

**SECTION 262416****PANELBOARDS****PART 1 GENERAL****1.01 DESCRIPTION**

- A. Provide at locations shown on the Drawings, panelboards of a type indicated and specified herein.

**1.02 COORDINATION**

- A. Coordinate with other Trades affecting or affected by Work of this Section.

**1.03 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Protect against damage and moisture. Store materials off ground. Remove damaged materials from site immediately after detection.
- B. Deliver with UL label and bearing manufacturers name. Panelboard exterior trim separately packaged to prevent damage during delivery and storage on site.
- C. Store and handle panelboards so as not to subject them to corrosion or mechanical damage and in a manner to prevent damage from environment and construction operation.

**1.04 QUALITY ASSURANCE**

- A. Underwriters Laboratories, Inc. listing/approval.
- B. Underwriters Laboratories, Inc. Standards.
  - 1. Panelboards - UL67.
  - 2. Cabinet and Boxes - UL50.
- C. National Electrical Code.
- D. NEMA Standard - PB1.

**1.05 SUBMITTAL AND RECORD DOCUMENTATION**

- A. Approval documents shall include drawings. Drawings shall contain overall panel dimensions, interior mounting dimensions, and wiring gutter dimensions. The location of the main, branches, and solid neutral shall be clearly shown. In addition, the drawing shall illustrate one-line diagrams with applicable voltage systems. Include copy of panel schedules in record documents.

**PART 2 PRODUCTS****2.01 PANELBOARDS**

- A. Panels shall be factory pre-assembled using tin-plated aluminum bussing and bolt-on circuit breakers. Separate feeder lugs shall be provided for each feeder conductor. They shall be so designed that switching and protective devices can be replaced without disturbing adjacent

units and without removing the main bus connectors, so that circuits may be changed without machine drilling or tapping.

- B. Branch circuits shall be arranged using double row construction except when narrow column panels are indicated. A nameplate shall be provided listing panel type and ratings.
- C. Unless otherwise noted, full size insulated neutral bars shall be included. Bus bar taps for panels with single pole branches shall be arranged for sequence phasing of the branch circuit devices. Neutral bussing shall have a suitable lug for each outgoing feeder requiring a neutral connection. A separate ground bus shall be included in all panels. There shall be a neutral and ground bus space for each breaker location listed as space.
- D. Panelboard boxes shall be at least 20" wide, made from galvanized steel. Provide minimum gutter space in accordance with National Electrical Code. Maximum panel depth shall be 5-3/4", unless otherwise shown or specifically approved by the Owner. Surface panel boxes shall be painted to match trim.
- E. Switching device handles shall be accessible. Doors and panelboard trims shall not uncover any live parts.
- F. All panel doors shall be provided with a flush type combination catch and lock with two milled keys. On doors more than 48" high, a three point combination catch and lock shall be provided with a vault type handle. All locks shall be keyed alike. All panel trims shall be "hinged front" construction, meaning trim has a piano hinge down one side, door opens by a single latch, and entire trim hinges open by removing two screws.
- G. Single pole breakers shall be full module size; two poles shall not be installed in a single module. Each breaker shall be securely fastened to prevent movement and trims shall fit neatly and tightly to the breaker assembly. Interrupting capacity shall be minimum 14,000 amperes fully rated for 480Y/277V, and 10,000 ampere fully rated for 208Y/120V, or as indicated on the Drawings and shall conform to Fed. Spec. W-C-375. All 15 or 20 ampere single pole breakers shall have "switching-duty" capability.
- H. Permanent numbers, engraved, stamped or painted shall be affixed to each pole next to breakers. Stick-on numbers are not acceptable.
- I. Panelboards shall be coated with a rust inhibiting phosphate primer and two coats of light gray enamel. Trims to be separately packed and protected from scratching and marring.
- J. Panelboards shall be tested, listed, and marked for use with a UL witnessed and recognized fuse/breaker combination.

## **2.02 ACCEPTABLE MANUFACTURERS**

- A. Siemens, Square D, Cutler-Hammer/Westinghouse, and GE.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Breaker handle guards shall be provided on each circuit supplying obviously constant loads to prevent accidental shutting off. Such loads are contactor controlled circuits, freeze protection, etc.
- B. Provide typed schedules as in Section 260553.

- C. Provide engraved laminated name plates under the provisions of Section 260553.
- D. Provide one 3/4" spare conduit stubbed into an available accessible space above for every three single pole spare or space in new flush branch panels.

**END OF SECTION**