

## **SECTION 262413**

### **SWITCHBOARDS**

#### **PART 1 GENERAL**

##### **1.01 DESCRIPTION**

- A. Provide switchboards of a type indicated and specified herein, at locations shown on the Drawings.
- B. Utilization voltages shall be as noted on the one-line diagram or as indicated on the Drawings.

##### **1.02 QUALITY ASSURANCE**

- A. Underwriters Laboratories, Inc., listing/approval.
- B. U.L. Standard UL 891.
- C. National Electrical Code.
- D. NEMA Standard PB2.

##### **1.03 SUBMITTAL AND RECORD DOCUMENTATION**

- A. Shop drawings shall indicate the following:
  - 1. Front and side enclosure elevations with overall dimensions shown.
  - 2. Conduit entrance locations and requirements.
  - 3. Nameplate legends.
  - 4. Size and number of horizontal bus bars per phase.
  - 5. Neutral and ground.
  - 6. One-line diagrams.
  - 7. Equipment schedule.
  - 8. Switchboard instrument details.

#### **PART 2 PRODUCTS**

##### **2.01 DISTRIBUTION ASSEMBLY**

- A. Each switchboard section shall be freestanding, dead-front type, rear-aligned, front accessible, and completely metal enclosed. Top and bottom conduit area shall be clearly shown and dimensioned on the Shop Drawings. All front plate devices used for mounting switches or installed and laced with flexibility at the hinged side. Formed removable closure plates shall be used on the front, rear, and sides. All closure plates are to be single-tool, screw removable. Overcurrent devices shall be of size and type as indicated on the Drawings.
- B. The paint finish shall be two coats gray enamel over a rust-inhibiting phosphate primer.
- C. Main lugs shall be tool-applied compression-type.
- D. The bus bars shall be tin-plated aluminum and rigidly braced for 65K AIC fully-rated at rated voltage and sized as indicated on the Drawings. Main horizontal bus bars shall be mounted with all three phases arranged in the same vertical plane. Provide a full capacity neutral bus. All unused space shall be bussed and left ready for future use.

- E. A ground bus shall be firmly secured to each vertical section.
- F. Board shall be service entrance rated where used as service entrance equipment.
- G. All devices mounted in the switchboard shall have short circuit ratings to meet or exceed that of the switchboard.
- H. Switchboard shall be tested, listed, and marked for use with a UL witnessed and recognized fuse/breaker combination.
- I. Acceptable Manufacturers: Siemens, Square D, Eaton, and GE.

### **PART 3 EXECUTION**

#### **3.01 INSTALLATION**

- A. Distribution boards shall be free from surface and finish defects. All nameplates, labels, screws, bolts or other hardware shall be in place prior to acceptance.
- B. Install panels, cabinets and equipment level and plumb, parallel with structural building lines. Switchgear panels and all electrical enclosures shall fit neatly without gaps, openings or distortion.
- C. Neatly and securely lace the conductors of each circuit together as a group and not combined with other feeders. Support laced cables and securely tie at intervals no greater than three feet to support devices built into the switchgear assembly. No loose, unsupported wire or cable will be permitted, and lugs shall not support the conductor weight.
- D. Provide engraved nameplates under the provisions of Section 260553, Electrical Identification.

#### **3.02 CONCRETE BASE**

- A. Construct concrete equipment base 6" larger than footprint of cabinets and 3-1/2" tall. Where switchboard is outside, equipment base shall extend 4 feet in front of equipment as a flat level working surface.
- B. Form concrete base using framing lumber with form-release compounds. Chamfer top edges and corners.
- C. Install reinforcing bars and place anchor bolts and sleeves using manufacturer's installation template.
- D. Place concrete and allow to cure before installation of equipment.

**END OF SECTION**