

**GENERAL:**

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1. The scope of this document is to provide requirements for panelboards.
2. For these guidelines, Panelboard type design is defined as a panel with bus and breakers mounted in the middle of a front only accessible box containing feeder routing space between breakers/bus and the box sides. Box will typically have large covers over feeder routing space with a hinged door covering the breakers. Panelboards can only be wall mounted.
3. Load Centers are not allowed. Minimum level of quality is a panelboard or switchboard.
4. See section 26 2116 Electrical Service Entrance for guidelines governing design of building low voltage service entrance.

**DESIGN GUIDELINES:**

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1. All panelboards shall be in a dedicated, lockable electrical room or closet.
2. Branch circuit panelboards shall be located on the same floors as the loads they serve except emergency panelboards may be located as is practical.
3. Panelboards shall be a dead front, safety type with a door-in-door hinge.
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4. Panelboards shall have a fully rated, isolated neutral bus, an equipment ground bus and main copper bus with two bolt compression lugs used to terminate feeders.
5. Circuit breakers shall have bolted bus connections. Plug-in circuit breakers are not acceptable. Note: Square D I-Line circuit breakers are considered to be a bolted connection.
6. Balance the loads supplied by the panelboard in accordance with NECA 407.
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7. Panel board shall have a typewritten directory describing the service of each circuit.
8. Provide each panelboard with a permanently attached nameplate displaying, at a minimum, the panelboard name, voltage, phase and supply circuit origin.
9. Panelboard shall be sized to provide spare 20% capacity for future loads. Do not provide spare breakers. Spare Capacity is defined as additional continuous load feeder capacity and space for spare circuit breakers or fused switches within the panel.
10. When breakers are equipped with ground fault protection, ground fault sensing shall use individual phase sensing and a neutral current sensor (such as a current transformer).
11. All trip indications and metered values shall be displayed on the front of the panelboard after opening the hinged door without removal of any bolted covers.