

SECTION 26 24 16

PANELBOARDS

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope:
1. CONTRACTOR shall provide all labor, materials, equipment, and incidentals as shown, specified, and required to furnish and install panelboards.
 2. Provide testing, troubleshooting and startup for the furnished equipment.
- B. Related Sections:
1. Section 26 05 05, General Provisions for Electrical Systems.
 2. Section 26 05 53, Identification for Electrical Systems.
 3. Section 26 22 14, Dry-Type Low-Voltage Distribution Transformers
 4. Section 26 43 00, Surge Protective Devices.

1.2 REFERENCES

- A. Standards referenced in this Section are:
1. NEMA PB 1, Panelboards.
 2. UL 67, Panelboards.

1.3 SUBMITTALS

- A. Action Submittals: Submit the following:
1. Shop Drawings:
 - a. Listing of panelboards to be furnished with identification of their proposed location, and all electrical characteristics, including number and rating of branch circuit breakers and enclosure type.
 2. Product Data:
 - a. Manufacturer's technical information for panelboards proposed for use, including product literature and specifications. Indicate options and features to be provided.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements; Comply with the following:
1. NEC Article 408, Switchboards and Panelboards.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Packing, Shipping, Handling, and Unloading:
1. Packing:

- a. Inspect prior to packing to assure that assemblies and components are complete and undamaged.
 - b. Protect mating connections.
 - c. Cover all openings into enclosures with-vapor inhibiting, water-repellent material.
2. Deliver materials and equipment to Site to ensure uninterrupted progress of the Work. Deliver anchorage materials to be embedded in concrete in ample time to prevent delaying the Work. Upon deliver, check materials and equipment for evidence of water that may have entered equipment during transit.
 3. Comply with Section 01 65 00, Product Delivery Requirements.
- B. Storage and Protection:
1. Store panelboards in a clean, dry location with controls for uniform temperature and humidity. Protect equipment with coverings and maintain environmental controls.
 2. Comply with Section 01 66 00, Product Storage and Handling Requirements.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Panelboards:
1. Manufacturers: Provide products of one of the following:
 - a. General Electric Company.
 - b. Eaton/Cutler-Hammer.
 - c. Schneider Electric/Square D Company.
 - d. Approved equivalent.
 2. Rating: Voltage rating, current rating, number of phases, number of wires and number of poles as shown or indicated on the Drawings.
 3. Circuit Breakers: Molded case, bolt-in thermal magnetic type with number of poles and trip ratings as shown or indicated. Where indicated on the Drawings, circuit breakers shall be ground fault circuit interrupting type equipped with solid state sensing and five-milliamp sensitivity.
 4. Circuit breakers for 480-volt panelboards shall have minimum interrupting rating of 42,000 ampere RMS symmetrical, unless otherwise indicated on the Drawings. Circuit breakers for other panelboards shall have minimum interrupting rating that matches the rating indicated on the main overcurrent protective device as shown on the Drawings.
 5. Bus Bars: Bus bars shall be 98 percent conductivity copper. Four-wire panelboards shall have solid neutral bar. Each panel shall have ground bus bar.
 6. Main: Panelboards shall have main circuit breaker, unless the Drawings specifically indicate main lugs only.
 7. Connect branch circuit breakers for sequence phasing.
 8. Enclosures: Panel enclosures shall be as required for the area classifications indicated in Section 26 05 05, General Provisions for Electrical Systems, unless otherwise indicated on the Drawings.

9. Construction: Code-grade steel, ample gutter space, flush door, flush snap latch and lock. Panelboards shall comply with NEMA PB 1 and UL 67.
10. Trim: Surface or flush as required.
11. Directory: Typed or computer-printed card, with transparent protective cover in frame on back of door giving circuit numbers and area or equipment served.
12. Identification: Identify panelboards in accordance with Section 26 05 53, Identification for Electrical Systems. Identification shall indicate panel number and voltage.
13. Provide surge protective device in accordance with Section 26 43 00, Surge Protective Devices, for each panelboard shown or indicated on the Drawings. Surge protective device shall be included and factory-mounted within panelboard by panelboard manufacturer. Surge protective device monitoring and display shall be visible from front of panelboard.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Examine conditions under which the Work is to be installed and notify ENGINEER in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. Mounting: Install panelboards at locations shown or indicated. Set cabinets so that top branch circuit breaker is not over six feet above the floor.
- B. Directory: Complete typewritten or computer-printed directory indicating items controlled by each circuit breaker and the size of feeder serving the panel.
- C. Arrange circuits to balance the loads on the panelboards.
- D. Identify panelboards in accordance with Section 26 05 53, Identification for Electrical Systems.
- E. Install in accordance with Laws and Regulations, manufacturer's recommendations, and the Contract Documents. Verify proper installation prior to energizing panelboards.

+ + END OF SECTION + +