26 24 00 Switchboards and Panelboards

1. General:
   A. This guideline covers the selection and installation of electrical panelboards in campus buildings and at other locations on campus.
   B. "Loadcenter" type panelboards are not acceptable unless approved by the University's Facilities Planning Department for a particular application.
   C. Lighting panelboard sections shall not exceed 54 spaces unless approved by the University Facilities Planning Department for a particular application.
   D. Multiple section panelboards are acceptable, provided sections are the same physical size. Sections shall be connected through the use of sub-feed lugs laid out such that sections can be connected top to top or bottom to bottom, without passing through the vertical gutter space.
   E. Panelboard bus bracing shall be fully rated; do not provide series rated panelboards.

2. Construction:
   A. Bussing shall be tin-plated copper of 98% conductivity.
   B. Phase bussing shall be rated 100%.
   C. Neutral bussing shall generally be rated 100%. Neutral bus in panelboards serving multiple non-linear loads shall be rated 200%.
   D. Grounding bussing shall be rated a minimum of 50%.
   E. Distribution type panelboards shall be fully bussed.
   F. Main Circuit Breakers shall be bolted to the top or bottom of the bus (no back-fed mains).
   G. All spaces shall be permanently numbered sequentially, beginning on the left side and continuing down the right side.
   H. Lighting type panelboards shall be provided with a minimum of 50% spare breaker spaces, of which 25% shall be spare breakers.
I. Distribution type panelboards shall be provided with a minimum of two spare breakers of nominal feeder or load size and two provisional spaces.

J. Circuit breaker arrangement shall be the same as indicated on the panelboard schedules in the design documents.

3. Enclosure:
   A. Enclosures shall be galvanized steel of the appropriate NEMA type.
   B. Covers in electrical and mechanical rooms or any unfinished areas shall be surface mount type.
   C. Covers in finished areas shall be flush mount type.
   D. All sections of multiple section panelboards shall be the same height.
   E. Provide all panelboards with door-in-door or hinged front trim covers.
   F. Door shall include a welded metal frame for a directory.
   G. Door shall have a key operated lock.

4. Mechanical And Electrical Labeling:
   A. All panel boards, disconnects, motor controllers, etc. shall have laminated plastic or non-ferrous metal nameplates held in place with a minimum of two screws. Name-plates shall have black letters on a white background.

5. Preferred Manufacturers:
   A. Square D
   B. General Electric
   C. Siemens
   D. Cutler Hammer

6. Installation:
   A. Surface mount panelboards in electrical rooms, mechanical rooms and unfinished spaces.
   B. Flush mount panelboards in finished areas.
C. Flush mounted panelboards shall be provided with six (6) 1" conduits from the panelboard up to an accessible ceiling space.

D. Panelboards shall be provided with a black plastic laminated nameplate with white text indicating the panelboard identification as noted on the drawings, the voltage rating, the amp rating, and the name of the panelboard feeding the panelboard.

E. Directories shall be typewritten and shall be sized to be fully legible without removing from frame.