apply labels on cover and minimum of one (1) fixed side; one (1) label visible from floor where boxes are installed exposed.
- N. Provide identification for all equipment, boxes, enclosures and devices according to the following table:

<b>Type</b>	<b>Identification material</b>	<b>Information/example</b>
Equipment Cabinet	Nameplate	Equipment identification / "Outdoor lighting control"
Major Equipment	Nameplate	Equipment identification / "Panel MDP"
Minor Equipment	Identification Label	Equipment identification / "Fire alarm relay R-2"
J-box, enclosure (screw cover)	Identification Label, indelible ink marker above lay-in ceilings.	System type and circuit numbers / "Fire Alarm zone 3"
Receptacle	Identification Label	Circuit identification / "PNL A2-CKT18"
Fire alarm device	Identification Label	Device id number & zone / "SD3-4"
Security device	Identification Label	Device identification / "Camera-4"

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