SECTION 26 24 16

PANELBOARDS AND LOAD CENTERS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Residential Load Centers.

B. Panelboards.

1.2 RELATED SECTIONS

A. Section 26 05 53 – Electrical Identification.

1.3 REFERENCES

A. NECA (National Electrical Contractors Association) “Standard of Installation.”

B. NEMA AB 1 - Molded Case Circuit Breakers.

C. NEMA PB 1 - Panelboards.

D. NEMA PB 1.1 - Instructions for Safe Installation, Operation and Maintenance of Panelboards rated 600 Volts or Less.

E. NEMA PB 1.2 - Application Guide for Ground-fault Protective Devices for Equipment.

F. NFPA 70 - National Electrical Code.

1.4 SUBMITTALS

A. Include outline and support point dimensions, voltage, main bus ampacity, integrated short circuit ampere rating, circuit breaker arrangement and sizes.

1.5 SPARE PARTS

A. Keys: Furnish three sets to Owner.

PART 2 - PRODUCTS

2.1 LOAD CENTERS

A. Manufacturers:
1. *Square D*.

2. *General Electric.*
3. *Siemens.*
4. Substitutions: Or Approved Equal.

B. Load Centers: NEMA PB 1; circuit breaker type. UL listed for service entrance duty.
1. Enclosure: Recessed, NEMA PB 1; Type 1.
2. Cabinet Size: 3¾ inches deep; 14¼ inches wide.
3. Provide cabinet front with concealed trim clamps, concealed hinge and flush lock all keyed alike. Finish in manufacturer's standard gray enamel.
4. Provide panelboards with copper bus, ratings as scheduled on Drawings. Provide copper ground bus in all panelboards.
5. Minimum Integrated Short Circuit Rating: 10,000 amperes RMS symmetrical for 240-volt panelboards.
6. Molded Case Circuit Breakers: NEMA AB 1; plug-on type thermal magnetic trip circuit breakers, with common trip handle for all poles.
7. Arc-Fault Circuit Breakers: Provide arc-fault circuit breakers for all load center branch circuits supplying receptacle outlets in dining rooms, living rooms, bedrooms, hallways, and other similar rooms. Also provide arc-fault breakers for all spare circuit breakers to be included in each load center. Circuits supplying lighting and smoke detectors shall be standard circuit breakers.

2.2 PANELBOARDS

A. Acceptable Manufacturers.
1. *Square D.*
2. *Cutler-Hammer.*
3. *General Electric*
4. *Siemens.*
5. Substitutions: None Permitted.

B. Circuit Breaker Panelboards
1. Panelboards: NEMA PB1; circuit breaker type.
2. Enclosure: NEMA PB 1; Type 1.
3. Branch Circuit Panelboard Cabinet Size: 5 ¾ inches deep; 20 inches wide.
4. Distribution Panelboard Cabinet Size: 8¼ inches deep; 32 inches wide.
5. Provide cabinet front with concealed trim clamps, concealed hinge and flush lock all keyed alike. Finish in manufacturer’s standard gray enamel
6. Provide panelboards with copper bus, ratings as scheduled on Drawings. Provide copper ground bus in all panelboards.
7. Minimum Integrated Short Circuit Rating:
   a) 65,000 AIC for Meter Centers.
8. Molded Case Circuit Breakers: NEMA AB 1; bolt-on type thermal magnetic trip circuit breakers, with common trip handle for all poles.
9. Provide circuit breaker accessory trip units and auxiliary contacts as indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install load centers and panelboards plumb and flush with wall finishes, in conformance with NEMA PB 1.1. Install recessed, flush with wall finishes.

B. Height: 4 feet to top circuit breaker in load centers in residential units; 6 feet to top of panelboards.

C. Provide filler plates for unused spaces in load centers and panelboards per Specification Section 16195.

D. Provide typed circuit directory for each branch circuit panelboard and load center per Specification Section 26 05 53.

E. Paint the handles of the dedicated circuit breakers feeding fire alarm panels red, and install handle locks.

3.2 FIELD QUALITY CONTROL

A. Measure state load currents at each new panelboard feeder. Should the difference at any panelboard between phases exceed 20 percent, rearrange circuits in the panelboard 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, fusible switches, and fuses.

END OF SECTION