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## Section 16420

### Panelboards

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#### Part One: General

##### 1.1 General Requirements

###### 1.1.1 Provisions

The provisions of Section 16000, General Requirements for Electrical Work apply to the work of this section.

##### 1.2 Applicable Codes and Standards

###### 1.2.1 Products

Products shall comply with the following codes and standards and shall be UL-listed and labeled:

NEMA 250	Enclosures for Electrical Equipment
NEMA AB-1	Molded Case Circuit Breakers
NEMA KS-1	Enclosed Switches
NEMA PB-1	Panelboards
UL 50	Enclosures for Electrical Equipment
UL 67	Panelboards
UL 98	Enclosed and Deadfront Switches
UL 489	Molded Case Circuit Breakers and Circuit Breaker Enclosures
UL 943	Ground Fault Circuit Interrupters

##### 1.3 Submittals Required

###### 1.3.1 Data Sheets

Manufacturer's product data sheets.

###### 1.3.2 Schedules

Circuit breaker schedules.

##### 1.4 Manufacturers

Subject to compliance with the specification requirements:

- Square D
- Cutler Hammer
- General Electric
- Siemens

#### Part Two: Products

##### 2.1 General

###### 2.1.1 Panelboards

Panelboards, including lighting and appliance panelboards and power distribution panelboards, shall be of the sizes, rating and arrangement shown on the drawings.

###### 2.1.2 Overcurrent Devices

Panelboards shall be provided complete with all overcurrent devices, accessories and trim

###### 2.1.3 Safety Barriers

All panelboards shall be provided with safety barriers for dead front construction.

#### **2.1.4 Short Circuit Ratings**

The required short circuit ratings of assembled panelboards are shown on the Drawings. The short circuit rating of every overcurrent device in the panel shall meet or exceed the panel rating. Unless otherwise noted on the Drawings, series rated combinations will not be permitted.

## **2.2 Cabinets**

### **2.2.1 Boxes**

Boxes shall be code gauge galvanized sheet steel.

### **2.2.2 Trim**

Trim shall be code gauge steel, ANSI-61 gray finish with stainless steel flush type lock/latch handle. All locks shall be keyed alike.

### **2.2.3 Surface Mounted Panels**

Trim for surface mounted panels shall be door-in-door construction such that the gutter space may be exposed by a hinged door.

### **2.2.4 Frames**

Directory frames shall be metal frame with plastic covers.

## **2.3 Bus**

### **2.3.1 Bus Work**

All bus work shall be 1000 amp/sq.in. copper or 750 amp/sq.in. aluminum.

### **2.3.2 Neutral Buses**

Unless otherwise noted on the drawings, neutral busses shall be 100% rated with adequate connections for all outgoing neutral conductors.

### **2.3.3 Panelboards**

Panelboards shall be provided with copper or aluminum ground busses.

### **2.3.4 Connection**

Bus shall be designed for sequence phase connection to allow the installation of one, two or three pole branch circuit breakers in any position.

## **2.4 Overcurrent Devices**

### **2.4.1 Device Type**

Overcurrent devices shall be trip-free molded case, bolt-on, thermal magnetic circuit breakers.

### **2.4.2 Main Circuit Breakers**

Main circuit breakers shall be individually mounted and bolted to bus assembly. Back-fed branch mounted circuit breakers are prohibited.

### **2.4.3 Circuit Breakers Frontfaces**

Front faces of all circuit breakers shall be flush. Trip indication shall be clearly shown by the handle position between the ON and OFF positions.

### **2.4.4 Ground Fault Circuit Breakers**

Ground fault circuit breakers shall be provided as required on the Contract Drawings and shall require no more panel space than standard breakers.

### **2.4.5 Switching Lighting Circuit Breakers**

Where circuit breakers are used for switching of lighting, circuits type "SWD" circuit breakers shall be provided.

**2.4.6 Arc Fault Circuit Breakers**

Arc fault circuit breakers shall be provided as required on the Contract Drawings and shall require no more space than standard circuit breakers.

**2.4.7 Connections**

All connections shall be rated for 75°C copper conductors.

**Part Three: Execution****3.1 General****3.1.1 Installation**

Panelboards shall be installed in as per manufacturer's instructions.

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**End of Section 16420**

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