

SECTION 26 24 17 - LOAD CENTERS**PART 1 GENERAL****1.01 DESCRIPTION**

- A. Provide at locations shown on the Drawings, load centers 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. Load center exterior trim separately packaged to prevent damage during delivery and storage on site.
- C. Store and handle load centers 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. Load centers - UL67.
 - 2. Cabinet and Boxes - UL50.
- C. National Electrical Code.
- D. NEMA Standard 250.

1.05 SUBMITTAL AND RECORD DOCUMENTATION

- A. Approval documents shall include drawings. Drawings shall contain overall load center 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 LOAD CENTERS**

- A. Load centers shall be factory pre-assembled using copper bussing and plug-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. A nameplate shall be provided listing load center type and ratings.
- C. Unless otherwise noted, full size insulated neutral bars shall be included. Bus bar taps for load centers 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 load centers. There shall be a neutral and ground bus space for each breaker location listed as space.

- D. Load center boxes shall be at least 14" wide, made from galvanized steel. Provide minimum gutter space in accordance with National Electrical Code. Maximum load center depth shall be 5-3/4", unless otherwise shown or specifically approved by the Owner. Surface load center boxes shall be painted to match trim.
- E. Switching device handles shall be accessible. Doors and load center trims shall not uncover any live parts.
- F. 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 10,000 ampere or as indicated on the Drawings. All 15 or 20 ampere single pole breakers shall have "switching-duty" capability.
- G. Permanent numbers, engraved, stamped or painted shall be affixed to each pole next to breakers.
- H. Load centers 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.
- I. Load center 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, GE, and Challenger.

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 26 05 53.
- C. Provide engraved laminated name plates under the provisions of Section 26 05 53.
- D. Install load centers plumb in conformance with NEMA PD1.1.
- E. Height: 6'-6" to top.
- F. Adjust trim to cover all openings.
- G. Provide filler plates for unused spaces in load centers.
- H. Load centers shall only be provided within Dwelling Units.

3.02 FIELD QUALITY CONTROL

- A. Measure steady state load currents at each load center feeder. Should the difference at any load center between phases exceed 20 percent, rearrange circuits in the load center to balance the phase loads within 20 percent. Take care to maintain proper phasing for multi-wire branch circuits.
- B. Visual and Mechanical Inspection: Inspect for physical damage, proper alignment, anchorage, and grounding. Check proper installation and tightness of connections for circuit breakers and fuses.

END OF SECTION